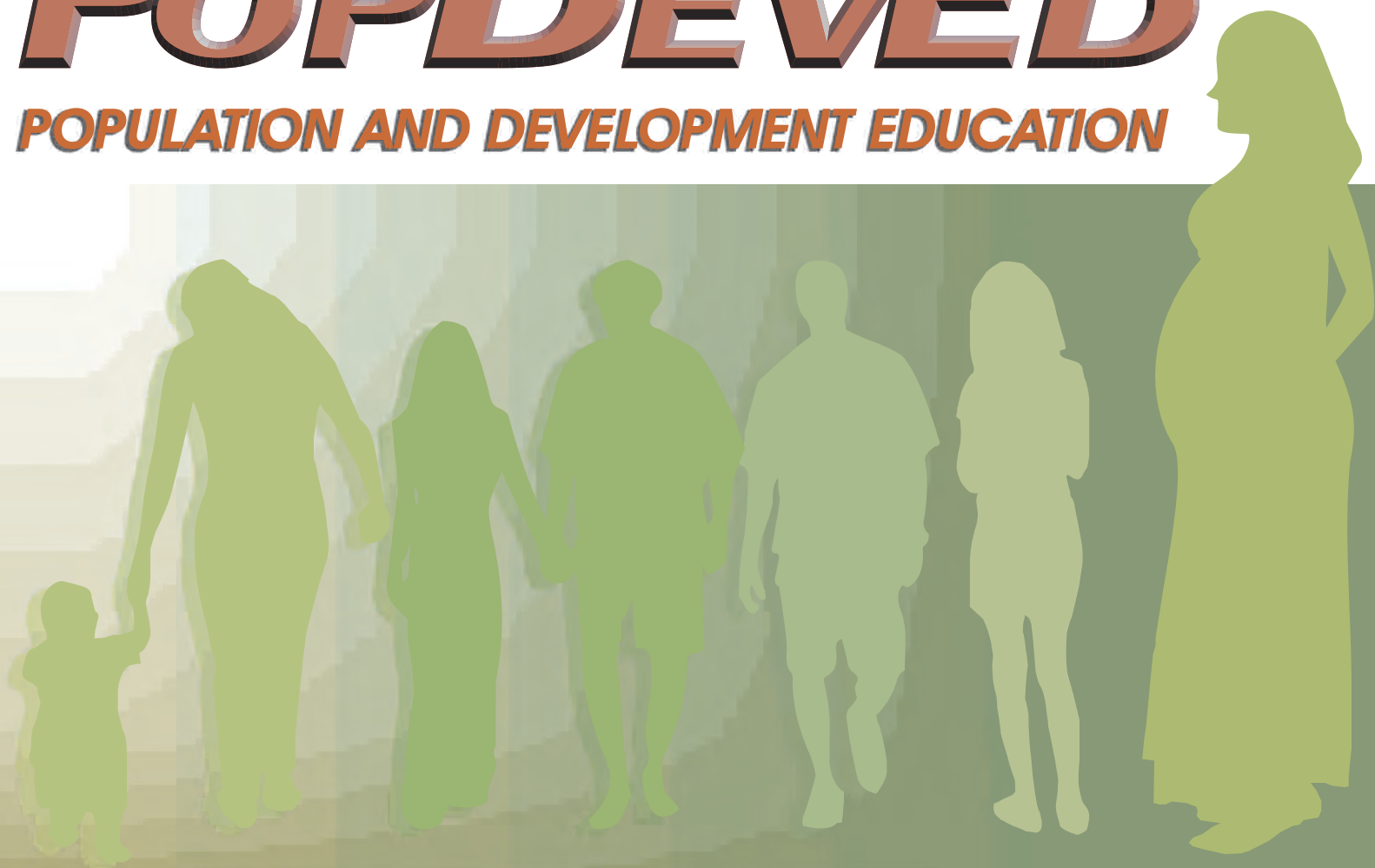




POPDEVED

POPULATION AND DEVELOPMENT EDUCATION



TEACHING MODULES FOR CATHOLIC SCHOOLS

ELEMENTARY

HIGH SCHOOL

COLLEGE

Nihil Obstat:

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Our heartfelt gratitude also goes to our resource persons, Dr. Alejandro Herrin for his guidance and inputs on the Population and Development modules, and Ms. Milagros Rivera for the same on the Human Sexuality and Responsible Parenthood modules. Their unwavering commitment to this project, despite the many constraints and challenges along the way, deserves our utmost admiration and profound gratitude.

We also acknowledge the valuable contributions of Dr. Mercedes Concepcion, Dr. Chona Echavez, Dr. Alan Feranil, Fr. Ramon Echica, Fr. Eric Marcelo Genilo, SJ and Ms. Zona Amper. We give special thanks to Ms. Felicitas Rixhon and Ms. Milagros Corpuz of PCPD for the technical and administrative guidance they gave us throughout the various stages of this project. These modules have come to fruition because these people have shared their time and knowledge with us.

We are grateful also to the loyal and patient teachers, who have magnanimously invested time and effort in the development of these modules. The pedagogic tools applied in the modules have been greatly enhanced by their professional experience and dedication. We thank their respective school administrations, namely: the University of San Carlos–North and South Campuses, Sacred Heart School–Jesuit, Saint Joseph’s Academy, Divine Word College of Legazpi–High School, Aquinas University of Legazpi–High School, Dominican School of Camalig, and Father Saturnino Urios University for the generous support that they have extended to this project. We also thank the teachers and students of the different schools who have participated in the pilot testing of these modules, particularly: Holy Name University–Elementary and High School, Sacred Heart School–Jesuit, and the University of San Carlos–Sociology-Anthropology Department. To the CEAP officials, including former Executive Director Mariano Piamonte, and member institutions that have supported this undertaking, and to the staff of DepEd and CHED who provided guidelines and inputs during our workshops, we express our sincere appreciation. The same goes to Deputy Director Mia Ventura of POPCOM and Executive Director Cecilia Villa of the Foundation for Adolescent Development.

We would like to give special recognition to Dr. Montana “Babes” Saniel, who served as the ‘beacon of light’ in the crafting of these modules. Unfortunately, Ma’am Babes is no longer present to share with us the ‘fruits of her passion’. For all her tireless efforts, undying inspiration and magnanimous understanding, we dedicate these modules to her.

To our support staff, Nenita Lim, Cielo Gue, Michael Lou Montejo, George Soria, Josephine Avila, Sonny Agustin and Jennefer Lyn Bagaporo, a very warm ‘thank you’!



Socorro A. Gultiano
Project Coordinator
USC-OPS, June 2009

FOREWORD

Participants to the series of symposia on population and development including fertility awareness conducted nationwide in 2005-2006 by the Office of Population Studies (OPS), University of San Carlos and the John J. Carroll Institute of Church and Social Issues (JJCISCI), Ateneo de Manila University had a common concern after hearing what its speakers had to say: how to teach these oft-misunderstood subjects to young and impressionable minds and what materials can be made available to present fairly the complex and sensitive concepts they engender. Mostly administrators and teachers of catholic schools belonging to the Catholic Educational Association of the Philippines, they expressed the need for a learning resource that will respect the Catholic faith and reflect its values.

Two sets of modules covering three educational levels – elementary, high school and college - grew out of this concern. One focuses on population and development, and the other, on human sexuality and responsible parenthood. They are designed for integration in relevant school subjects to facilitate its adoption in the existing curriculum.

The benefit that young Filipinos will derive from the modules in terms of knowledge and skills cannot be quantified. It can only be seen later on in life's decisions that they will make, in their positive attitude towards sexuality, in the quality of families they will raise, and in the contributions they will make to society.

Between now and then, central are efforts to teach the young right ideas on the linkage between population and development and on planning one's family. These modules are aimed at giving teachers access to a coherent and well-thought out guide and appropriate reference materials on the two topics. We hope that they who play a crucial role in the learning process of children and adolescents will find them valuable.

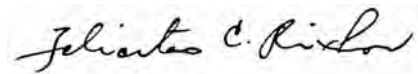
The responsibility of writing the modules fell on selected Catholic schools and colleges that appreciated the opportunity presented by the symposia. The University of San Carlos, St Joseph Academy and Sacred Heart School – Jesuit, all located in Cebu City, wrote the ones for the elementary level. Three schools in Albay - Divine Word College of Legaspi High School, Aquinas University High School and Dominican School of Camalig - took care of the high school modules. Father Saturnino Urios University of Butuan City prepared the ones tailored to college students. All hewed to a well-calibrated scope and sequence which a group of experts including priests crafted to guide the module writers. The yeoman's job of coordinating these groups was assumed by the University of San Carlos Office of Population Studies Foundation. We thank everyone from these institutions who were involved in the project.

Of its consultants, we would like to make special mention of Dr. Montana Saniel, Presidential Assistant for Scholarships, Alumni and External Affairs of the University of San Carlos, who explained the art, rigor and discipline required of module writing. She pushed everyone to be creative, yet methodical, in their approaches and to be logical in laying down concepts. Her patient mentoring certainly helped make each lesson much better than

expected. It is sad that she passed away not seeing the modules in their entirety.

Finally, we would like to thank the following persons who amidst their busy schedule found time to dedicate to the project. The project consultants, namely Dr. Mercedes Concepcion, Dr. Alejandro Herrin, Ms. Milagros Rivera, Fr. Ramon Echica, and Fr. Eric Marcelo Genilo, SJ ensured a nuanced and factual presentation of the various segments that compose each module.

We end with a wish that schools and other institutions that prepare children and youth for the future will make use of this resource to develop in them a deeper understanding of how individual decisions affecting family life can shape the country.

A handwritten signature in black ink, reading "Felicitas C. Rixhon". The signature is fluid and cursive, with the first name being the most prominent.

Felicitas C. Rixhon
Executive Director
Philippine Center for Population and Development



Archdiocese of Jaro




MESSAGE

The present volume on Population and Development Education, Teaching Modules for Catholic Schools, answers a great need in the education of Elementary, High School and College students on the interrelationships of Population and Development and on Human Sexuality and Responsible Parenthood.

Highly appreciating the preparation that went into the writing of the modules with focus on integral values formation of students on various level, I gladly endorse this volume for the use of our Catholic Schools and also for the formation of Catholic parents who are the primary teachers of their children on sexuality as well a religion.

Catholic Schools must likewise undertake the preparation and on-going formation of the parents of their students. In this way the efforts of the School will be complemented by parents in the home, especially in the matter of human sexuality and responsible parenthood.

In this way they will be bridging the gap that is usually found between school and home, between teacher and parents. In this way the laity will be a great partner of the Church in Christian education and formation of moral values.


+ ANGEL N. LAGDAMEO
Archbishop of Jaro
October 2, 2009




MESSAGE

In the Archdiocese of Cagayan de Oro, Natural Family Planning has been a major thrust of our Family and Life Apostolate. Over the past three years our ALL-NFP program has reached out to nearly two-thirds of all our parishes. More than 2,000 couple acceptors have adopted NFP as their way of family life. And the numbers are growing as local government units – i.e., the provinces of Misamis Oriental and Camiguin, and the city of Cagayan de Oro – have begun to initiate their own NFP programs.

It is in this light that I welcome the publication of this teacher's manual intended for Catholic schools, but also adaptable for other schools, public or private. Two main parts make up this volume: Part one on Population and Development, and Part two on Human Sexuality and Responsible Parenthood. In a sense, Natural Family Planning straddles these two sections in addressing many couples' felt needs today for family planning, their preference for NFP, and their choice of NFP methods.

The various teaching modules designed for elementary, high school, and college levels represent the collaborative work of many authors and Catholic schools. A key feature of the publication is its effort to integrate the values formation of Catholic Church teachings. Alongside this, the language and illustrations used can oftentimes be viewed as being explicit, scientific, and technical. For today's younger generation, this factual approach may be a necessary counterpoint to the misrepresentations of mass media and popularized entertainment culture.

The references included for student or teacher readers are valuable aids in encouraging young minds to probe more deeply into these subject matters. May this pilot edition encourage more educators to address the need for adequate information and proper guidance on these sensitive yet vital topics touching on family and nation.

+ 
+ Antonio J. Ledesma, S.J.
Archbishop of Cagayan de Oro

MESSAGE



Although I was not part of its conceptualization or production it is a privilege to be invited to present this book to its intended readers, with some emphasis on the moral.

It is 15 years now since the International Conference on Population and Development (ICPD) was first held in 1994. As expected, every issue became highly contentious, none more so than the proposed Program of Action. One school framed the phenomenon of population growth as a problem, and more precisely as an economic problem, tracing poverty primarily to the "population explosion." The logical solution to poverty was thus to control population, and more precisely to control birth. Critics saw this as a jaundiced view; one strategically favorable to the elite who, in their reluctance to share wealth, were thus inclined to persuade especially poor people to keep their families small.

Advocates of the poor countered that the control mentality was in fact violative of human rights especially when promoted through the coercive apparatus of the state. Cairo thus became symbolic of an alternative movement, where women's groups, public health practitioners, health professional organizations and a variety of NGOs coalesced to advocate a new paradigm, a "rights-based" approach to population issues. After affirming family planning as an inalienable right of men and women, other rights were subsequently named. Among the positive rights are those of prenatal and postnatal care, paternity rights similar to maternity rights, and so on. On the negative side rights were also invoked regarding customs of child marriage, the trafficking of women and girls, and domestic violence.

The stage is set for a war of moral worldviews. On one hand the settled wisdom is that no rights are absolute, implying that decisions regarding reproductive life and health should be made responsibly, that is to say, based on accurate information, balanced with limited claims to active support by the state, the dictates of natural law and so on. On the other hand since the internal logic of liberalism is expansive rather than restrictive, "pro-choice" has come to include access to reproductive information (e.g., from partners on issues such as STD or HIV/AIDS) and sexual education (even by the very young), with as little discrimination as possible (for example, to those of alternative sexual orientation). The secular debate, in a way, was framed as a clash between personal rights and collective development.

As this text demonstrates, population cannot and should not be reduced to any single one of its many dimensions, since economics, for example, relates broadly to development issues in general, such as the concern for ecological balance, or the UN consensus on the

Millennium Development Goals (MDGs). Further, no matter how attractive the personal rights agenda may be to individuals, in the end the goals of society as a whole also need to be addressed, a point equally stressed by this text. Commendably, this text is grounded in scientific method and empirical data, covering large and small issues adequately, and responding more critically to the reproductive health debate since it engages not only in plaintive expressions but constructive proposals.

On the religious front ICPD drew together unlikely allies, such as Islam and the Roman Catholic Church. In both there were two key doctrines, which were virtually absolute. One is the prohibition of abortion, a norm so absolute that everything else is viewed from this fundamental optic. Population issues are reduced to sexual issues, in which key condoms and sex education merely encourage promiscuity, the risks of STDs, and the possibility of unwanted pregnancies which would then invite abortion. Another religious tenet is the rigid bipolarity of the sexes, which thus rejects the extension of "gender rights" to homosexual rights including marriage, adoption and so on. Strong convictions, however, should not degenerate into dogmatic excess, losing the balance and perspective that must inevitably characterize our approach to complex issues. It is therefore very commendable that there is a conscious attempt in this text to cast the whole in the context of the faith, steeping it in humanist and Christian moral values.

Indeed we hope that this text will help believers to understand that being pro-life on reproductive issues roots in the biblical affirmation of life in its broadest compass and integral meaning. In that sense pro-choice can mimic God's will itself for life. At its most individual God chooses to love each human being who ever comes to be in our world, so that Life-Affirmation exhorts parents to welcome any child who comes to into their lives as unconditionally as it comes from God. At its most global God wants all of us to collaborate: together we can choose to create a community beyond kinship where everyone who nurtures life can find unquestioning support because we are church.

Crafted sensitively and expertly by educators, as amply evidenced in the design, method, progression and scholarship, we wish this text much success, as it points beyond itself and invites readers to engage the issues of population, reproduction, sexuality, love and life with critical reason and grounded faith.


Fr. Dionisio M. Miranda, SVD
President
University of San Carlos

MESSAGE

Noel Cabangon is a singer, songwriter, and environmental advocate. Recently, I came across the lovely lyrics of a song of his that I am very eager to hear in what I would expect would be in melody most inspiring. For the words themselves already are:

*We are the children of tomorrow
Your sons and daughters of the future
We are the voice of our generation
We are the hope of our land.
We are the children of the world
Who will inherit the whole of the earth.
We are the fruits of our forebears
We are the children of the Maker.
And we all need a better world
We all need a safer world
We don't need a battered world
We don't need a cruel world....*



Concern for the environment, for Mother Earth was what led Noel to compose his song. Concern for people, development, life, love was what prompted us to launch a series of symposia on population. The talks and discussions during these symposia, plus more detailed study and conferences, led to this set of modules on Population and Development which you now have in your hands. Different though our starting points were, in the words quoted above, environmentalists and we are one: the children of tomorrow cry out to the children of today to take care of them and this world of ours.

In our meetings, we wanted to veer discussions on population away from just "counting babies" or the supposed effect of overpopulation on the economics of the Philippines; away from hasty shouts and counter-shouts of "abortion-promotion" or "old-fashioned Church-meddling" in legal and ethical debates on the matter.

Population and Development, we wanted to emphasize, is about people and their relationships to their own bodies, with one another, with God, and with the earth and the entire universe. It is about love – romantic, one-on-one love, yes, but social love and responsible concern as well. What you will then find in this book is an attempt to teach and guide our children about themselves and their responsibility for life and love. They are the children of today who, while listening to the cries of their own hearts and bodies, and learning to meet the problems of the present, must also learn to listen to the voices of the children of the future which Noel Cabangon sings about. Our hope and our prayer is that listening, they, and all of us for that matter, learn to respond responsibly.

Not every word in this book may be to everyone's liking. One may find objectionable portions. Another may find some ideas missing. We trust, however, that whatever defects and deficiencies are seen would be corrected as one sees fit, complemented, or at least balanced by some other approach in some other source or book.

These modules are not being presented as THE modules to be followed. May they be taken for what they are, improved where needed, but, overall, studied and shared so that true learning happens. As much as love and responsibility.

God, a Jewish story relates, made many attempts at creating worlds and finally decided on this one. He said to the first man and woman: I give you this world: **HOLD IT IN TRUST**. In paraphrase, we say: after so many drafts and versions, we give you this book: **HOLD IT IN TRUST**. Read it. Study it. Learn it. Discuss it. Spread it – with Love.


Father Roderick C. Salazar Jr., SVD
CEAP President 1992 – 2008



MESSAGE

In more than 20 years of teaching a graduate course on issues in social development, I have come to accept that the majority of the students – graduates in social science and related fields from the better colleges in the Philippine and many from abroad – have little or no knowledge of the basic concepts in demography or of the history of population and its impact on human development. And yet, one cannot seriously discuss social change over time or social development on the community or national level without considering the impact of population dynamics. Hence I have been forced to devote one three-hour discussion to a “crash course” in demography before moving on to other topics.

I am very pleased, therefore, to see this set of modules for classes on population and development, beginning in elementary school and moving on to college. They are creatively done, aimed at involving the student at a given age and educational level, challenging him or her, and leading on to deeper analysis. If put into practice, they should produce not only graduate students better prepared to discuss social issues, but citizens better prepared than most are today to follow and participate intelligently in informed discussion of social policy issues in this area.

The modules on human sexuality and responsible parenthood here presented were first suggested at a seminar for teachers and administrators of Catholic schools, held at Father Saturnino Urios University in Butuan in late 2005. The seminar dealt formally with population and development, but in the open forum the need for modules on sexuality and responsible parenthood suitable for Catholic schools was brought to the fore. The need was emphasized in other seminars in the series conducted as far south as Marbel and as far north as Tuguegarao and Vigan, and gave rise to the cooperative effort involving many institutions and individuals which ultimately produced the modules. It is worth noting, and encouraging, that the original suggestions came from the provincial “rice roots” of the country and from actual practitioners in the field, teachers and researchers; hence they obviously respond to a felt need.

The modules, while intended primarily for Catholic schools, can also be described as “catholic” in the sense of “universal” in the values on which they insist. We were pleased that in some of our seminars the participants included not only representatives of Catholic schools but also some from public and Islamic schools. This encourages us to think and hope that the modules may well be useful in these other schools as well.

A handwritten signature in black ink, reading "John J. Carroll".

John J. Carroll, S.J.
Senior Research Associate
John J. Carroll Institute on Church and Social Issues

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GUIDELINES FOR TEACHERS

These teaching modules are intended to help you in planning your classes that cover two broad issues: 1) population and development, and 2) human sexuality and responsible parenthood. "Population and Development" (Part I) elucidates on concepts and relationships at the macro level, while "Human Sexuality and Responsible Parenthood" (Part II) articulates and concretizes issues linked to population and development at the micro level. The micro-level perspective focuses on individual and household decision-making and other behavioral aspects that can affect, and are affected by, the macro dynamics of population and development. The ultimate aim of these modules is to develop physically, emotionally and spiritually mature individuals who will contribute to the development of their families, communities and society.

You are encouraged to use these modules that have been crafted by your co-teachers; validated and finalized by resource persons; and pilot tested among students.

There are three sets of teaching modules in this document, namely: elementary, high school and college. The modules are age-appropriate, and build on the knowledge and skills learned from the earlier grade/year levels. It is necessary that you understand the context of the lessons you are teaching in relation to the lessons in previous and subsequent grade/year levels. You must therefore learn and fully understand the concepts being taught in your module as well as in related modules in the other grade/year levels. While these teaching modules contain most of the reference materials you will need to teach the lessons, you are still encouraged to read and use other supplementary materials.

You have the option to adjust the time requirements, grade/year levels, and subject/course application of the modules as you see fit for your respective schools and localities.

The learning competencies in these modules are drawn from the existing learning competencies of the basic education curriculum of the country. To provide the Catholic perspective to these modules, passages and readings from Catholic documents are incorporated specifically for the purpose of teaching Catholic values; these materials are intended to supplement, but not substitute, Catholic teachings constituting the core content of religious education courses in your school.

We encourage you to input other activities, illustrations, and teaching materials or references that you may find effective in teaching the lessons.

In teaching the contents of these modules, we encourage you to provide the real facts supported by empirical data. Study the concepts of population and development and understand their interrelationships. Regarding sensitive issues on human sexuality and responsible parenthood, we request that you emphasize the positive points rather than dwell on the negative concerns. We encourage you to be more sensitive, patient and understanding in teaching these subjects and making the students aware of the importance of human sexuality and parenthood to their being and to their relationship with God. It is important to keep in mind that the students you are teaching now will most likely become parents—and teachers of their children—one day.

As educators, our task is to provide our students a factual representation of reality but at the same time provide them some guidance with the infusion of Catholic principles and values. In doing so, we develop and nurture an open-minded individual who respects the opinion of others and possesses an unwavering set of Catholic values. This open-mindedness, however, should start with us.

Pope John Paul II, while still alive, worked tirelessly for the youth. He was noted for his exceptional devotion to the youth of the world. Quoting Mt. 5:13-14 during the World Youth Day in 2002, he told the youth, "You are the salt of the earth... You are the light of the world". He constantly emphasized the great importance of the youth as the Church's and the world's future. These modules endeavor to dedicate its perspective to Pope John Paul II's positive take on the youth and their ideals. We have highlighted the good qualities that the youth possess and the best that they can attain as they develop their full human potential.

PART I

Population and Development

POPULATION OF A COMMUNITY

By: Agnes Blanco

Suggested

Time Frame	40 minutes
Subject Area	Makabayan (Social Studies)
Grade Level	Grade 5

LEARNING COMPETENCIES

1. Know about the population of a community
2. Appreciate the contributions of people to their community
3. Gain familiarity with the population sizes of different communities

OBJECTIVES

The students are expected to:

1. Describe the population of a community
2. Differentiate populations according to size

LEARNING CONTENT

Concepts

1. Population refers to a group of people living in a community
2. The population of a community is composed of people of all ages and sex
3. People in the community have their own contributions to make
4. Different communities vary in population size

Skills

1. Observing
2. Describing
3. Drawing generalizations

Values

1. Respect
2. Appreciating persons as gifts
3. Sharing
4. Harmonious relationships

LEARNING RESOURCES

Reference

- National Statistics Office. (2007). *Census of Population Factsheet*.

Materials

Picture 1: A Large Community
 Activity Sheet 1: Meet the People of your Community
 Picture 2: A Small Community
 Data Sheet 1: Philippine Population by Region, 2007
 Song Sheet: "Persons are Gifts"
 Activity Sheet 2: I Remember

LEARNING ACTIVITIES

Preparation

- Show a picture of a community. (**Picture 1**)
- Allow the students to look at the picture and take note of the details.
 - Say: *Let us assume that we live in this community. What name would you like to give to our community?*
 - Let the students decide on the name, then write this down on top of **Picture 1**.
- Point to the different parts of the picture.
 - Ask: *Who are these people?*
What do they do?
Who created them?

Development

- Tell the students that they will have an activity called "MEET THE PEOPLE OF (name of the community given during the Preparation)".
- Give to each student **Activity Sheet 1**.
- Tell them to list down on **Activity Sheet 1**, the people (babies, children, teenagers, adults and elderly) they see in **Picture 1** (1st column), their sex (2nd column), and age range, i.e., 0-15, 16-50 and 50 and above (3rd column), and what you think they do in the community (4th column).
- After a few minutes, let some students read what they wrote in their list.
- Ask the other students if they have a similar list. Ask what else they have in their list that was not mentioned by their classmates.
- Call the attention of the students to the sexes and ages of the people listed.

Ask: *What can you say regarding the ages and sex of the people belonging to the community?*

The people in the community have different sexes and belong to different age categories.

- Call the attention of the students to what the people in the list do.

Ask: *What will happen to the community if some of these people are not there, like teachers, carpenters, bus drivers, barangay leaders, health workers, etc.?*

Some needs of the community would not be attended to.

Ask: *What is the importance of having different people in a community?*

Different people have different contributions to the community.

Ask: *What is the term given to a group of people composed of different ages and sex having different contributions to the community?*

(**Note:** Students may give different answers like society, neighborhood, and other similar terms. Ask follow-up questions to lead them to mention the term “population”.)

Population

- Show another picture of a community with a smaller population. (**Picture 2**). Allow the students to examine the picture.

Say: *Let us assume that this is a neighboring community. What name would you like to give to this community?*

Let the students decide on the name, then write this down on top of **Picture 2**.

Ask: *How would you compare the population of (name of community in **Picture 1**) to the population of (name of community in **Picture 2**)?*

The population of (name of community in **Picture 1) is bigger than that of (name of community in **Picture 2**).**

Ask: *What can you conclude about the size of the population of different communities?*

Different communities vary in population size.

Closure

- Show the students the population of different regions of the Philippines. (**Data Sheet 1: Philippine Population per Region, 2007**)

Ask: *Which region had the largest population in 2007?*

Region IV-A – Calabarzon

Ask: *Which region had the smallest population?*

Cordillera Administrative Region (CAR)

Ask: *Which region do we live in?*

Ask: *What was the population size of our region in 2007?*

Ask: *Are children like you also part of the population?*

Ask further: *Can you also contribute something to your community?*

- Distribute to the students a copy of the song "Persons are Gifts" (**Song Sheet**). Lead them in singing the song.

Ask: *What is the message of the song?*

Ask: *Who gave us the persons in our community?*

Ask: *Are you a gift to your community?*

Ask further: *In what way can you contribute to the development of your community?*

Let the students share their answers to the class.

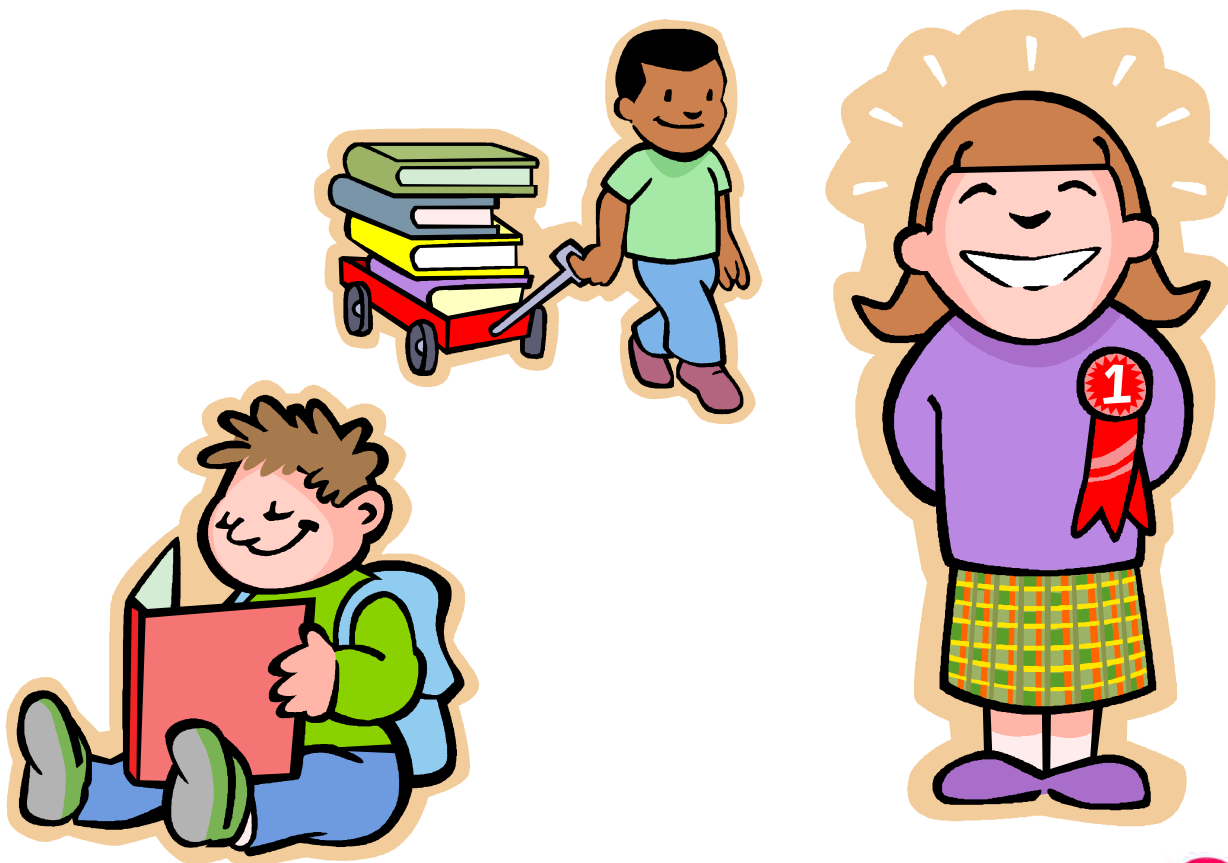
(**Note:** Another song with a similar message can also be used.)

- Distribute to the class **Activity Sheet 2 "I REMEMBER"**. Let the students write down what they learned about the population of a community. Collect the activity sheets.

Restate the concepts taught in the lesson:

- ♦ Population refers to a group of people living in one place.
- ♦ The population of a community is composed of people of all ages and sex.
- ♦ People in the community have different contributions.
- ♦ Different communities vary in population size.

Check the answers of the students.



ATTACHMENTS

- PICTURE 1: A Large Community

Name of Community: _____



Michael Lou Montejo

- MEET THE PEOPLE OF** _____
(Their chosen name)

People in the Community	SEX	AGE	What they do

- **PICTURE 2: A Small Community**

Name of Community: _____



Michael Lou Montejo

- DATA SHEET 1: Philippine Population by Region, 2007**

Region	Total Population
PHILIPPINES	88,574,614
National Capital Region (NCR)	11,553,427
Cordillera Administrative Region (CAR)	1,520,743
Region I – Ilocos	4,545,906
Region II - Cagayan Valley	3,051,487
Region III - Central Luzon	9,720,982
Region IV-A – Calabarzon	11,743,110
Region IV-B – Mimaropa	2,559,791
Region V – Bicol	5,109,798
Region VI - Western Visayas	6,843,643
Region VII - Central Visayas	6,398,628
Region VIII – Eastern Visayas	3,912,936
Region IX - Zamboanga Peninsula	3,230,094
Region X - Northern Mindanao	3,952,437
Region XI – Davao	4,156,653
Region XII – Socsargen	3,829,081
Caraga	2,293,480
Autonomous Region in Muslim Mindanao (ARMM)	4,120,795

Source: National Statistics Office. (2007). *Census of Population Factsheet*.

- **SONG SHEET:**

"PERSONS ARE GIFTS"



Persons are gifts from God to me
That come all wrapped so differently
Some so loosely, others so tightly
But wrappings are not the gifts.

I am a gift of God to me
Do I accept the gift I see?
I am a person and for this reason
A wonderful gift of love

Am I a gift to others too
Willingly given to you and you?
We are all persons, gifts to be shared
So let's have a grand exchange of gifts.



- **ACTIVITY SHEET 2: I Remember** where the students will write the concepts learned about Population.

I REMEMBER

I remember that:

1. Population refers to _____.
2. The population of a community is composed of _____.
3. People in the community have _____.
4. Different communities vary in _____.

COMPONENTS OF POPULATION GROWTH

By: Agnes Blanco

Suggested

Time Frame	40 minutes
Subject Area	Makabayan (Social Studies)
Grade Level	Grade 6

LEARNING COMPETENCIES

Learn that the population of a community can be described according to changes in population size due to births, deaths and migration

OBJECTIVES

The students are expected to:

1. Characterize a population according to changes in population size due to births, deaths and migration
2. Show how births, deaths and migration affect population growth

LEARNING CONTENT

Concepts

1. Change in population size, or the increase or decrease in population size, is the result of births, deaths and migration (i.e., permanent moves across provincial/city/municipal/barangay boundaries), which are known as the components of population growth
2. When the number of births is higher than the number of deaths, and there is no migration, the population will increase
3. When the number of deaths is higher than the number of births, and there is no migration, the population will decrease
4. When more people move into a community for permanent residence than those going out, and the numbers of births and deaths remain the same, the population will increase
5. When more people move out of a community for permanent residence in another community than those who move in, and the numbers of births and deaths remain the same, the population will decrease

Skills

1. Inferring
2. Computing
3. Drawing generalizations

Values

1. Openness
2. Acceptance

Prerequisite knowledge

1. Population refers to a group of people living in a community
2. The population of a community is composed of people of all ages and sex
3. People in the community have different contributions
4. Different communities vary in population size

LEARNING RESOURCES

Reference

- National Statistics Office. (2007). *Census of Population*.

Materials

Picture 1: A Large Community

Picture 2: A Small Community

Data Sheet 1: Hypothetical Population Survey Data

Data Sheet 2: Philippine Population and Growth Rates by Region, 2000 & 2007

Activity Sheet 1: I Have Learned That...

LEARNING ACTIVITIES

Preparation

- Recall the concepts learned in the previous lesson (in Grade 5) on Population of a Community. (Refer to the students' answers in **Activity Sheet 2 of Teaching Module "Population of a Community"**)
- Show the students **Picture 1** and **Picture 2** used in the first module. Recall the name given to the community in **Picture 1** and **Picture 2** and write this name on top of the picture.
- Ask the students to compare the two pictures.

Ask: *What is your observation about the number of people shown in Pictures 1 and 2?*

There are more people in (name of community in Picture 1) than in (name of community in Picture 2).

Development

- Present the hypothetical survey data of two communities (Barangay 1 and Barangay 2) on number of births, deaths, and people moving in and moving out. (**Data Sheet 1: Hypothetical Population Survey Data**)
- Tell the students to study the data. Ask them to compare the data from the two communities

Ask: *What is your observation regarding the number of births in Barangay 1 compared to the number of births in Barangay 2?*

There are more births in Barangay 1 than in Barangay 2.

Ask: *What is your observation regarding the number of deaths in Barangay 1 compared to the number of deaths in Barangay 2?*

There are more deaths in Barangay 2 than in Barangay 1.

Ask: *What is your observation regarding the number of people who arrived in Barangay 1 compared to the number of people who arrived in Barangay 2?*

There are more people who arrived in Barangay 1 than in Barangay 2.

Ask: *What is your observation regarding the number of people who left Barangay 1 compared to the number of people who left Barangay 2?*

There are more people who left in Barangay 2 than in Barangay 1.

Ask: *From the data presented, what are the factors that affected the size of the population in each barangay?*

Births, Deaths and Migration.

- State that:

Births, deaths and migration are known as the components of population growth.

- Explain further that:

Migration can be either in-migration, the movement of people into a community to reside permanently there, or out-migration, the movement of people out of the community to reside permanently in another community.

- Demonstrate to the students how they can determine the population size of a given place in a given year, considering the number of births, deaths and migration occurring in that place and year.

Explain that they can compute this using the following equation:

Original population size + number of births – number of deaths + number of in-migrants – number of out-migrants = New population size

$$(OP + B - D + IM - OM = NP)$$

Explain to the students that this equation is also known as the “**population balancing equation**”.

- Tell the students to look at **Data Sheet 1** again.

Focus on the data on births and deaths in Barangay 1.

Ask: Which is higher, the number of births or the number of deaths?

Number of Births.

Ask: If we assume that there is no migration (or zero in-migration and zero out-migration) for the period 2003-2008, what would be the population size of Barangay 1 in 2008, considering only births and deaths?

Point to the population balancing equation. Ask for a volunteer to compute the answer on the board using the population balancing equation noting that we assume in-migration and out-migration to be zero.

$$5,000 + 200 - 50 + 0 - 0 = 5,150$$

Ask: What happens to the population if the number of births is higher than the number of deaths, and there is no migration?

The population increases.

- Focus now on the data on births and deaths in Barangay 2.

Ask: Which is higher, the number of births or the number of deaths?

Number of deaths

Ask: If we assume that there is no migration for the period 2003-2008, what would be the population size of Barangay 2 in 2008, considering only births and deaths?

Tell them to use the equation used earlier assuming zero migration.

Ask for a volunteer to compute the answer on the board

$$5,000 + 80 - 120 + 0 - 0 = 4,960$$

Ask: What happens to the population if the number of deaths is higher than the number of births, and there is no migration?

The population decreases.

- Explain that:

The number of births minus the number of deaths represents the natural increase of the population.

- Focus now on the data on in-migration and out-migration in Barangay 1.

Ask: Which is higher, the number of people who in-migrated or the number of people who out-migrated?

The number people who in-migrated.

Say: After computing the population size in 2008 considering only births and deaths, we will now compute population size also considering migration.

Ask: *If we assume births and deaths to remain the same for the period 2003-2008, what would be the population size of Barangay 1 in 2008 if we consider also in-migration and out-migration?*

Point to the earlier answer written on the board for Barangay 1:

$$5,000 + 200 - 50 + 0 - 0 = 5,150$$

Tell them to add the number of in-migrants in the equation and deduct the number of out-migrants, in order to compute the new population size of Barangay 1 for 2008.

Ask a volunteer to compute the answer on the board

$$5,000 + 200 - 50 + 400 - 150 = 5,400$$

Ask: *What happens to the population when there are more in-migrants than out-migrants, and births and deaths remain the same?*

The population increases.

- Focus now on the data on in-migration and out-migration in Barangay 2.

Ask: *Which is higher, the number of people who in-migrated or the number of people who out-migrated?*

The number of people who out-migrated.

Ask: *If we assume births and deaths to remain the same for the period 2003-2008, what would be the population size of Barangay 2 if we consider also in-migration and out-migration?*

Point to the earlier answer written on the board for Barangay 2:

$$5,000 + 80 - 120 + 0 - 0 = 4,960$$

Tell them to add the number of in-migrants in the equation and deduct the number of out-migrants, in order to compute the new population size of Barangay 2 for 2008.

Ask a volunteer to compute the answer on the board

$$5,000 + 80 - 120 + 150 - 200 = 4,910$$

Ask: *What happens to the population if there are more out-migrants than in-migrants, and births and deaths remain the same?*

The population decreases.

- Explain that:

The number of in-migrants minus the number out-migrants represents net migration of the population.

Ask: *What are the factors that cause changes in population size?*

Births, deaths and migration cause changes in population size.

- Repeat that:

Births, deaths and migration are the components of population growth.

To illustrate that these components result in different population sizes for different geographic areas, show the students **Data Sheet 2: Philippine Population and Growth Rates by Region, 2000 and 2007** where the population of various regions for 2000 and 2007 and their corresponding growth rates are reflected.

- Explain that:

The average annual population growth rate is the average increase of population size in a year for every 100 people.

[**Note:** We only introduce the concept of population growth rate without teaching the students how to compute it.]

Ask: *Which region had the highest growth rate in 2000-2007?*

Autonomous Region in Muslim Mindanao

Ask: *Which region had the lowest growth rate in 2000-2007?*

Region 1 - Ilocos

Ask: *Which region do we belong to?*

Ask: *What was the average annual population growth rate of our region in 2000-2007 as reflected in the data sheet?*

- Let the students compare the annual growth rate of their region with that of the nation as shown in **Data Sheet 2: Philippine Population and Growth Rates by Region, 2000 and 2007**

Ask: *Was the growth rate of our region higher or lower than the national growth rate?*

Ask: *What are the possible reasons why this is so?*

Lead the students to answer in terms of the number of births, deaths and migration.

Closure

- Ask the students to answer **Activity Sheet 1: "I HAVE LEARNED THAT..."**
- Ask some volunteers to share their answers with the class. Make sure the following concepts are included:
 - Change in population size is the result of births, deaths and migration.
 - Births, deaths and migration are known as the components of population growth.
 - When the number of births is higher than the number of deaths, and there is no migration, population size will increase.
 - When the number of deaths is higher than the number of births, and there is no migration, population size will decrease.
 - When more people move into a community for permanent residence than those moving out, and the numbers of births and deaths remain the same, population size will increase.
 - When more people move out of a community than those who move in, and the numbers of births and death remain the same, population size will decrease.
- Restate the above concepts. Tell the students that these are the components and dynamics of population growth.
- Check the answers of the students.

ATTACHMENTS

- **PICTURE 1: A Large Community**



Michael Lou Montejo

- **PICTURE 2: A Small Community**



Michael Lou Montejo

- DATA SHEET 1: Hypothetical Population Survey Data**

	Barangay 1	Barangay 2
Population in 2003	5,000	5,000
For the period between 2003 and 2008:		
Number of births	200	80
Number of deaths	50	120
Number of people who arrived (in-migrated)	400	150
Number of people who left (out-migrated)	150	200
Population in 2008	5,400	4,910

- Data Sheet 2: Philippine Population and Growth Rates by Region, 2000 & 2007**

Region/Province	Total Population		Ave. Annual Population Growth Rate (%)
	1 Aug 2007	1 May 2000	2000-2007
PHILIPPINES	88,574,614	76,506,928	2.04
National Capital Region	11,553,427	9,932,560	2.11
Cordillera Administrative Region	1,520,743	1,365,220	1.50
Region I – Ilocos	4,545,906	4,200,478	1.10
Region II - Cagayan Valley	3,051,487	2,813,159	1.13
Region III - Central Luzon	9,720,982	8,204,742	2.36
Region IV-A – Calabarzon	11,743,110	9,320,629	3.24
Region IV-B – Mimaropa	2,559,791	2,299,229	1.49
Region V – Bicol	5,109,798	4,684,855	1.23
Region VI - Western Visayas	6,843,643	6,211,038	1.35
Region VII - Central Visayas	6,398,628	5,706,953	1.59
Region VIII - Eastern Visayas	3,912,936	3,610,355	1.12
Region IX - Zamboanga Peninsula	3,230,094	2,831,412	1.83
Region X - Northern Mindanao	3,952,437	3,505,708	1.67
Region XI – Davao	4,156,653	3,676,163	1.71
Region XII - Socsargen	3,829,081	3,222,169	2.41
Caraga	2,293,480	2,095,367	1.25
Autonomous Region in Muslim Mindanao	4,120,795	2,803,045	5.46

Source: National Statistics Office. (2007). Census of Population.

• **ACTIVITY SHEET 1**

I Have Learned That ...

1. Change in population size is the result of _____.
2. Births, deaths and migration are known as the _____.
3. When the number of births is higher than the number of deaths, and there is no migration, _____.
4. When the number of deaths is higher than the number of births, and there is no migration, _____.
5. When more people move into a community than those going out, and the numbers of births and deaths remain the same, _____.
6. When more people move out of a community than those who move in, and the numbers of births and death remain the same, _____.

BENEFICIAL AND ADVERSE EFFECTS OF POPULATION GROWTH

By: Agnes Blanco

Suggested

Time Frame	1 hour and 20 minutes (40 minutes per lesson)
Subject Area	Makabayan (Social Studies)
Grade Level	Grade 6

LEARNING COMPETENCIES

1. Determine the effects of population growth
2. Realize one's role as a steward of creation

OBJECTIVES

The students are expected to:

1. Give the beneficial and adverse effects of population growth on infrastructure, health and education
2. Express ideas of stewardship in relation to one's understanding of population and its characteristics

LEARNING CONTENT

Concepts

1. Population increase or decrease can have beneficial and adverse effects on infrastructure, health and education
2. All men and women are God's stewards. They are responsible for one another and for all of God's creation

Skills

1. Observing
2. Analyzing
3. Inferring

Values

1. Responsibility
2. Sharing
3. Stewardship

Prerequisite knowledge

1. Components of Population Growth

LEARNING RESOURCES

References

- Achacoso-Sevilla, L. (2004). A Framework for Analysis: Broadening the Population Debate. In *The Ties that Bind: Population and Development in the Philippines*, (2nd ed.). Makati City: AIM Policy Center, Asian Institute of Management, through the sponsorship of the Philippine Center for Population and Development (PCPD) and Konrad Adenauer Stiftung (KAS).
- Boserup, E. (1965). *The Conditions of Agricultural Growth: The Economics of Agrarian Change Under Population Pressure*. London: G. Allen & Unwin.
- Herrin, A. (1983). Population and Development: Introductory Perspectives. *Population / Development Planning and Research Project*, Manila: NEDA.
- Leibenstein, H. (1957). *Economic Backwardness and Economic Growth*. New York: John Wiley and Sons.

Materials

Data Sheet 1: Hypothetical Populations and Growth Rates of Two Types of Communities

Group Discussion Guide: Effects of Population Growth on Various Aspects of the Community

Activity Sheet 1: Group Discussion on Effects of Population Growth

Activity Sheet 2: I Have Learned That...

Teacher Reader 1: Positive Effects of Population Growth

Teacher Reader 2: A Framework for Analysis: Broadening the Population Debate

LESSON 1: Effects of Population Growth

LEARNING ACTIVITIES

Preparation

- Recall the concepts learned in the previous lesson on the components of population growth (*Refer to answers in **Activity Sheet 1 of the Teaching Module "Components of Population Growth."***)
- Form three groups with six members in each group, and do the following in sequence:
 - Instruct three members of the **first group** to get one classmate each, outside of the three groups, to join their group.
 - Instruct the other three members of the **first group** to get one classmate each, from the members of the second group, to join their group.
 - Instruct the remaining three members of the **second group** to get one classmate each, from the members of the third group, to join their group.
 - Instruct the remaining three members of the **third group** not to do anything.

Ask each group: *How many members did you have before? How many members do you have now?*

Ask: *What happened to your group's size?*

Members of Group 1 increased in number, those of Group 2 remained the same, while those of Group 3 decreased.

Ask: *How did change in your group's size come about?*

People were added to, or removed from, the group.

- Remind the class that population size, too, can increase, decrease or remain the same and that these changes are brought about by births, deaths and migration. Remind the students that births, deaths and migration are referred to as the components of population growth. Say also that, depending on these components, population growth can be fast or slow.

Development

- Distribute the population data sheet of two hypothetical communities with two different growth paths. (**Data Sheet 1: Hypothetical Population and Growth Rates of Two Communities**)
- Let the students examine the changes in population size for each community 20 years and 40 years after.

Ask: *What is the population size of Community 1 and Community 2 at present?*

At present, Community 1 and Community 2 have the same population size of 100,000 each.

Ask: *After 20 years, which community will have a larger population?*

Community 2

Ask: *How much larger will the population of Community 2 be compared to the population of Community 1 after 20 years?*

Community 2 will be larger than Community 1 by 30,000 people after 20 years.

Ask: *After 40 years, how much larger will Community 2 be compared to Community 1?*

Community 2 will be larger than Community 1 by 60,000 people after 40 years.

Ask: *Which population will more than double in size after 40 years?*

Community 2

Ask: *What is the reason why the population of Community 2 is increasing faster than Community 1?*

The population growth rate of Community 2 is larger (3.0%) than that of Community 1 (1.5%).

Lead the students to the following conclusion:

A higher growth rate means that more people will be added to the population each year.

- Next, ask the students to speculate on various aspects of the community that would be affected by a growing population.

(**Note:** The students may mention various aspects that would be affected, but make sure that the following are mentioned or alluded to.)

- Infrastructure (buildings, roads, bridges, etc.)
- Health (people's health and the delivery of health services)
- Education (formal and informal education and skills training)

Reiterate that population growth can affect the **infrastructure, health, and educational aspects** of a community.

- Divide the class into three groups. Ask each group to choose a moderator, a secretary and a reporter. The groups will be assigned to discuss the following:

Group 1 – impact of population growth on infrastructure

Group 2 – impact of population growth on health

Group 3 – impact of population growth on education

- Tell the groups to examine **Data Sheet 1: Hypothetical Populations and Growth Rates of Two Communities** again. Remind them that the population with a higher growth rate (Community 2) will have more people added to it than a population with a lower growth rate (Community 1). Remind them also that over a longer period of time (e.g., 40 years) the disparity in the increase of population size between Community 2 (the community with the higher growth rate) and Community 1 (the community with the lower growth rate) will get larger.
- Distribute the **Group Discussion Guide** to the moderator of each group. Tell the groups that discussion of their respective topics will be based on the figures given in **Data Sheet 1** and the **Discussion Guide** given to them. For each topic (aspect), discussion will proceed in three stages according to the following scenarios:
 1. Given the **initial population size** of 100,000, discuss what possible effects this size of the population can have on the following aspects, respectively:

a infrastructure	roads, bridges, factories, commercial establishments, residential housing, etc. [Group 1]
b health	provision of health services in terms of health facilities (clinics and hospitals), number and quality of health personnel, medicines, health insurance, etc. [Group 2]
c education	provision of educational services (preschool, elementary, secondary, tertiary and postgraduate studies, vocational and on-the-job training) including number and quality of teachers and trainers, educational materials and equipment, educational plans, etc. [Group3]

- 2 Discuss the possible effects on these aspects **after 20 years** of population growth. Weigh availability of resources and how these are distributed in the community to meet the needs of the growing population.
 - 3 Finally, discuss the possible effects on these aspects **after 40 years** of population growth. Ask the groups to analyze which community (Community 1 which is growing slower or Community 2 which is growing faster) would be better able to cope with the needs of their growing population.
- Tell the groups that their respective secretaries should record the salient points of their discussion in **Activity Sheet 1** and that the reporter will be reporting the result of their discussion in the next meeting. Distribute **Activity Sheet 1**.

Closure

- Collect **Activity Sheet 1** from the different groups for safekeeping until the next meeting.
- Summarize lessons learned from this session by asking: *From today's discussions, what have you learned about population growth of a community?*

Lead the students to the following conclusions:

Population growth can be slow or fast. If two communities start out with the same population size, the community with the higher growth rate will experience larger increases in the number of people over time compared to the community with a lower growth rate.

Population growth affects various aspects of the community like infrastructure, health and education.

LESSON 2: Population Growth and Stewardship

LEARNING ACTIVITIES

Preparation

- Remind the class about the lessons learned about population growth from the discussions in the previous meeting.
- Ask the students to reconstitute the three groups that they had formed in the previous meeting.
- Return **Activity Sheet 1** to the respective groups.
- Ask each group to review what had been written in their **Activity Sheet 1** and tell the reporters to be ready to present the results of their group's discussion

Development

- Start with Group 1 on "Infrastructure". Ask the reporter to give an oral presentation of their results. Allow the rest of the class to ask questions and give their comments on the report. At the end of the class discussion on "Infrastructure", ask a volunteer from Group 1 to summarize the main points raised during the class discussion.

After the summary, ask the students: *What can you conclude about the effect of population growth on the infrastructure development of a community?*

Lead the students to conclude that: a) moderate population growth, coupled with the availability and proper distribution of resources, can lead to beneficial effects on infrastructure development, e.g., roads, bridges, buildings will be built and improved (because the cost of providing these facilities will be lower for each additional person – "cheaper by the dozen" analogy); and b) rapid population growth, however, may lead to adverse effects if resources cannot cope with the demands of an ever-increasingly large population (e.g., housing supply cannot cope with demand; roads/bridges cannot be built or repaired fast enough to address increasing traffic congestion, etc.)

- After the discussion on "Infrastructure", proceed with Group 2's presentation on "Health". Ask the reporter to give an oral presentation of their results. Allow the rest of the class to ask questions and give their comments on the report. At the end of the class discussion on "Health", ask a volunteer from Group 2 to summarize the main points raised during the class discussion.

After the summary, ask the students: *What can you conclude about the effect of population growth on the health of a community?*

Lead the students to conclude that: a) moderate population growth, coupled with the availability and proper distribution of resources, can lead to beneficial effects on health, e.g., more and better health facilities, health personnel and medical services; and b) rapid population growth, however, may lead to adverse effects if existing resources cannot cope with the health needs of an ever-increasingly large population (e.g., congestion in health facilities, insufficient health care providers, medical supplies and equipment). Some sectors of society (e.g., the poor) may not be able to avail of health services.

- Proceed next with Group 3 for the discussion on "Education". Ask the reporter to give an oral presentation of their results. Allow the rest of the class to ask questions and give their comments on the report. At the end of the class discussion on "Education", ask a volunteer from Group 3 to summarize the main points raised during the class discussion.

After the summary, ask the students: *What can you conclude about the effect of population growth on the education of a community?*

Lead the students to conclude that: a) moderate population growth, coupled with the availability and proper distribution of resources, can lead to beneficial effects on education, e.g., opening of more and better schools and colleges because of increasing enrollment; there will be more people who can provide educational services and support the maintenance of educational facilities; and b) rapid population growth, however, may lead to adverse effects if available resources cannot cope with the educational needs of an ever-increasingly large population (e.g., reduced capacity of schools to provide adequate educational services for the growing school-age population). Some sectors of society (e.g., the poor) may not be able to enroll.

Closure

- After all the results of **Activity Sheet 1** have been presented, discussed and summarized, ask: *Have we experienced some of these effects in our country? Which effects are stronger, the positive effects or the negative effects?*

(**Note:** The foregoing question serves only to sensitize the students to the consequences of population growth in the country. This is just an analytical exercise and there are no wrong or correct answers to this question.)

- Ask: *What can you conclude about population growth rates and the effects of population growth on the community?*

Lead students to conclude that:

Moderate population growth can have positive (beneficial) effects on the infrastructure, health and educational development of a community, while rapid population growth can have negative (adverse) effects on these aspects especially if rapid growth continues for a long time and resources do not grow as rapidly.

- Read to the class the following biblical teachings:

**God has given us the task of being caretakers of His creations to care for them, to protect their fruitfulness and not allow them to be devastated.
(Source: Genesis 1:9-12,28; Genesis2:19-20)**

Ask: *What is the task given to us by God?*

The task given to us by God is to be caretakers of all His creations.

Ask: *How could this task be fulfilled?*

Provide appropriate and adequate services that respond to the needs of the population, without compromising the other creations of God, and without compromising the needs of future generations.

Ask: *How could this be realized?*

Through appropriate government programs and policies, sharing of available resources, and the cooperation of the people.

- Distribute to the class **Activity Sheet 2: I Have Learned That...** Let them write down what they learned about the effects of population growth on the community. Collect Activity Sheet 2.
- Check the answers of the students.

ATTACHMENTS

- **Data Sheet 1: Hypothetical Populations and Growth Rates of Two Types of Communities**

	Present population size	Population growth rate	Population size after 20 years	Population size after 40 years
Community 1	100,000	1.5	130,000	160,000
Community 2	100,000	3.0	160,000	220,000

- **Group Discussion Guide: Effects of Population Growth on Various Aspects of the Community**

(Illustrations and guide questions are provided for each topic/aspect. This material may be divided by topic/aspect for distribution to the three groups.)

	POSSIBLE EFFECTS OF POPULATION GROWTH		
	At Present	After 20 Years	After 40 Years
Infrastructure	<p><i>Illustration:</i> If there are relatively few people, it would not be necessary and advisable to build large bridges, wide concrete roads because with only a few users, this infrastructure cannot be put to maximum use.</p>	<p><i>Illustration:</i> If there are now more people, it will become necessary and beneficial to build bridges and concrete roads because there will now be more users and more people who can contribute to the construction and maintenance of this infrastructure (e.g., through taxes or labor).</p>	<p><i>Illustration:</i> Increasingly more people are being added to the community. If the increase in number of people is not too much (i.e., slow to moderate population growth) and resources are available, more and better roads will be built. But if the increase in number of people is more than the resources can cope with (rapid population growth), not enough roads will be built and maintained to meet the rising needs of a rapidly growing population. It is also at this point where careful planning of the use of limited resources is very important.</p>

	POSSIBLE EFFECTS OF POPULATION GROWTH		
	At Present	After 20 Years	After 40 Years
Health	<p>Illustration: If there are relatively few people, it would not be necessary and advisable to build a hospital because with few potential users, this infrastructure cannot be put to maximum use, especially if there is already a hospital in a nearby community.</p>	<p>Illustration: If there are now more people, it will be beneficial, if not necessary, to build a clinic or hospital because there will be more people within the community needing medical care. There will also be more people who can provide medical services and contribute to the maintenance of the clinic or hospital.</p>	<p>Illustration: Increasingly more people are being added to the community. If the increase in number of people is not too much (i.e., slow to moderate population growth) and resources are available, more or bigger clinics or hospitals will be built. But if the increase in population is more than the resources can cope with (rapid population growth), existing clinics and hospitals may no longer be able to cope with the increasing demands for health care by a rapidly growing population. Some sectors of society (e.g., the poor) may not be able to avail of health services. It is also at this point where careful planning of the use of limited resources is very important.</p>

	POSSIBLE EFFECTS OF POPULATION GROWTH		
	At Present	After 20 Years	After 40 Years
Education	<p>Illustration: If there are relatively few people, it would not be necessary and advisable to put up a college because there will not be enough students enrolling in various courses at the tertiary level. This educational facility will not be put to maximum use.</p>	<p>Illustration: If there are now more people, it will be beneficial, if not necessary, to open a college because enrollment in tertiary education will increase. There will also be people who can provide educational services and support the maintenance of a college or university.</p>	<p>Illustration: Increasingly more people are being added to the community. If the increase in number of people is not too much (i.e., slow to moderate population growth) and resources are available, more or bigger schools will open. But if the increase in population is more than the resources can cope with (rapid population growth), existing schools (especially elementary and secondary levels) may no longer be able to cope with the increasing demands for education by a rapidly growing population. Some sectors of society (e.g., the poor) may not be able to enroll or get a good education. It is also at this point where careful planning of the use of limited resources is very important.</p>

- **Activity Sheet 1: Group Discussion on Effects of Population Growth**

GROUP NO. _____
ASPECT DISCUSSED: _____
Impact of initial population size on (specifics of each aspect): 1) 2) 3) 4) 5)
Impact of population growth 20 years after: 1) 2) 3) 4) 5)
Impact of population growth 40 years after: 1) 2) 3) 4) 5)

- **Activity Sheet 2: I Have Learned That...**

1. Population growth can affect different aspects of the community like:

1. _____,
2. _____, and
3. _____.

2. Population growth can have both _____ and _____ effects on the community, depending the availability and distribution of resources and rate of population growth in the short and long run.

Teacher Reader 1: Positive Effects of Population Growth

Several writers have stressed the positive effects of population growth on economic growth, drawing insights mainly from the historical experience of advanced countries or of primitive societies. Implicit in their arguments is that the *initial population size or growth rate is very low*.

One of the positive effects of population growth is related to the idea of “economies of scale”- as population grows, the domestic market increases in size to the point where economies of scale in production is possible.* That is, as market size increases, diversification and specialization between firms increases, leading to efficiencies and lower cost per unit of output. Additionally, certain types of overhead capital are quite lumpy, (e.g. transportation and communication systems). Excess capacity exists when the number of users is low. With increased population, such overhead capital becomes viable and is provided. These in turn lead to external economies and eventually higher output.

The validity of the economies of scale argument depends upon a number of factors. One is the population size already reached. In large populations, are there still sizeable potentials for economies of scale or have all the potentials already been achieved? In fact, in large and densely settled populations, would not diseconomies of scale or congestion effect be the more important concerns? Secondly, the market size depends on both income and population. In low income countries, an increase in population does not automatically translate into a large market. Finally, from a policy standpoint, is population growth necessary for reaping economies of scale? The important concept in economies of scale is not size of population per se, but density. Density can be increased by changing patterns of settlements tied to spatial development strategies. In another vein, extending the size of the market can be achieved much more flexibly through expansion of foreign trade.

A second mechanism through which population growth is said to have a positive effect on the economy is through its effect on technological change. With respect to agriculture, Boserup (1965), a noted anthropologist, argued that population increase leads to the adoption of more intensive systems of agriculture in primitive communities and an increase in total agricultural output. Although the proximate effect of this change in agricultural systems is to reduce output per man-hour, Boserup considers secondary effects which can set off a genuine process of economic growth, with rising output per man-hour first in non-agricultural activities, and later in agriculture itself. The mechanisms involved are twofold, according to Boserup. First, the intensification of agriculture may compel farm workers to work harder and more regularly, leading to work habits that raise labor productivity. Secondly, the increasing population density facilitates the division of labor and the spread of communication and education. Boserup, however, stressed that these mechanisms may not be operative in densely settled communities with a very high rate of population growth and which are unable to undertake the investment necessary for introducing still more intensive methods of agricultural production.

A third mechanism through which rapid population growth can have a positive effect on economic growth is related to considerations regarding the quality of the labor force. Leibenstein (1957), a noted economist, suggested that to the extent that the younger worker cohorts that enter the labor force are of higher quality, (e.g. higher educational attainment) than the older worker cohorts who leave through retirement or death, the average quality of the labor force improves more rapidly if the rate of population growth is higher (other things equal) rather than lower. Leibenstein calls this the replacement effect. How valid is the assumption that younger workers are of higher quality than older workers? It is possible, for example, that the increased population pressure on educational services may lead to lower quality investment per pupil, thus resulting in lower average labor quality of younger workers than of older workers. In fact in the same article, Leibenstein examined other mechanisms through which rapid population growth may affect labor quality. He suggested that

higher rates of population growth compared to lower rates are associated with a higher dependency ratio, a higher average sibling number, a closer birth spacing and a greater number of pregnancies per woman, and higher maternal mortality and morbidity. The impacts of these demographic effects on dependency, malnutrition, degree of maternal deprivation, speech and personality formation, and I.Q. are all detrimental to the average acquired economic quality of the labor force, and therefore, on economic growth.

Several other potential positive effects of population will be briefly mentioned here. Let us briefly consider one argument that relates to work effort. It is argued that a higher dependency burden leads to greater work effort on the part of the working population, i.e., parents work more when the family size is large. If this is so, is more work per se the object of development, or is it not in fact income per work effort that is our major concern when we consider measures of family welfare? If increased work effort is desired, do we need greater deprivation arising from high fertility as an incentive, or would appropriate wage policies do the trick?

* Economies of scale in production means that the cost per unit of output declines as output, or the scale of the operations, is increased.

Source:

- Herrin, A. (1983). Population and Development: Introductory Perspectives. *Population / Development Planning and Research Project*, Manila: NEDA.

Teacher Reader 2: A Framework for Analysis: Broadening the Population Debate

The fact that population issues cover a wide range of concerns calls for a multisectoral approach to population policies, and this book attempts to do just that by covering a range of topics that are related to population and are all affected by, or have an effect on, economic development. What will become clear is that the continued high population growth rates have exacerbated the sectoral problems and made reform more urgent.

Food Security. Rice has long been the main staple of the Filipino diet. But following the technological advances in the green revolution of the 1970s, the Philippines went from being almost self-sufficient in rice production to a net importer of rice from countries like Vietnam and the United States. Production and productivity have steadily declined to levels below those of our Southeast Asian neighbors, while prices have progressively increased and now rank among the highest in the region.

As the Agricultural Team Leader of the Presidential Committee on Effective Governance, Dr. V. Bruce Tolentino's paper on *Food Security* looks at the issues that affect the supply and price of rice in the Philippines. He notes that the rice production growth rate is now lower than that of population. Simply put, we are not producing nearly enough to feed the current and next generation of Filipinos.

Health. The discussion then shifts to the next logical concern: in light of population growth rates, what is the health outlook for the Filipino? Dr. Alejandro Herrin, Professor at the University of the Philippines School of Economics specializing in demographic economics and population and development issues, discusses the effects of an increasing population on the health system. He notes that we are faced not only with large regional differentials in infant mortality rates and unhealthy children who are nutrient deficient, but also with basic health services that are inadequate, not just on the family planning dimension but even in terms of environmental sanitation and childhood healthcare (immunization). Families are unable to provide adequately for their health needs, and government is equally unable to generate sufficient per capita spending for the health needs of its population.

Housing. Providing adequate housing for its citizens has been a cornerstone of many administration plans, including the current one. But the lure of the big city due to uneven geographical development and the dearth of jobs outside urban areas have contributed to a housing situation where, as former Chief Executive Officer and President of the Home Development Mutual Fund (PAGIBIG Fund) Zorayda Amelia C. Alonzo and former Corporate Planning and Research specialist of the Home Development Mutual Fund (HDMF) Elvira F. Esguerra-Villamor pointed out, "the demand-supply gap can never be breached." Not only is there a backlog of housing need, but a growing demand that is far beyond the capacity of government alone to address. The authors also make it clear that the housing problem is a dilemma that has no single cause. Instead it stems from poverty and economic underdevelopment, and is worsened by continued high rates of population growth.

The housing need comes from the homeless and from those living in substandard structures, among others, and is exacerbated by high rates of rural-urban migration.

Basic Education. The trends in Philippine education point to an alarming decline in quality, particularly at the primary (elementary) school level. National testing reveals that mean performance scores for elementary school children are only at 50 percent, with no region achieving higher than a score of 61.

Dr. Alejandro Herrin provides a bird's eye view of the current state of Philippine education and he brings an important message: the system is in trouble. High enrollment rates mask unacceptably low achievement scores and large regional and economic differentials in educational attainment. Cohort

survival rates are low, and funding is going into tertiary rather than basic education even though the glaring majority of the population fails to even finish third year high school... Education plays a crucial role in economic development and deserves a thorough study of what can be done to stop its further deterioration, keeping in mind the expected growth of the school-aged population.

Government Resources. Given these areas of concern, former Department of Health Undersecretary Mario M. Taguiwalo tackles the basic question: does the government have sufficient resources to meet these needs? Although the government has increased its percentage of spending on social services relative to population growth, it is still plagued by problems in tax collection, corruption, the burden of debt, even the differences in intention versus action on the part of policymakers and government officials. Taguiwalo calls for measures that would allow the government to raise its revenues through better tax collection, debt restructuring and a streamlining of government operations. At the same time it is clear that whatever policies are made must be targeted to where it is most needed, and in ways that target the high-risk segments of the population. Given limited resources, efforts should be focused on a few programs that will produce the largest effects. Government agencies will also need to be forced to be more productive, and more stringent rules put into place to minimize corruption and waste."

Urban Planning and Development. "Rapid urbanization has been identified as the current single biggest phenomenon in developing nations. The rise of mega-cities and the trend of rural to urban migration highlights the problems of planning for densely crowded urban centers that often teeter on the edge of chaos due to the failure of its infrastructure, inability to deliver basic services, chaotic transportation network, and housing shortage... All the issues in the previous sections come together here as we see how they interact within the boundaries of cities and towns."

"Poverty, low growth of the domestic economy, slow growth outside urban areas which has led to high levels of rural-urban migration, political upheavals and inconsistency, limited public funds (and often their misuse)—these are all elements of the slow economic development that the Philippines is experiencing. This book acknowledges that these problems already exist, but contends that population growth at a rate faster than what the domestic economy can absorb is only making them worse."

(The teacher is encouraged to read the entire article of Achacoso-Sevilla (2004) and those of the authors cited in this material.)

Source:

- Achacoso-Sevilla, L. (2004). A Framework for Analysis: Broadening the Population Debate. In *The Ties that Bind: Population and Development in the Philippines*, (2nd ed.). Makati City: AIM Policy Center, Asian Institute of Management, through the sponsorship of the Philippine Center for Population and Development (PCPD) and Konrad Adenauer Stiftung (KAS)

POPULATION AND ENVIRONMENT

By: Emmanuel Diño

Suggested

Time Frame	:	2 hours (1 hour per lesson)
Subject Area	:	Makabayan (Social Studies) General Science and Christian Life Education
Year Level	:	1 st or 2 nd Year High School

LEARNING COMPETENCIES

1. Demonstrate understanding of how human beings affect the interrelationship among and between organisms and their environment
2. Appreciate the significance of maintaining and restoring the integrity and balance of an ecosystem
3. Recognize one's responsibility as a steward of the environment

OBJECTIVES

The students are expected to:

1. Discuss the effects of population growth on natural resources and environment in various ecosystems
2. Show what is happening to the environment in specific ecosystems with reference to current population trends
3. Describe specific technologies and conservation measures for maintaining and restoring the integrity of an ecosystem
4. Undertake activities that will manifest their responsibility as stewards of the environment

LEARNING CONTENT

Concepts

1. Rapid population growth increases the demand for the use of natural resources
2. The increased pressure to use natural resources in specific ecosystems can lead to rapid and improper use of these resources, thereby resulting in resource depletion, environmental degradation, and possible extinction of certain species
3. Natural resources can be conserved and the environment protected with the application of appropriate technologies and conservation measures
4. Slower population growth can help us achieve the goal of protecting the environment and maintaining ecological balance
5. The human population as steward of the environment is responsible for its protection and for maintaining balance in nature

Skills

1. Communicating
2. Visualizing
3. Critical thinking
4. Demonstrating
5. Organizing

Values

1. Environmental awareness
2. Appreciation
3. Responsibility

Prerequisite knowledge

1. Population growth is the increase in the number of people in a given area in a given time period.
2. The components of population growth are births, deaths and migration.
3. Population increase can have beneficial and adverse effects on infrastructure, health, and education.
4. All men and women are God's stewards; they are responsible for one another and for all of God's creation.

LEARNING RESOURCES**References**

- Cincotta, R. & R. Engelman. (1997). Economics and Rapid Change: The Influence of Population Growth. *Population Action International, Occasional Paper 3*, 5-6.
- East-West Center. (2002). *The Future of Population in Asia*, 111-121.
- Population Reference Bureau. (2006). *Making the Link in the Philippines: Population, Health and the Environment*.

Websites

- Krejcir, R. (2003). *Stewardship*. Retrieved April 8, 2009 from http://www.aliancenet.org/partner/Article_Display_Page/0,,PTID34418%7CCHID632334%7CCIID1509932,00.html
- Non-renewable resource. (2008). Retrieved April 8, 2009 from Wikipedia: http://en.wikipedia.org/wik/Non-renewable_resource.
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- ThinkQuest. (n.d). *Ecology in Everyday Life*. Retrieved April 8, 2009 from <http://library.thinkquest.org/11353/ecology.htm>
- ThinkQuest. (n.d.) *Ecosystem*. Retrieved April 8, 2009 from <http://library.thinkquest.org/11353/ecosystems.htm>
- ThinkQuest. (n.d). *Our Thinning Ozone*. Retrieved April 8, 2009 from <http://library.thinkquest.org/11353/ozone.htm>

Materials

Pictures: 1a, 1b, 2a, 2b, 3a, 3b, 4a, and 4b: Illustrations of Ecosystems

Teacher/Student Reader 1: Ecosystems and Environment

Teacher/Student Reader 2: On the Conservation of Natural Assets

Teacher/Student Reader 3: Population, Natural Resources, and Environment

Teacher/Student Reader 4: Making the Link in the Philippines: Population, Health and the Environment

Manila paper

Poster materials

LESSON 1: Population Growth and Ecosystems

LEARNING ACTIVITIES

Preparation

- Review the concepts learned in elementary regarding population growth.

Ask: *What brings about changes in population size?*

Births, deaths, and migration

- Remind the students that births, deaths, and migration are referred to as the **components of population growth**.
- Tell the class to recall that population growth affects various aspects of society and that in elementary they learned about the effects of population growth on infrastructure, health, and education.

Ask: *Aside from infrastructure, health, and education, what other aspects of society may be affected by population growth?*

Several aspects may be mentioned, but lead the students to also mention “environment” and “labor force”.

- Tell the class that you will be focusing on “environment” in this lesson and the next; “labor force” will be (or has been) discussed in another lesson/module.
- Distribute **Student Reader 1: Ecosystems and Environment** to the students. Ask a volunteer to read to the class **Section A on Ecosystems**. Then ask another student to read **Section B on Ecology in Everyday Life**, to be followed by another volunteer to read **Section C on Our Thinning Ozone**. Lastly, ask a student to read aloud **Sections D and E on Non-Renewable Resource and Renewable Resource**. (Alternatively, **Reader 1** may have been distributed to the students in the preceding meeting as a reading assignment for this meeting.)
- Ask the class if they have any questions/clarifications regarding the readings. Answer their questions briefly and tell them that more discussions regarding ecosystems and the environment will be conducted as you proceed with your lesson.
- To set the stage for the next activity, review the concept of an ecosystem.

Ask: *What is an ecosystem?*

Ecosystem is the dynamic interaction between plants, animals, and microorganisms and their environment working together as a functional unit.

Development

- Show the class **Pictures 1a (forest), 2a (farmland), 3a (marine), and 4a (urban center)**. Tell them that these are four of the most common types of ecosystems found in the Philippines. Ask them to identify each picture and describe what can be found in each of these ecosystems (including those that may not appear in the picture but they still belong to this environment).
- Tell the class that these pictures show examples of a healthy ecosystem. Then show them **Pictures 1b, 2b, 3b, and 4b** of a denuded/degraded forest, farmland, marine area, and an unhealthy urban environment. Tell them that these are examples of what can happen to a once-healthy ecosystem. (You can also use your own set of pictures if you have some that are more relevant to your locality).
- Divide the class into four groups. Let each group choose a leader/moderator, a secretary, and a reporter. Assign each group to discuss/analyze the dynamics operating in their respective ecosystem. Group 1 will discuss “forest”, Group 2, “farmland”, Group 3, “marine”, and Group 4, “urban center”. In particular, each group will discuss, analyze and speculate what has caused their ecosystem to change from a healthy one (**Pictures 1a, 2a, 3a, and 4a**) to an unhealthy/unsustainable one (**Pictures 1b, 2b, 3b, and 4b**, respectively).
- To help them in their group discussion, distribute **Student Readers 2-4**. Give each group time to read—aloud or in silence—all of the Readers that have been given to them (including a review of **Reader 1**). Tell the group to focus their discussion on: a) how people (and population growth) have contributed to the deterioration of their ecosystem and its environment, and b) what kinds of technologies have led to this deterioration. Tell the secretary to write down the results of their discussion on a sheet of Manila paper.
- When done (after 15 minutes), let each group put up their Manila paper on the board and ask the reporter to present the results of their group discussion to the class. Allow the other groups to give comments and feedback to each group presentation.

Closure

- When all the groups have presented, and the class has given its feedback on the presentations, tell the groups to remove their respective Manila papers from the board. Tell them that their assignment is for each group to prepare a poster depicting the results of the group and class discussions regarding the ecosystem assigned to them. Their posters will be presented in class during the next meeting.
- On a sheet of paper, tell the students to write a short essay about how people can affect the ecosystem.
- When finished, ask the students to pass their papers.
- Check the papers passed by the students.

The essays, group, and class discussions may include the following answers in one form or another:

Sometimes people don't change ecosystems very much, but sometimes people change them a lot when they move in. People build buildings, roads and highways; construct dams in rivers and lakes; convert slope lands and open land areas into subdivisions and government facilities; trees are wastefully cut, causing landslides and flooding in the lowlands.

With the ever-increasing growth in human population, the Earth's ecosystems have been significantly transformed through human actions. There is increasing demand for food, freshwater, timber, fiber, fuel and other natural resources. Although the changes made to ecosystems have contributed to substantial gains in human well-being and economic development, these gains have been achieved at growing costs.

Rapid population growth can cause the following:

- Extinction of a wide variety of animal and plant species and loss of their habitat because of people's increasing demand for space, food, travel and other needs;
- Inappropriate farming practices contributing to soil impoverishment and erosion, overgrazing of common lands and misuse of agrochemicals.
- Deforestation not only because of increased demand for cropland and living space but also because of increased demand for fuel wood.
- Farm fragmentation and declining productivity of land as well as declining productivity per farm worker.
- Trigger widespread marine resource degradation in coastal areas. Over-fishing and illegal fishing practices are common causes of degradation.
- Freshwater shortage, water pollution, and improper waste disposal, especially in congested urban areas.
- Wasteful use of fossil fuels has resulted in chronic, sometimes catastrophic, pollution of the atmosphere, in some cases far beyond what natural systems or man-made structures can tolerate.

LESSON 2: Ecosystem Balance and Stewardship

LEARNING ACTIVITIES

Preparation

- Review the concepts learned in the previous lesson.

Ask: *What is an ecosystem?*

Ecosystem is the dynamic interaction between plants, animals, and microorganisms and their environment working together as a functional unit.

Ask: *What are some common types of ecosystems found in the Philippines?*

Forests, farmlands, coastal areas, and urban areas

(The students may also mention upland and lowland agricultural areas, mangroves, coral reefs and other marine resources.)

- Ask: *What are the most common causes of environmental and ecological degradation?*

Possible answers:

People (rapid population increase), harmful technology, inappropriate practices and policies

- Tell the four groups to put up their posters on the board. Ask the leader of each group to explain their poster's theme and/or message. Allow the class to give their comments and feedback for each poster.

Development

- Using the posters as illustration, tell the class that they have demonstrated how a healthy ecosystem/environment can change into an unhealthy/unsustainable one because of the growing number of people and their harmful practices and technologies.
- Then ask the students if there are ways of arresting or mitigating the adverse effects of population increase on the ecosystem/environment. Tell the students to return to their respective groups, and discuss possible conservation measures (natural, behavioral, and technological) that can help reverse the adverse effects on their ecosystem (i.e., how can **Picture 1b, 2b, 3b, and 4b** become like **Picture 1a, 2a, 3a, and 4a** respectively, again).
- Ask the secretary of each group to record the results of their discussion (enumerate conservation measures) on the Manila paper that they used in the previous meeting.
- After a few minutes, when the group discussion is done, let each group again put up their Manila paper on the board. Ask the reporter of each group to present the results of their recent discussion to the class. Let the other groups give comments and help elaborate on the group presentations.
- Summarize the presentation of each group. Conservation measures that are enumerated by each group may include:
 - Forests – reforestation, ban or regulation on logging, forest conservation policies, etc.
 - Farmlands – improved agricultural practices such as irrigation, security of tenure, improved land use and land conversion policies, etc.
 - Coastal areas – strict enforcement of laws against illegal practices such as dynamite fishing; preservation and rehabilitation of mangroves and coral reefs; promotion of eco-tourism that is not harmful to the environment, etc.
 - Urban areas – proper solid waste management, laws regulating pollution, improved traffic control systems, zoning practices, etc.
 - A crosscutting concern is population growth. Slower population growth enables society to achieve the goal of resource conservation and environmental protection through: a) the slower growth of demand for resources and less need for inappropriate practices arising from competition in the use of limited available resources, and b) the provision of more time to develop the technology and institutions to help conserve and protect the environment despite a growing population.

- Impress to the class that implementing conservation measures (including managing population growth) in order to minimize population pressure on the environment is a way of demonstrating man's responsibility as a steward of God's creation.

"The earth is the LORD's, and everything in it, the world, and all who live in it." (Psalm 24:1)

According to Krejcir (2003):

The word, stewardship, simply means to manage someone else's property. For the Christian, as Scripture proclaims, everything belongs to God, we manage the property of our Lord. Since everything belongs to Christ, we need to have the attitude and view that our things are His things, our stuff is His stuff, that all we could have now, all we have lost, all we will have, is His, including our very bodies and spiritual gifts. We are mere lessees of the property, money, relationships, talents, time, and even our lives. That means all that we are and all that we have are not really ours to begin with. They belong to God. So, the duty of the Christian is to learn how to become responsible stewards of our Lord's resources entrusted into our care. It means to manage everything to the best of our abilities for His glory. (1 Corinthians 4:2).

Source:

- Krejcir, R. (2003). *Stewardship*. Retrieved April 8, 2009 from http://www.aliancenet.org/partner/Article_Disply_Page/0,,PTID34418%7CCHID632334%7CCIID1509932,00.html

Closure

- Having emphasized the need for environmental protection/conservation, and discussed various conservation measures, ask each group to articulate their sense of stewardship/responsibility toward the environment by preparing the following:

Group 1 – a **poem** about the protection/conservation of forests

Group 2 – a slogan or **advocacy** statement about farmlands

Group 3 – a **prayer** about the conservation of coastal and marine resources

Group 4 – a **song** about the creation/preservation of a healthy urban center or city

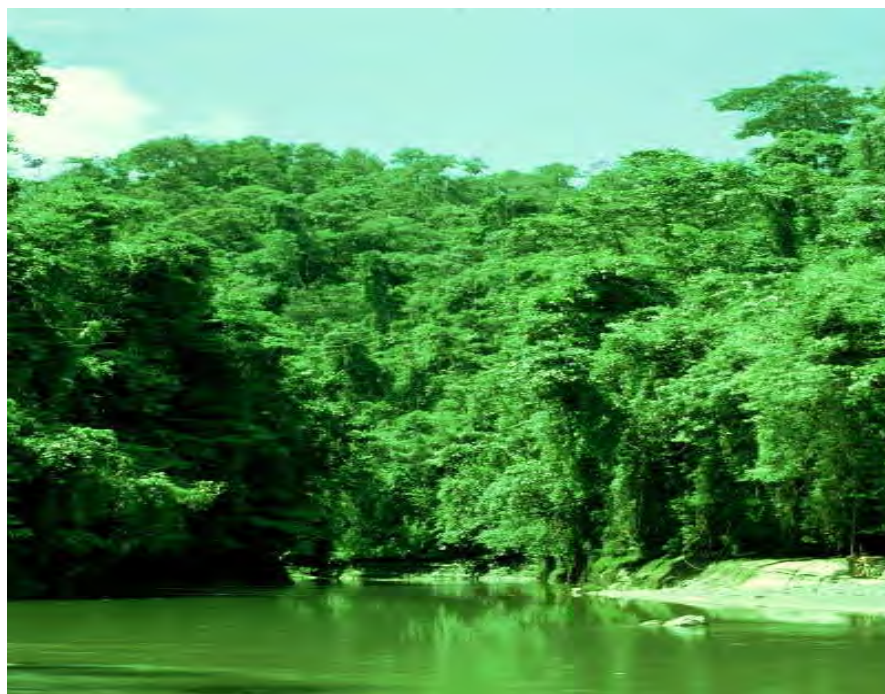
- When all the groups have completed their work, let each group read or sing to the class their respective outputs.
- Collect the output of each group.

ATTACHMENTS

Illustrations of Ecosystems

Picture 1a :

(FOREST — LUSH)



Picture 1b:

(FOREST — DENUDED)



Picture 2a
(FARMLAND — HEALTHY)



Picture 2b
(FARMLAND — DEGRADED)



Picture 3a
(MARINE — HEALTHY)



Picture 3b
(MARINE — DEGRADED)



Picture 4a
(URBAN—HEALTHY)



Picture 4b
(URBAN—SLUMS)



TEACHER / STUDENT READER 1: Ecosystems and Environment**A. Ecosystems**

What is an Ecosystem?

Ecosystems are dynamic interactions between plants, animals, and microorganisms and their environment working together as a functional unit. Ecosystems will fail if they do not remain in balance. No community can carry more organisms than its food, water, and shelter can accommodate. Food and territory are often balanced by natural phenomena such as fire, disease, and the number of predators. Each organism has its own niche, or role, to play.

How have humans affected the ecosystems?

We have affected ecosystems in almost every way imaginable! Every time we walk out in the wilderness or bulldoze land for a new parking lot we are drastically altering an ecosystem. We have disrupted the food chain, the carbon cycle, the nitrogen cycle, and the water cycle. Mining minerals also takes its toll on an ecosystem. We need to do our best to not interfere in these ecosystems and let nature take its toll.

Source:

- ThinkQuest. (n.d.) *Ecosystem*. Retrieved April 8, 2009 from <http://library.thinkquest.org//11353/ecosystems.htm>

B. Ecology in Everyday Life

Many of you may not realize it, but ecology affects us daily. Every time you turn on the ignition in your car, you are changing the environment. The following are examples of our daily encounters with ecological issues: Whenever you are concerned about overflowing landfills (or throw too much away); worry about global warming; the disappearance of tropical rainforests and the ozone layer; or the killing of many animals to make room for houses, parking lots, and other public buildings.

The measure of environmental impact is embodied in the $I=PAT$ equation: the scale of human impact (I) on the environment is equal to the product of the population size (P), consumption per person or affluence (A), and the damage done by technology (T). Since 1850, our population has increased fivefold, and the use of energy per person (A times T) has multiplied fourfold. Thus, in the last 150 years, our impact on the environment has increased about twenty fold! Just imagine what will happen as the population continue to multiply, people become richer, and technology grows bigger and more destructive!

We all must be aware of these ecological issues for one main reason: we only have one Earth! No one can replace good soil, fresh water, and other organisms that are parts of ecosystems that are indispensable to society. We cannot survive without nature, which, among many other things, maintains the balance of gases in the atmosphere (due to photosynthesis), fertilizes soils, produces fresh water, and maintains genetic diversity.

Source:

- ThinkQuest. (n.d). *Ecology in Everyday Life*. Retrieved April 8, 2009 from <http://library.thinkquest.org//11353/ecosystems.htm>

C. Our Thinning Ozone

Ozone is a naturally occurring gas whose chemical symbol is O_3 . This is not that much different from the oxygen that we breathe, O_2 . Ozone has just one more oxygen atom than the oxygen in the air. However, this one tiny difference can make a big effect on our planet. While oxygen in its O_2 form is breathable, O_3 is harmful to animals if inhaled. However, O_3 ozone stays in a layer around the earth. Meanwhile, there is the sun doing its job of providing light and heat. We can only see a certain range of light, from red to violet, and we see it as the colors of the rainbow. However, there is also light we can't see, outside of what our eyes can detect. Right next to red is the invisible infra-red, which is actually what heats the earth. On the other end of the rainbow, just past violet is a light called ultraviolet. We normally know this type of light as the black light, or the glow in the dark light. This light is harmful to life on earth as we know it, and can kill it if we get exposed to it too much. This is where ozone plays its part. Ozone absorbs these ultraviolet rays before it reaches the earth. When it absorbs these harmful rays, a chemical reaction occurs where the ozone is split into oxygen gas (O_2) and a free oxygen atom (O). Normally, the parts immediately rejoin together to form ozone again. This is where man and his meddling around steps in. People have made a group of chemicals called ChloroFluoroCarbons or CFCs. CFCs are found in many items we use, from the air conditioners in cars, to the refrigerators and freezers in our homes, to the hair sprays we use to keep our hair in place, and even to medicinal products such as asthma inhalers. When we use this gas, it rises into the air, and also reacts with ultraviolet light (which releases an extra chlorine atom which can wreak havoc on our ozone layer). Instead of the O_2 and O hooking up after the reaction, instead the O hooks up to the chlorine atom, since the O has a stronger attraction to the chlorine than to the oxygen atom. The new compound of ClO does absolutely nothing for us; it doesn't block the harmful ultraviolet (UV) rays, and allows some more to pass to the earth. Since CFCs were invented this century, more and more ozone is rendered ineffective.

Source:

- ThinkQuest. (n.d). *Our Thinning Ozone*. Retrieved April 8, 2009 from <http://library.thinkquest.org/11353/ozone.htm>

D. Non-Renewable Resource

A **non-renewable resource** is a natural resource that cannot be reproduced, re-grown, regenerated, or reused on a scale which can sustain its consumption rate. These resources often exist in a fixed amount, or are consumed much faster than nature can recreate them. Fossil fuels (such as coal, petroleum and natural gas) and nuclear fuel are some examples. In contrast, resources such as timber (when harvested sustainably) or metals (which can be recycled) are considered renewable resources.

Source:

- Non-renewable resource. (2008). Retrieved April 8, 2009 from Wikipedia: http://en.wikipedia.org/wiki/Non-renewable_resource.

E. Renewable Resource

A natural resource qualifies as a **renewable resource** if it is replenished by natural processes at a rate comparable or faster than its rate of consumption by humans or other users. Solar radiation, tides, winds, and hydroelectricity are *perpetual resources* that are in no danger of long-term availability. Renewable resources may also mean commodities such as wood, paper, and leather, if harvesting is performed in a sustainable manner. Some natural renewable resources such as geothermal power, fresh water, timber, and biomass must be carefully managed to avoid exceeding the environment's capacity to replenish them. A life cycle assessment provides a systematic means of evaluating renewability.

Source:

- Renewable resource. (2008). Retrieved April 8, 2009 from Wikipedia: http://en.wikipedia.org/wiki/Renewable_resource

TEACHER / STUDENT READER 2: On the Conservation of Natural Assets

Economists acknowledge that population growth has impaired the productivity of renewable natural resources and their provision for environmental services. Renewable resources are those such as fresh water from rainfall, soil, and fisheries that can be harvested and used up to certain thresholds without impairing their long-term viability. Environmental services may include the pollination of crops by bees and other animals, pest control provided by species-rich ecosystems, mineral nutrient absorption and cycling in healthy soils, water catchment and filtration, and flood prevention. Forces associated with population growth are most threatening to the environmental products and services that renewable natural resources provide when property rights are hard to assign or maintain. Fisheries, forest products, rangelands, freshwater resources, the atmosphere and genetic diversity are each renewable natural resources sensitive to human-induced pressures. By contrast, most economists find the economic impacts of population growth on non-renewable natural resources, such as petroleum and minerals, likely to be less strong than once assumed. Economists base their conclusions on trends in energy research and the ways markets and governments have responded to changes in supply—raising prices, thus stimulating more efficient use, conservation, and often substitution when scarcities approach.

Source:

- Cincotta, R. & R. Engelman. (1997). Economics and Rapid Change: The Influence of Population Growth. *Population Action International, Occasional Paper 3*, 5-6.

TEACHER / STUDENT READER 3: Population, Natural Resources, and Environment

Asia has a wealth of natural resources and ecological and biological diversity. Yet population growth and economic development are threatening the region's rich heritage through the expansion and intensification of agriculture, the uncontrolled growth of industrialization, the destruction of natural habitats, and urban sprawl.

The interplay between population growth, resource depletion, and environmental degradation has been a matter of debate for decades. For the most part, the argument has been between those who view population numbers per se as the main culprit in increasing pressure on the environment and those who place more blame on economic development, non-sustainable agricultural and industrial practices, and excessive or wasteful consumption. In fact, both population growth and non-sustainable development are cause for concern in Asia.

A. Rising Population Numbers

Much of the population growth projected for the next few decades will occur in countries that are least capable of coping with additional stress on land, water, and other natural resources. According to a recent study, the countries where population is projected to grow fastest have some of the lowest income levels in the world. These countries already rank high in terms of environmental stress.

B. Changing Consumption Patterns

Economically and industrially, Asia is the fastest-growing region in the world. This economic and industrial development is inevitably accompanied by changing patterns of consumption. The number of motor vehicles in the region provides one useful indicator of expanding consumption and economic growth.

Today the total number of cars, trucks, and buses in Asia is doubling every seven years, producing more air pollution, fuel consumption, traffic jams, and demands for road construction—often at the expense of prime agricultural land. And what does the future hold? Over the next 20 years, the number of motor vehicles is projected to increase at least fivefold in Asia's two most populous countries, India and China.

C. Persistent Poverty

Ironically, another source of environmental stress is the persistence of poverty in the region. An estimated 900 million people in Asia survive on incomes of less than US\$1 per day (measured in terms of purchasing power parity). Poor slum dwellers in cities, who lack the most basic sanitation facilities, do not have the luxury of worrying about environmental pollution. In rural areas, poor farmers tend to live in the most marginal, fragile environments where they may be forced to sacrifice long-term sustainability for short-term survival, overexploiting croplands, pastures, and forests... In the long run, however, the contribution of the poor to environmental degradation in the region as a whole may be small compared to the impact of large-scale agro-business and rich consumers.

D. Unplanned Urbanization

Primarily as a result of rural-to-urban migration, Asia is the fastest urbanizing region in the world. According to the United Nations estimates, the urban population in Asia will nearly double in the next 30 years. By 2030, more than half of Asia's population will live in cities — some 2.6 billion people. The urban population of Asia will be larger than the urban population of all other regions in the world combined. This urbanization of national populations is reflected in the growth of Asia's largest cities. In 1975, there were only five megacities (with populations of more than 10 million) in the world, and only two of these were in Asia. In 2015, 15 of the world's 23 megacities will be in Asia. This rapid — largely unplanned — expansion of urban areas has robbed many Asian countries of some of their most productive agricultural land and has resulted in serious problems of air, soil, and water pollution.

E. Environmental Challenges

Population growth and economic development are contributing to many serious environmental problems in Asia. These include pressure on land, habitat destruction and loss of biodiversity, water scarcity and water pollution, air pollution, and global warming and climate change.

Source:

- East-West Center. (2002). *The Future of Population in Asia*, 111-121.

TEACHER / STUDENT READER 4: Making the Link in the Philippines: Population, Health and the Environment

The interconnected problems related to population, health, and the environment are among the Philippines' greatest challenges in achieving national development goals. Although the Philippines has abundant natural resources, these resources are compromised by a number of factors, including population pressures and poverty. The result: public health, well-being, and sustainable development are at risk. Cities are becoming more crowded and polluted, and the reliability of food and water supplies is more uncertain than a generation ago. The productivity of the country's agricultural lands and fisheries is declining as these areas become increasingly degraded and pushed beyond their production capacity. Plant and animal species are also disappearing as a result of the loss of the country's forests and the destruction of its coral reefs.

A. Mangroves Help Sustain Coastal Communities

Comprising more than 7,000 islands, the Philippines has an extensive coastline that is a critical environmental and economic resource... The coasts are also critical for the livelihood and well-being of the growing population living in coastal areas. The Philippines once had the most expansive mangrove and coral reefs in Southeast Asia.

Mangroves—forests of salt-tolerant trees and shrubs that grow in the shallow tidal waters of coastal areas—are important breeding and spawning grounds of fish and shellfish. About 75% of fish caught commercially in the Philippines spend some time in mangroves or are dependent on food chains that can be linked to these coastal forests.

Today, the Philippines has lost almost 90% of its mangroves. Mangrove forests have been cleared for timber and to make room for fish and shrimp ponds, human settlements, and agricultural and industrial development. An estimated 670kg in fish catch is lost for every hectare of mangrove forest that is clear-cut... Efforts to reforest mangroves hold promise for reinvigorating coastal communities throughout the Philippines.

B. Forests Have Been Cleared for Human Use

Between 1990 and 2000, the Philippines lost more than 800,000 hectares of forest to clearing for agriculture, forest fires, illegal logging, and other factors. Only about 7% of the nation's original lowland forest remains. In addition to the important roles healthy forests play in soil stabilization, climate regulation, and watershed protection, forests also provide habitat for many of the country's threatened plant and animal species. Because the Philippines' remarkable diversity of species is increasingly threatened, the entire country has been named one of the world's 25 "biodiversity hotspots." About 76% of plant species in the Philippines are endemic (i.e., they are found nowhere else in the world), as are more than half of the country's mammal species. More than 400 plant and animal species in the Philippines are currently threatened with extinction, including the Philippine eagle, the tamaraw, and the dugong.

C. Air and Water Pollution is on the Rise in Urban Areas

As urban centers in the Philippines have grown, water and air pollution problems have expanded. These problems are particularly pressing in the National Capital Region (NCR), where approximately 13% of the country's population resides. Diesel emissions from buses, jeepneys, utility vehicles, and trucks are estimated to be the largest contributor to urban air pollution in this region. Access to clean water is becoming an acute problem, with 16% of NCR's families lacking access to safe water sources. Between 1996 and 2001, four major rivers in NCR were found to contain such high levels of pollutants that they were considered biologically dead. Untreated wastewater spreads disease-causing bacteria and viruses, makes water unfit for drinking and recreational use, threatens biodiversity, reduces economic and household productivity, and deteriorates overall quality of life. As NCR and other urban areas continue their rapid expansion, the causes and consequences of air and water pollution will warrant even greater attention.

D. Human Vulnerability to Natural Hazards is Increasing

The Philippines is subject to floods, droughts, cyclones, earthquakes, windstorms, tidal waves, and landslides. The major natural disasters that occur periodically in this region are largely due to climatic and seismic factors. But rapid population growth, increasing population density, and environmental degradation are accelerating vulnerability to disasters as settlements encroach into disaster-prone lands. Vulnerability to natural hazards has increased in many coastal areas due to the loss of coastal habitats, such as mangroves and coral reefs, which provide natural protection from flooding. In upland areas, the clearing of forests for human settlement, agriculture, and timber has contributed to the severity of flash floods and landslides in the Philippines... An awareness of population trends is critical in the formulation of effective disaster prevention and preparedness plans.

Source:

- Population Reference Bureau. (2006). *Making the Link in the Philippines: Population, Health and the Environment*.

POPULATION AND HUMAN CAPITAL

By: Aurora Nocellado

Suggested

Time Frame : 1 hour and 20 minutes
(40 minutes per lesson)
Subject Area : Makabayan (Social Studies)
Year Level : 3rd or 4th Year High School

LEARNING COMPETENCY

Demonstrate understanding of the interrelationship between population and human capital

OBJECTIVES

The students are expected to:

1. Describe how the components of population growth (births, deaths, and migration) affect the age and sex composition of the population
2. Discuss the concept of human capital and its contribution to the development of human potential
3. Demonstrate how population composition and growth affect the formation of human capital

LEARNING CONTENT

Concepts

1. Changes in the number of births, deaths, and migration affect the age and sex composition and growth of the population
2. Human capital includes health, education, and skills of persons that affect their productivity and the development of their full potential
3. The composition and growth of population affect the formation of human capital
4. Human capital formation is a lifelong process and requires investments in health, education, and training at critical stages of a person's life
5. Population growth and changes in the population's age and sex composition affect the population's ability to invest in human capital at both household and national levels

Skills

1. Analyzing
2. Computing
3. Critical thinking
4. Prioritizing

Values

1. Productivity
2. Responsibility
3. Awareness

Prerequisite knowledge

1. Population growth is the increase in the number of people in a given area in a given time period
2. The components of population growth are births, deaths, and migration.
3. Population increase can have beneficial and adverse effects on infrastructure, health, and education
4. All men and women are God's stewards; they are responsible for one another

LEARNING RESOURCES

References

- Cincotta, R. & R. Engelman. (1997). Economics and Rapid Change: The Influence of Population Growth. *Population Action International, Occasional Paper 3*, 6.
- Corner, L. (1992). Human Resources Lecture Notes, National Centre for Development Studies, Graduate Program in Demography. *Reader on Human Capital as a Life Long Process*.
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Materials

Picture Sets 1, 2, and 3: Illustrations of Effects of Population Growth
 Data and Activity Sheet 1: Hypothetical Age and Sex Distribution of a Population
 Teacher Reader 1 / Student Reader 1: Elements of Population Composition
 Teacher Reader 2: On Investments in Human Assets
 Teacher Reader 3 / Student Reader 2: On Human Resources and Human Capital
 Teacher Reader 4 / Student Reader 3: Human Capital Formation, a Lifelong Process
 Teacher Reader 5: Life Cycle Perspective of Services Needed for Human Capital Formation
 Activity Sheet 2: I Have Learned from the Readings that...
 Manila paper

LESSON 1: Population Growth and Age-Sex Composition

LEARNING ACTIVITIES

Preparation

- Review the concepts learned in elementary regarding population growth.

Ask: *What brings about changes in population size?*

Births, Deaths, and Migration

- Remind the students that births, deaths, and migration are referred to as the **components of population growth**.
- Tell the class to recall that population growth affects various aspects of society, and that in elementary they learned about the effects of population growth on infrastructure, health, and education.

Ask: *Aside from infrastructure, health, and education, what other aspects of society may be affected by population growth?*

- Several aspects may be mentioned, but lead the students to also mention “environment” and “labor force”.
- Tell the class that you will be focusing on health, education, and labor force in this session and the next. (Environment has been discussed in another module, whereas labor force will be discussed in this module).
- Help the students recall the effects of population growth on health. Show them **Picture Set 1**. (It is recommended that you use your own set of pictures that are more relevant to your locality).

Ask: *What are some of the effects of population growth on health?*

Possible answers:

New health facilities will be required; more health care providers have to be available to serve the people.

However, if there are more people than existing health facilities and personnel can accommodate, not all people will be served. This can lead to poor health, especially among the poor who have limited access to services.

Ask: *Who are the people who need health care the most?*

Children and old people; sick people, especially the poor

- Help the students recall the effects of population growth on education. Show them **Picture Set 2**. (It is recommended that you use your own set of pictures that are more relevant to your locality).

Ask: *What are some of the effects of population growth on education?*

Possible answers:

More schools will have to be built; more teachers will have to be available to teach and more teaching materials will be needed.

However, if there are too many children/students, there may not be enough schools, classrooms, teaching materials, and teachers to serve them; the quality of education may suffer; some sectors of society (e.g., the poor) may not get proper education.

Ask: *Who are the people who need educational services the most?*

Children and young people who are of school age

- Help the students think about the effects of population growth on the labor force. Show them **Picture Set 3**. (It is recommended that you use your own set of pictures that are more relevant to your locality).

Ask: *What are some of the effects of population growth on the labor force?*

Possible answers:

There will be more young people entering the labor force and looking for jobs.

If they can find jobs, they can help increase the income of their households and improve family well-being.

If not everyone can find jobs, unemployment rates will increase and well-being of individuals and families will suffer.

Development

- Distribute **Data and Activity Sheet 1: Age and Sex Distribution of a Population**
- Let the students examine the data (columns 1-4).

Ask: *What can you say about the sex distribution of this population?*

There are more males than females in this population, especially in the younger ages.

Ask: *What can you say about the age distribution of this population?*

The most number of people are of ages 25-64; the second largest are ages 5-14, and the least number of people are of ages 65 and older.

- Divide the class into four groups. Let each group choose a leader/moderator, a secretary, and a reporter. Assign the groups to work on the following scenarios and to modify the figures in **Data and Activity Sheet 1** accordingly:

Group 1 – Assume that there is high fertility and 2,300 newly born children (1,200 males and 1,100 females) are added to the population.

Group 2 – Assume that there is a war and that 1,300 men of ages 15-24 and 6,500 men of ages 25-64 are sent away to fight in the war.

Group 3 – Assume that 1,300 women of ages 15-24 and 2,200 women of ages 25-64 from the rural areas have in-migrated into the population in order to study or to work.

Group 4 – Assume that 2,800 women and 2,200 men of ages 25-64 have left the population in order to work abroad.

- Let each group compute the new number of males, females, and total population by age group based on the scenario assigned to them. Construct a new table with the new age and sex distribution (columns 5, 6, and 7 of **Data and Activity Sheet 1**) and copy this new table on a piece of Manila paper. Encircle the numbers that have changed after computation (compared to the corresponding numbers in columns 2, 3, and 4).
- Let each group discuss among themselves the implications of the changes in sex and age distribution based on the scenario assigned to them. Of particular interest would be implications on health, education and/or labor force, depending on which age group predominates and is in greatest need. List down the implications that have been discussed on the Manila paper.
- When done (after 15 minutes), let each group put up their Manila paper on the board.
- When all the groups have put up their Manila papers on the board, ask the reporter of each group to present the result of their group discussion to the class. Allow the other groups to give comments and feedback to the presentations.
- Group and class discussions should bring out the following implications:

Group 1: Increase in number of children 0-4 years old increases health care and nutritional requirements for children. Resources of the family and society need to be more focused on providing for the health, nutritional, and psychosocial needs of infants and small children.

Group 2: A drastic reduction in the number of males in the working ages implies a drastic reduction of men in the labor force and, consequently, of male productivity. This also means the absence of several male breadwinners in the family and the need for women to take over as breadwinners.

Group 3: Large number of migrant women from the rural areas increases the need for reproductive health care services and for education and skills training for these women. It also increases the demand for female employment and the protection of women against abuse and exploitation.

Group 4: Overseas employment of large numbers of people in the working ages can result in the contraction of the labor force and, consequently, of productivity. Most of those left behind will be children and older people. Problems may arise in addressing the needs of these children and elderly since those who are supposed to take care of them are not around. However, remittances from these overseas workers may help mitigate some of these problems.

Closure

- On a sheet of paper, let the students answer the following questions:
 1. Why is it important to know how a population is distributed according to age groups and sex?
 2. How will this knowledge serve policymakers and program planners?
- Ask the students to pass their papers.
- Give **Student Readers 1, 2, and 3** as reading assignments.
- Check the papers passed by the students.

LESSON 2: Population Growth, Age-Sex Composition and Human Capital Formation

LEARNING ACTIVITIES

Preparation

- Review the concepts learned in the previous lessons.

Ask: *What are the components of population growth?*

Births, deaths, and migration

Ask: *What aspects of population composition are affected by births, deaths, and migration?*

Age and sex composition of a population

- Introduce the concepts presented in **Teacher/Student Reader 1: Elements of Population Composition** given in the previous lesson.

Ask: *What do you call a population with a high proportion of young people?*

A “young” population

Ask: *What are the needs of a “young” population?*

Health, nutrition, and educational services

Ask: *What do you call a population with a high proportion of adults and old people?*

An “old” population

(Note: This is usually defined as having a population with 10 percent or more belonging to ages 65 years and over)

Ask: *What are the needs of a population that is growing “older” (in the process of growing “old”)?*

Jobs, skills training, social security, and health services

- Introduce the concepts presented in **Student Readers 2** and **3** (and **Teacher Readers 2, 3, and 4**) by letting the students answer **Activity Sheet 2: I Have Learned from the Readings that...** Collect **Activity Sheet 2**. Check **Activity Sheet 2** when the students are doing the next activity.

Development

- Let the students form three groups. The first group will discuss health; the second group will discuss education, while the third group will discuss skills. Tell the groups that they will each prepare a skit (role play) to depict the following:

Group 1: Health – What happens to the productivity (work and earning potentials) of: 1) a person who is sickly, and 2) a person who is healthy? Who is better off? What are the investments needed to make a person healthy?

Group 2: Education – What happens to the productivity (work and earning potentials) of: 1) a college degree holder, and 2) an elementary drop out? Who is better off? What are the investments needed to increase educational attainment?

Group 3: Skills – What happens to the productivity (work and earning potentials) of an employee who: 1) does not know how to use a computer, and 2) knows how to use a computer and other electronic equipment? Who is better off? What are the investments needed for skills training of workers?

- After the groups have discussed their respective topics and prepared for their skit, let each group present their skit to the class. Allow their classmates to comment on the content/message of the skit. After each presentation, ask the students to answer the following questions on a piece of paper.

For Group 1:

Who will be better able to provide for the health needs of its family members/people?

- a family of seven children, or a family of three children?
- a large, rapidly growing society, or a slow/moderately growing society?

Who will need more investments on health?

- a young population with more children, or a population with more people in the working ages?

For Group 2:

Who will be better able to provide for the educational needs of its members/people?

- a family of seven children, or a family of three children?
- a large, rapidly growing society, or a slow/moderately growing society?

Who will need more investments on education?

- a young population with more children, or an old population with more elderly people?

For Group 3:

Who will be better able to provide continuing education and skills training for its people?

- a large, rapidly growing society, or a slow/moderately growing society?

Who will need more investments in skills training?

- a population with more young people in the labor force, or a population with more people who are old or about to retire?

Closure

- Ask one member of each group to read his/her answers to the questions for their group. After a member of each group has read his/her answers, collect the papers from all the students.

- By way of summary, ask: *What does human capital consist of?*

Health, education, and skills

Ask: *How is population growth related to human capital development?*

- Lead the students to conclude that:

A population with slower or moderate population growth can better cope with the investment requirements on health, education, and skills training, just as smaller family size can better provide these investments for its own family members.

Ask: *How is age composition related to human capital development?*

- Lead the students to conclude that:

A young population needs more investments on health and education, while a population with more people in the working ages needs more investments on skills training, advance education and employment generation.

Ask: *How does human capital formation lead to the development of a human being's full potential?*

Health and education increases economic productivity and income and, ultimately, a person's well-being and self-esteem.

- Read to the class a Chinese proverb from Guanzi (circa 645 B.C.):

When planning for a year, plant corn,
When planning for a decade, plant trees,
When planning for life, train and educate people.

ATTACHMENTS

Illustrations of Effects of Population Growth

- **Picture Set 1: Health**





- **Picture Set 2: Education**





- **Picture Set 3: Labor Force**





• **Data and Activity Sheet 1: Hypothetical Age and Sex Distribution of a Population**

Age Group (1)	Population Distribution by Age and Sex			Computed Age and Sex Distribution		
	Male (2)	Female (3)	Both sexes (4)	Male (5)	<i>Female</i> (6)	Both sexes (7)
0-4 years old	5,100	4,800	9,900			
5-14 years old	9,500	9,100	18,600			
15-24 years old	7,600	7,600	15,200			
25-64 years old	15,300	15,100	30,400			
65 and over	1,300	1,600	2,900			
All ages	38,800	38,200	77,000			

TEACHER / STUDENT READER 1: Elements of Population Composition

Any human population may be viewed as an aggregate of individuals of different types and characteristics. It is these types, and their absolute or relative numbers in the population, that are the subject of concern in the analysis of population composition.

As Hawley (1959) has observed, such an analysis constitutes a quantitative description of a society's human resources; and historically, as in the case of census population counts, the delineation of human resources has been the major purpose of analyses of population composition. Demographers, however, have always accorded first priority in their studies of population composition to the age-sex factor. This is because they have recognized that a population's age-sex characteristics are intimately related to its rate and pattern of growth and also to those facets of its composition subsumed under the rubric of human resources.

Thus, in population studies, the composition of a population is seen as particularly relevant to actual or potential population growth and to the society's stock of human resources. Techniques of demographic analysis have, in turn, been involved in the study of changes in human resources, for a population's changing size and its changing composition by sex, age, and geographic distribution are certainly the fundamental factors in changes in its human resources.

A. Composition by Sex

The very earliest demographers took note of the fact that the number of male births in a population always exceeds the number of female births, and that, at virtually all ages, the number of male deaths exceeds the number of female deaths. Typically, the number of males in a population exceeds the number of females at the very earliest ages; at subsequent ages this male excess is reduced by an excess of male mortality and at the most advanced ages the number of females exceeds the number of males.

The exact ratio of total number of males to females in a population may vary in accordance with patterns of mortality (including foetal mortality, which affects the sex ratio at birth), and it may also vary with the age composition of the population and with patterns of migration. Thus, other things being equal, populations with low general mortality or large proportions of younger persons have higher proportions of males than do populations with high general mortality or large proportions of older persons, respectively. Countries attracting overseas migrants have high proportions of males, cities attracting rural-to-urban migrants have high proportions of females, and industrial communities have high proportions of males, other things being equal.

B. Composition by Age

Populations are sometimes considered "young" or "old," depending upon whether they have high proportions of young or old persons. Populations with large proportions of adults and relatively small proportions in both the younger and older ages of dependency are generally believed to be in a favorable position with regard to levels of living, investment, and development. Age divides a population into groups of potential producers and consumers: the independent adults in the population are both producers and consumers, while the dependent children and the retired or infirm are consumers only.

The age composition of a population also affects the number and scope of social and economic arrangements and institutions, from maternity wards, kindergartens, and schools, to entertainment, transportation, religion, and homes for the aged. Moreover, central social and economic processes such as family formation and homes purchase, job-seeking, retirement and savings, and migration and mobility are closely related to the age composition of a population.

A population's age composition depends first and foremost upon its level of fertility and only secondarily upon its level of mortality. However, migratory movements are of great significance in determining age composition, especially in the case of relatively small or localized populations. Changes in age composition over time wherein the proportions of adults and elderly persons increase and the proportions of children and adolescents decrease is called the "aging of populations" and is always a consequence of low or declining fertility.

Source:

- Matras, Judah (1973). *Population and Societies*. Englewood Cliffs, New Jersey: Prentice Hall, Inc.

TEACHER READER 2: On Investments in Human Assets

At the family level, the capacity to plan the number and timing of childbirths can dramatically affect household economic well-being through improved maternal and child health, a more productive use of time, human energy and income. Women stand to increase earnings the most, although their low status in many societies often limits this opportunity. Research conducted in many developing countries demonstrates that children in large families tend to be less well-nourished over the long term, which can undermine school performance and, hence, future earning potentials.

In general, economists conclude that parents with fewer offspring are able to invest more in each child than those with larger families. Studies show that, on average, children from smaller families attain higher levels of schooling. These findings are strongest in those developing countries that have experienced substantial economic and social transformation in recent decades, including many in Southeast Asia and Latin America. However, it is more difficult to demonstrate such changes in educational attainment in many countries in Africa and South Asia, where students draw upon large extended families for school fees and other assistance.

High proportions of school-age children, characteristic of countries experiencing rapid population growth, undoubtedly put pressure on existing school and health care facilities. When school enrollments and average educational attainment increase rapidly, governments can expect upward pressure on national education budgets. In the absence of even more rapid growth in government revenues or major shifts in government spending priorities, this tends to depress public education expenditures per student. Yet most developing countries *do* shift priorities, continuing to make substantial gains in schooling and health despite the budgetary pressures. Clearly, something must be sacrificed. One cross-national study found that teacher's salaries appear to have suffered as school enrollments grew rapidly in the developing world during the 1960s and 1970s. It is not clear that developing countries can sustain these trends—rising enrollments, higher average educational attainments, increased public health care service—without sacrificing other priorities as their populations continue to grow.

The rate of population growth and the size of annual growth increments matter. Even in the case of countries that can adjust to their present rate of population growth, economists recognize that it takes time and effort for government and other institutions to expand urban infrastructure, provide new and better health and educational services, successfully integrate technology, enforce environmental regulations, and expand trade. Developing countries in which population growth eases through declines in birthrates will be more likely to increase per capita economic growth rates and will have more time to generate needed jobs.

Source:

- Cincotta, R. & R. Engelman. (1997). Economics and Rapid Change: The Influence of Population Growth. *Population Action International, Occasional Paper 3*, 6.

TEACHER READER 3 / STUDENT READER 2: On Human Resources and Human Capital

A resource is defined in economics as a relatively scarce factor of production. This implies that something only becomes a resource when it is involved in, or at least has the potential for involvement in, production. Note that the characteristic of relative scarcity gives a resource a price and distinguishes the economic use of the term resource from its everyday meaning.

The concept of human beings as a resource implies a concern with their role as an input into the development process. It therefore implies a supply-sided approach to the role of human beings in development.

If human resources are regarded as an input into the development process, the quality of those human resources can be regarded as a capital good, human capital. [A capital good is a good that has itself been produced and possesses reproductive power that can be used in the production of other goods. Thus a capital good is a factor of production that has been produced at some cost and is subject to depreciation (loss of value) with use (for example due to wear and tear or obsolescence). Capital Formation is the process of producing/creating new capital.]

In this case, expenditure decisions about, say, health or education would be regarded as human capital formation, the process of changing the quality or productive power of human labour.

Human capital formation is affected by decisions about:

- health and nutrition, in so far as these affect education or employment and productivity;
- education, in so far as it affects employment and productivity; and
- migration, in so far as it affects education and employment.
- In standard neoclassical economic theory, individuals' decisions about these matters may be regarded as investments. [An investment is an expenditure on a capital good that is made in order to obtain future return (benefit).]

The essence of human capital theory is the idea that many types of personal expenditure are undertaken, not for the present enjoyment of the individual making the expenditure, but for the sake of future returns. It is this future orientation that justifies the use of the terms 'capital' and 'investment' in relation to human resource development.

In this view, certain expenditures on education, health, migration, job search, in-service training etc., may be regarded as investment undertaken to increase the future earnings of the individual or the future gains to the economy.

Source:

- Corner, L. (1992). Human Resources Lecture Notes, National Centre for Development Studies, Graduate Program in Demography. *Reader on Human Capital as a Life Long Process*.

TEACHER READER 4 / STUDENT READER 3: Human Capital Formation, a Lifelong Process

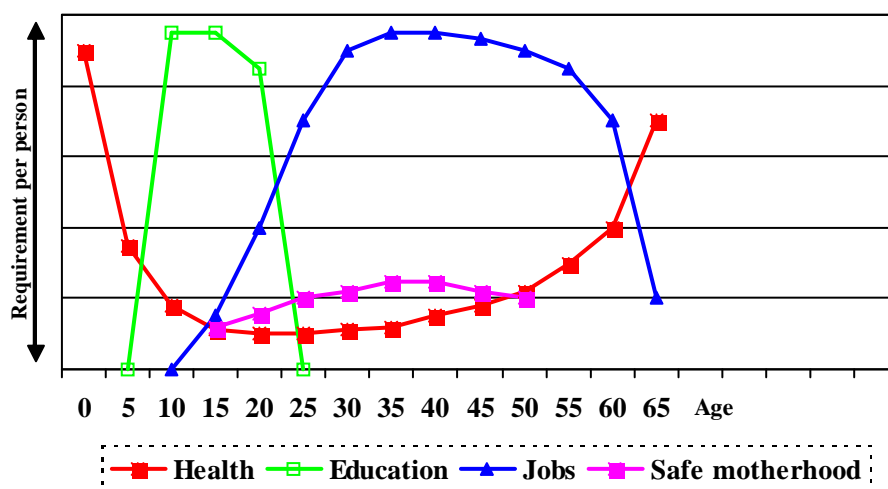
Human capital includes health, education, and skills of persons that affect their productivity and the development of their full potentials. Human capital formation is a lifelong process. Early childhood development in terms of proper nutrition, good health, and cognitive and psychosocial development are needed to facilitate learning in school and to enhance economic productivity (earnings) and maintain good health in later life. Adult learning enables workers to continually upgrade their skills to meet the changing needs of business and industry, and to help advance their own careers and learning potentials. Education is life long; education for everyone—males and females, from toddlers to workers—is an important investment that must be provided by, and for, individuals and society as a whole. It has been recognized that lifelong learning is a primary factor to knowledge diffusion and productivity growth. Numerous studies have documented the rising value of human capital in the global economy. Today, most employers require workers to learn skills throughout life. And in order to facilitate learning and remain productive throughout the adult years, it is equally important to maintain good health.

By: Aurora Nocellado

TEACHER READER 5: Life Cycle Perspective of Services Needed for Human Capital Formation

Because people's needs vary at different stages of life, changes in age composition within the household or society as a whole represent changing requirements, opportunities, and constraints for the family's and country's development, respectively. If viewed from an aggregate perspective (i.e., as a collection of people in the household or in society as a whole), the graph below depicts the intensity of service requirements for health, education, and employment over the life course. If there are more children (in a family or society) than older people, health and basic education requirements need to be prioritized; if the youth and young adults predominate (as in the case of a society that is transitioning from a "young" population to an "old" population), tertiary education, skills training, and job generation are crucial, even as young childbearing women also require maternal health care; when older people predominate, health care and social security (including retirement benefits) must be adequately provided.

By: Aurora Nocellado



- Source: Herrin. (2007). Adapted from Corsa and Oakley. (1971)

- **Activity Sheet 2: I Have Learned from the Readings that...**

Human capital includes _____, _____, and _____ of persons that affect their productivity and the development of their full potentials.

Human capital formation is a _____ process.

Expenditures on education, health, in-service training, etc., may be regarded as _____ undertaken to increase the future earnings of the individual or the future gains to the economy.

POPULATION AND ECONOMIC GROWTH

By: Belinda Ato and Mary Joy Yamson

Suggested

Time Frame	:	2 hours (1 hour per lesson)
Subject Area	:	Economics, Sociology, Social Science
Year Level	:	1 st or 2 nd Year College

LEARNING COMPETENCIES

1. Show the relationship between population and economic growth
2. Manifest one's responsibility of stewardship to leave behind a better world for succeeding generations

OBJECTIVES

The students are expected to:

1. Explain how fertility, mortality, and migration affect population age-sex composition and growth
2. Analyze the impact of population age-sex composition and growth on economic growth
3. Derive policy implications from the analysis of the impact of population processes on economic growth

LEARNING CONTENT

Concepts

1. Population size and age-sex composition are determined by births, deaths, and migration
2. Economic growth is influenced by population size, age-sex composition, and other factors
3. Policies on population should be directed to the well-being of the population

Skills

1. Observing
2. Analyzing
3. Inferring
4. Organizing
5. Sharing

Values

1. Open-mindedness
2. Appreciation
3. Cooperation
4. Responsibility
5. Results-oriented

Prerequisite knowledge

1. Components of population growth (from Elementary and High School modules)
2. Population age-sex composition (from High School module)

LEARNING RESOURCES

References

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Materials

Diagram A: The Dynamics of Population Growth
 Student Reader 1: The Tools of Demography
 Student Reader 2: Population Age and Sex Composition
 Activity Sheet 1: Demographic Data and Estimates for Selected Asian Countries
 Student Reader 3: Population and Age-sex Composition
 Student Reader 4: Economic Growth
 Student Reader 5: Population and National Income
 Student Reader 6: Implications of Alternative Demographic Trends
 Student Reader 7: Population-Development Interactions
 Student Reader 8: Does Population Change Matter in Economic Development?
 Diagram B: Population Pyramids
 Diagram C: How the Population Affects the Economy
 Diagram D: How the Economy Affects Population

LESSON 1: Components of Population Growth and Their Effects on Age-Sex Composition

LEARNING ACTIVITIES

Preparation

IMPORTANT: This module assumes that the students have already taken up earlier lessons in elementary and high school about population growth (**Elementary modules: Components of Population Growth** and **Beneficial and Adverse Effects of Population Growth**) and human capital (**High School module: Population and Human Capital**). If they have not, it is necessary that the concepts and the readers given in those modules be introduced to, and studied by, the class prior to this lesson. It is also important to keep in mind that this module is a prerequisite for the subsequent college module on **Population, Human Capital, and Development**.

- Help the students recall the concepts learned in elementary on the components of population growth by showing them **Diagram A: The Dynamics of Population Growth**. Discuss how: a) births and in-migration increase population size, b) how deaths and out-migration decrease population size, and c) how the interplay of all these processes brings about population growth.
- From the discussion above, ask the students to construct the “population balancing equation” which they learned in elementary. Write the following equation on the board, and ask volunteers to fill in the blanks in the equation:

Original population size + B____ - D____ + In____ - Out____ = New population size.

- Remind the students that this equation is known as the “**population balancing equation**.”
- Remind them also that: Births minus Deaths is referred to as “**Natural Increase**” and that In-migration minus Out-migration is referred to as “**Net migration**.”
- Do not erase this equation from the board.
- Distribute **Student Reader 2: The Tools of Demography** and give the students time to read the reader.

Development

- Return to the “balancing equation” on the board. State that this equation can also be written as follows:

$$B - D + IM - OM = P_2 - P_1 \quad \text{where: } P_2 = \text{population size at time 2;} \\ P_1 = \text{population size at time 1}$$

This equation can then be divided into three parts:

- (B – D) representing the magnitude of natural increase
- (IM – OM) representing the magnitude of net migration
- (P₂ – P₁) representing the magnitude of population increase (or decrease)

- Explain that, in examining these population processes, we want to be able to measure them relative to the size of the population that is “at risk” or exposed to the possibility of experiencing these processes. Thus we need to divide each part of the formula by population size, “P”:

$$\frac{B - D}{P} + \frac{IM - OM}{P} = \frac{P_2 - P_1}{P} \quad \text{where: } P \text{ is usually represented by the midyear population}$$

- Explain further that what we now have is the population balancing equation expressed in terms of rates, where:

$$\begin{aligned} \frac{P_2 - P_1}{P} & \text{ is the } \mathbf{population\ growth\ rate} \text{ (usually multiplied by 100} \\ & \text{ when expressed in percent or per 100 population)} \\ \frac{B - D}{P} & \text{ is the } \mathbf{rate\ of\ natural\ increase} \text{ (usually multiplied by 100)} \\ \frac{IM - OM}{P} & \text{ is the } \mathbf{net\ migration\ rate} \text{ (usually multiplied by 100)} \end{aligned}$$

The **rate of natural increase** can further be decomposed into:

$$\begin{aligned} \frac{B}{P} & \text{ the crude birth rate (usually multiplied by 1,000)} \\ \frac{D}{P} & \text{ the crude death rate (usually multiplied by 1,000)} \end{aligned}$$

The **net-migration rate** can further be decomposed into:

$$\begin{aligned} \frac{IM}{P} & \text{ the in-migration rate (usually multiplied by 1,000)} \\ \frac{OM}{P} & \text{ the out-migration rate (usually multiplied by 1,000)} \end{aligned}$$

Thus, **population growth rate = rate of natural increase + net migration rate.**

- Explain further that, at the national level, we use the terms **immigration rate** and **emigration rate** to represent migration into, and migration out of, the country, respectively. In-migration and out-migration rates are used only in reference to internal migration (i.e., within the national boundary).
- Explain also that while the **crude birth rate** is the fertility measure used in our “balancing equation”, there are other commonly used measures of fertility such as the **Total Fertility Rate (TFR)**.

The **Total Fertility Rate (TFR)** is an estimate of “the total number of children a woman would have if fertility rates for a given year applied to her throughout her reproductive life.” (*Population Reference Bureau, 2004*)

- Next, explain that while the **crude death rate** is the mortality measure used in our “balancing equation,” there are also other commonly used measures of mortality (including survival measures) such as the **life expectancy at birth**.

Life expectancy "is an estimate of the *average* number of additional years a person could expect to live if the age-specific death rates for a given year prevailed for the rest of his or her life." (*Population Reference Bureau, 2004*)

Life expectancy at birth, therefore, is the average number of years a person can expect to live from the time of birth if he or she experiences a given year's age-specific death rates throughout his or her life. (N.B. Age-specific death rates take into account mortality differences according to age, for example, infants and old people have a higher probability of dying than adolescents and young adults.)

- Remind the class that births, deaths, and migration not only affect population growth, they also affect the age and sex composition of the population. For a review of the concept of age-sex composition (also known as population structure), distribute **Student Reader 2: Population Age and Sex Composition**. Assign a student to read **Reader 2** aloud in class.
- Ask the students what they have learned from **Student Reader 2**. Tell them to list what they learned on a sheet of paper. Ask some students to read what they wrote on their paper. Draw out the following answers from the students:

Age and sex are basic characteristics of a population.

Age and sex composition has impact on the population's social and economic situation, both present and future.

A population with a high proportion of young people is a "young" population

A population with a high proportion of older people (usually $\geq 10\%$ in ages 65 and over) is an "old" population.

Age divides a population into groups of potential producers and consumers.

In general, adults are both consumers and producers, while children and old people are consumers only.

Populations with large proportions of adults relative to younger and older people are in a favorable position in terms of standard of living and development.

Age composition depends primarily on the level of fertility, and only secondarily on the level of mortality.

In small, localized areas, migration also affects age composition.

Change in age composition over time whereby the proportion of older people is increasing while the proportion of children is decreasing is called "population aging."

"Population aging" is the consequence of low or declining fertility and mortality.

Ask the students: *How would you describe the age structure of a population with high fertility?*

The population is a "young" population.

Ask: *What would be the needs of a "young" population?*

Educational facilities and services for young children
Health care facilities and services for children
Proper nutrition for children
Proper education on childcare and good parenting

Ask: *How would you describe the age structure of a population where fertility is declining?*

The population is "aging."

Ask: *What would be the needs of a population with an increasing proportion of people in the adult ages?*

Employment opportunities
Housing
Savings and investment opportunities
Recreation and entertainment
Travel and migration opportunities

Ask: *What would be the needs of a population with a growing proportion of the elderly (60+ years old)?*

Adequate social security and pension system
Health care facilities and services for the elderly
Proper nutrition for the elderly
Proper education on elderly care

- For the next activity, divide the class into three groups. Let each group choose a moderator, a secretary, and a reporter. Distribute **Activity Sheet 1: Demographic Data and Estimates for Selected Asian Countries**.
- Tell the groups to examine the data in **Activity Sheet 1**. Each group will be tasked to do the following:

Group 1

- Rank the countries from **highest** to **lowest** in terms of the following criteria:
 - estimated population size in 2008
 - projected population size in 2050
 - % population change between 2008-2050
 - Crude birth rate.
- With the help of the population balancing equation, discuss and answer the following:
 - Explain the substantial decline of Japan's population.
 - Explain the substantial increase of the Philippine population.
 - What other countries are experiencing relatively high fertility and high population growth?
 - What other countries are experiencing relatively low fertility and low population growth?
 - Despite low fertility, what may be preventing the decline of Singapore's population?

Group 2

- A. Rank the countries from **highest** to **lowest** in terms of the following criteria:
 1. % of population below 15 years of age
 2. % of population 65 years old and above
 3. % of population 15-64 years old
 4. The crude birth rate
- B. Discuss and answer the following:
 1. Which country has the "youngest" population?
 2. Which countries have the 2nd and 3rd "youngest" populations, respectively?
 3. What can you observe about the fertility levels of these three relatively "young" populations?
 4. Which country has the "oldest" population?
 5. Which countries have the 2nd and 3rd "oldest" populations, respectively?
 6. What can you observe about the fertility levels of these three relatively "old" populations?
 7. What four countries rank as having the highest proportion of people in the working ages (15-64)?
 8. What can you observe about the fertility levels of these countries?
 9. Why is Japan's proportion of people in the working ages lower than these countries despite their low levels of fertility?

Group 3

- A. For each country, compute the following:
 1. Youth dependency ratio = $\frac{\% \text{ of population below 15 years old}}{\% \text{ of population 15-64}} \times 100$

The youth dependency ratio is an estimate of the number of child dependents for every 100 people in the "productive" ages.
 2. Old-age dependency ratio = $\frac{\% \text{ of population 65 years old and above}}{\% \text{ of population 15-64}} \times 100$

The old-age dependency ratio is an estimate of the number of old-age dependents for every 100 people in the "productive" ages.
 - 3) Total dependency ratio = Youth dependency ratio + Old-age dependency ratio
- B. Rank the countries from **highest** to **lowest** in terms of:
 1. Youth dependency ratio
 2. Old-age dependency ratio
 3. Total dependency ratio
- C. Discuss and answer the following:
 1. Which country has the highest youth dependency ratio?
 2. What could be the reason why this country has the highest youth dependency ratio?
 3. Which country has the highest old-age dependency ratio?
 4. With respect to the total dependency ratio, what four countries rank highest?
 5. While Japan and Indonesia have similar total dependency ratios, how do they differ in terms of the age composition of their dependents?

- When all the groups have completed their respective tasks, ask the reporter of each group to present to the class the results of their discussion. Ask them to present in sequence, from Group 1 to Group 3. The expected output/answers from each group is given in the Attachment (below **Activity Sheet 1**). Give the rest of the students the opportunity to ask questions, give reactions, and help synthesize ideas obtained from the group presentations.

Closure

- Ask the students to write on a sheet of paper what they have learned from the group presentations. Require them to organize the lessons learned according to the following outline:
 - population growth rates and the components of population growth
 - the relationship between fertility rates and age composition
 - the process of population aging.
- Collect and check the papers.
- Distribute **Student Readers 3** to **7** as reading assignments for the next meeting.

LESSON 2: Population Age Composition and Economic Growth

LEARNING ACTIVITIES

Preparation

- To review concepts learned from the previous meeting and the reading assignments, conduct a class recitation and ask students to answer the following questions:

What are the components of population growth?

Births, deaths, and migration

What do you call the difference between the birth rate and the death rate?

The rate of natural increase

What do you call the difference between the in-migration rate and the out-migration rate?

The net migration rate

- Ask someone to write the "population balancing equation" expressed in terms of rates on the board.

$$\frac{B - D}{P} + \frac{IM - OM}{P} = \frac{P_2 - P_1}{P} \quad \text{where: } P \text{ is the midyear population}$$

Ask: *What is the "Total Fertility Rate" or TFR?*

The Total Fertility Rate is an estimate of the total number of children a woman will have throughout her childbearing years if she is subjected to prevailing age-specific fertility rates.

(N.B. Like age-specific mortality rates, age-specific fertility rates take into account the fact that the probability of a woman giving birth varies according to age. For example, women in their 20s and 30s would have a higher probability of getting pregnant and giving birth compared to women in their 40s.)

Ask: *What happens to the country's age structure when fertility declines and migration remains constant?*

The country undergoes "population aging."

Ask: *What is "population aging?"*

"Population aging" is the change in the age composition of a population over time whereby the proportion of older people is increasing while the proportion of children is decreasing.

Ask: *What are some ways of measuring population age and sex composition?*

From the previous lesson plus their readings, the students should be able to mention the following:

Median age

Sex ratio

Age dependency ratios – youth, old-age, and total dependency ratios

Population pyramid

- Paste on the board the population pyramids shown in **Diagram B**.

Ask: *Comparing the two populations, which is the "younger" population and which is the "older" population?*

Population A is "younger" while Population B is "older."

Ask: *How can you tell that this is so?*

The pyramid of Population A has a wide base and narrow peak, indicating a larger proportion of children compared to older people in this population. In contrast, Population B has a narrower base and wider middle and top portions in the pyramid indicating a smaller proportion of children relative to older people.

Ask: *What can you conclude about the current growth rate of Population A compared to that of Population B?*

Population A has a higher growth rate.

- Next, introduce the concept of economic growth by reviewing **Student Reader 4** and **Student Reader 5**.

Ask: *What are two of the most frequently used measures of economic growth?*

Gross national product (GNP) and gross domestic product (GDP)

Ask: *What is the difference between GNP and GDP?*

GDP is the value of goods and services made within the economic territory of the Philippines (domestically), while GNP is the value of goods and services made by Filipino residents wherever they may be.

Ask: *What are the factors of production that affect economic growth?*

From **Student Reader 5** the students should be able to mention the following:

Land, labor, capital, and technology

Development

- Explain to the students that in order to directly link economic growth to the people who produce and benefit from it, the concept of **GDP per capita** is often used, i.e., GDP divided by population size. Although GDP per capita is not an accurate measure of development (see **Student Reader 4b**), it at least takes into account the number of people who are supposed to share in economic development. (It is important to point out, however, that GDP per capita is an average measure and does not reflect disparities in income distribution at the individual or household level or show effects of other factors that influence economic growth which will be discussed later.)

Illustrate with the following hypothetical data:

	Population in 2000	Annual Growth rate (%)	Population in 2010	GDP in 2010 (in millions)	GDP per Capita in 2010
Country A	5,000,000	2.0%	6,000,000	80,000	13,333
Country B	5,000,000	4.0%	7,000,000	80,000	11,428

Ask: *Given these data, which country has a greater potential for economic and human development? Why is this so?*

Country A – because it has a lower population growth rate and thus a smaller population in 2010 that will be sharing in the national income (GDP).

- Tell the students that the next discussion will focus on the relationship between population and economic growth. Explain that this relationship has been a subject of debate for quite a while and that, historically, three extreme view have been put forth as follows (see, e.g., Weeks, 1994; Herrin, 2007, Bloom and Canning, 2003):

- a) Population growth restricts economic growth
 - b) Population growth promotes economic growth
 - c) Population growth has no overall effect (net of other factors) on economic growth
- Explain further that, in reality, the relationship between population and economic growth is more complex than once thought, and is contingent upon the demographic circumstances prevailing in a country. Particularly relevant in this regard are the stages of the **demographic transition** that help elucidate on the key relationships between population and economic growth for different countries at different points in time. A detailed explanation of this idea is found in ***Student Reader 7: Population-Development Interactions***, which the class will be asked to read again more carefully shortly.
 - Give the class the definition of the **demographic transition**

The **demographic transition** is the “historical shift of birth and death rates from high to low levels in a population. The decline of mortality usually precedes the decline in fertility, thus resulting in rapid population growth during the transition period.” (*Population Reference Bureau, 2004*)

- Let the students read ***Student Reader 7***. Tell them to give particularly attention to: 1) the two-way relationship between population and economic growth, i.e., economic growth affects population growth and vice versa; and 2) Figure 3 and the explanation in the text about the changing relationship between population and economic growth as a country goes through the different stages of the demographic transition. To assist them in understanding ***Reader 7***, post or draw a copy of ***Diagram C*** and ***Diagram D*** on the board. Tell them also that ***Student Reader 6*** and ***Student Reader 8*** are important supplementary materials for this lesson and ought to be reviewed.
- After giving the students time to read ***Student Reader 7*** and review ***Student Readers 6*** and ***8***, divide the class into six groups. Ask each group to select a moderator and a recorder/reporter. Give each group 15 minutes to discuss a particular scenario that they will be reporting about in class. The scenarios (listed below) are to be assigned to the groups at random (drawn by lot). Based on what they have just read, the groups should discuss and report under what socio-demographic conditions their respective scenarios hold true.

The scenarios:

- a) Slow population growth, at high levels of fertility and mortality, hinders economic growth.
 - b) Increasing population, because of declining mortality, promotes economic growth.
 - c) Rapid population growth, at low levels of mortality but high levels of fertility, impedes economic growth.
 - d) Moderate population growth, through lowered fertility, promotes economic growth.
 - e) Very slow or declining population growth, at low levels of fertility and mortality, slows down economic growth.
 - f) Population growth is but one of many other factors affecting economic growth.
- After 15 minutes of discussion, ask the reporter of each group to present to the class the results of their discussion. Let the groups give their presentations in the same sequence as the scenarios listed above (in line with the stages of the demographic transition). Allow other groups to give their comments or raise questions about the presentations.

- After all the groups have presented the results of their discussions, help the class summarize or synthesize the various presentations. Lead the groups to bring out the following points:

A. Slow population growth, at high levels of fertility and mortality, hinders economic growth.

This is possible at the beginning of the demographic transition when mortality and fertility levels are high (high fertility tends to compensate for high mortality). Population growth and size are low. Low incomes result in high mortality, which in turn results in low productivity (feeding back to the cycle of low income and high mortality). With high mortality, there are expectedly fewer people in the productive ages. In consequence, economic growth is slow. Historically, this has been the case of Western European societies prior to the agricultural and industrial revolutions.

B. Increasing population, because of declining mortality, promotes economic growth.

This is likely to happen in countries with a small population relative to resources, and experiencing the onset of mortality decline. Population is increasing but not rapidly. Population growth is driven by improved health conditions and lower mortality, which then bring about increased productivity. In countries where resources are abundant but initial population size is relatively small, the positive effects of population growth on economic growth could be the results of: (i) economies of scale, (ii) accelerated technological change, (iii) increased work effort, and (iv) improved quality of the labor force.

C. Rapid population growth, at low levels of mortality but high levels of fertility, impedes economic growth.

This is likely to occur in countries that are poor and with a large population relative to resources. While mortality has declined considerably (because of advancements in medical technology borrowed from more developed and affluent countries), fertility has remained high, thereby resulting in rapid population growth. High fertility implies a high child dependency burden (a “young” population) and, conversely, a lower proportion of the working-age population relative to total population. This has a negative impact on savings and investments, thereby slowing down economic growth. (Note that economic growth is brought about primarily through investment in capital, i.e., the stock of goods used for production and not consumption, including investment in human capital. The accumulation of savings for investment purposes cannot be realized if consumption geared towards children’s welfare is continuously increasing due to high fertility. At the micro level, for example, parents who have more children have greater difficulty accumulating savings and investing in quality education and health for their children which are important prerequisites for the future productivity of their children.)

D. Moderate population growth, through lowered fertility, promotes economic growth.

This is likely to be experienced by countries that previously had high fertility but succeeded in moderating fertility and population growth. The significant decline in fertility creates a favorable age structure (i.e., lowered child dependency burden, increased proportion of people in the working ages, but with old-age dependency burden still low – what is usually referred to as the “demographic dividend”, or more accurately, the “first demographic dividend”) that facilitates economic growth through increased savings and investment, and faster growth of per capita output. Good policies and quality institutions, however, are needed to ensure this positive outcome.

- E. Very slow or declining population growth, at low levels of fertility and mortality, slows down economic growth.

This could happen in countries with an “old” population, where persistent low fertility has led to a contraction in the working-age population and significant increases in old-age dependency burden. The dampening effect of this type of age structure on savings and investment (and thus productivity) is similar to that of a “young” population, although patterns of consumption and service requirements may be different. A caveat for this scenario, however, is that “old” populations are usually found in highly developed countries with already high levels of income, which can serve to attenuate this negative impact on economic growth. (A novel idea is that if significant gains have already been made in terms of per capita income, savings and investments by the working-age population during the “first demographic dividend”, a so-called “second demographic dividend” could help negate this negative age structure effect on economic growth because some of the aforementioned gains can be used to raise productivity and living standards for future generations (see, e.g., Mason, 2006.)

- D. Population growth is but one of many factors affecting economic growth.

While acknowledging the positive and negative effects of population growth on economic growth, subject to varying demographic conditions as cited above, it must also be acknowledged that population is not the only factor influencing economic growth. Natural resources, good policies, and quality of institutions are just as important. Care should be taken in the crafting and implementation of appropriate population, social, and economic policies in order to facilitate economic growth and human development. These policies could include, among others, those that address: (i) good governance (elimination of graft and corruption), (ii) fiscal management, (iii) expansion of investment opportunities, (iv) increasing demand for labor (job creation), (v) investments on human capital (health and education), and (vi) equitable distribution of wealth and alleviation of poverty. It has been empirically demonstrated that the impact of population on economic growth is stronger when institutions are better.

Closure

- On a sheet of paper, ask the students to write a brief essay about:
 - a) their assessment of the Philippine population and where it is situated in the scenarios given above; and
 - b) what would be the appropriate population policy (or set of policies) that can best contribute to the economic development of the country

[Alternatively, this task can be given as an assignment to be submitted at the next meeting.]

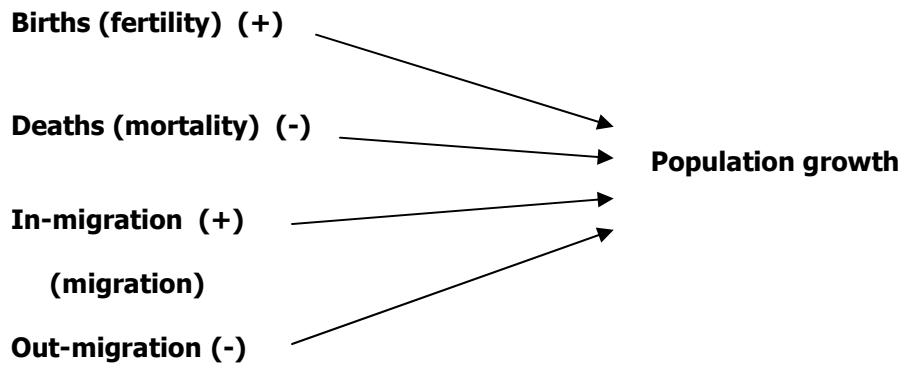
- Collect the papers and check them later.
- End the lesson with the explanation that good policies on economic management, population management, and environmental management are manifestations of “stewardship,” or the careful and responsible management of what is entrusted to us, namely, our fellowmen, our environment, and our country. Population, economic and social policies should therefore be directed to people’s well-being, which is the true essence of development.

[As defined in the Webster dictionary, a “steward” is an “administrator, as of finances and property;” “stewardship” is more specifically defined as “the individual’s responsibility to manage his life and property with proper regard to the rights of others.”]

ATTACHMENTS

- **DIAGRAM A: The Dynamics of Population Growth**

Components of population growth: fertility, mortality, and migration



- **STUDENT READER 1: The Tools of Demography**

The Tools of Demography	
Count	The absolute number of a population or any demographic event occurring in a specified area in a specified time period. (For example, 1,200,500 live births occurred in Japan in 1997.) The raw quantities of demographic events are the basis of all other statistical refinements and analysis.
Rate	The frequency of demographic events in a population during a specified time period (usually a year) divided by the population "at risk" of the event occurring during that time period. Rates tell how common it is for a given event to occur. (For example, in 1997 in Papua New Guinea there were 34 live births per 1,000 population.) Most rates are expressed per 1,000 population. Crude rates are rates computed for an entire population. Specific rates are computed for a subgroup, usually the population more nearly approximating the population "at risk" of the event. (For example, the general fertility rate is the number of births per 1,000 women ages 15-49). Thus, rates can be age-specific, sex-specific, race-specific, occupation-specific, and so on. In practice, some measures that are referred to as rates would be more accurately termed ratios.
Ratio	The relation of one population subgroup to the total population or to another subgroup; that is, one subgroup divided by another. (For example, the sex ratio in Iran in 1996 was 103 males per 100 females.)
Proportion	The relation of a population subgroup to the entire population; that is a population subgroup divided by the entire population. (For example, the proportion of Malaysia's population classified as urban was 0.57 or 57%.)
Constant	An unchanging, arbitrary number (for example, 100 or 1,000 or 100,000) by which rates, ratios, or proportions can be multiplied to express these measures in a more understandable fashion. For example, 0.0134 live births per person occurred in Cuba in 1996. Multiplying this rate by a constant (1,000) gives the same statistic in terms of 1,000 people. This is a clearer way of expressing the same thing: There were 13.4 births per 1,000 population.

Source:

- Population Reference Bureau. (2004). About Population. *Population Handbook*, (5th ed.), (pp. 2-3). Washington, DC.

- **STUDENT READER 2: Population Age and Sex Composition**

- A.** "Age and sex are the most basic characteristics of a population. Every population has a different age and sex composition — the number and proportion of males and females in each age group — and this structure can have considerable impact on the population's social and economic situation, both present and future."

Source:

- Population Reference Bureau. (2004). Age and Sex Composition. *Population Handbook*, (5th ed.), (p. 5). Washington, DC: Author.

- B.** "Populations are sometimes considered 'young' or 'old,' depending upon whether they have high proportions of young or old persons. Populations with large proportions of adults and relatively small proportions in both the younger and older ages of dependency are generally believed to be in a favorable position with regard to levels of living, investment, and development. Age divides a population into groups of potential producers and consumers: the independent adults in the population are both producers and consumers, while the dependent children and the retired or infirm are consumers only.

The age composition of a population also affects the number and scope of social and economic arrangements and institutions, from maternity wards, kindergartens, and schools, to entertainment, transportation, religion, and homes for the aged. Moreover, central social and economic processes such as family formation and homes purchase, job-seeking, retirement and savings, and migration and mobility are closely related to the age composition of a population.

A population's age composition depends first and foremost upon its level of fertility and only secondarily upon its level of mortality. However, migratory movements are of great significance in determining age composition, especially in the case of relatively small or localized populations. Changes in age composition over time wherein the proportions of adults and elderly persons increase and the proportions of children and adolescents decrease is called the 'aging of populations' and is always a consequence of low or declining fertility."

Source:

- Matras, J. (1973). *Population and Societies*. (p. 146). Englewood Cliffs, New Jersey: Prentice Hall, Inc.

• **ACTIVITY SHEET 1: Demographic Data and Estimates for Selected Asian Countries**

	Est. Pop. 2008 (millions)	CBR (per 1000)	CDR (per 1000)	Net Mig (per 1000)	Age Composition 2008			TFR 2008	Life Exp. at birth 2008	Proj. Pop. 2050 (millions)	Pop. Change (%)
					<15 (%)	15- 64 (%)	65+ (%)				
Indonesia	239.9	21	6	-1	29	65	6	2.6	70	343.1	43
Malaysia	27.7	21	5	1	32	64	4	2.6	74	40.4	46
Philippines	90.5	26	5	-2	35	61	4	3.3	69	150.1	66
Singapore	4.8	11	5	37	19	72	9	1.4	81	5.3	10
Thailand	66.1	13	8	1	22	71	7	1.6	72	68.9	4
Vietnam	86.2	17	5	-1	26	67	7	2.1	73	112.8	31
Japan	127.7	9	9	0	13	65	22	1.3	82	95.2	-25
South Ko-	48.6	10	5	1	18	72	10	1.3	79	42.3	-13
Taiwan	23.0	9	6	1	18	72	10	1.1	78	18.9	-18

Source:

- Population Reference Bureau. (2008). *World Population* [Data Sheet].

Expected Output

Group 1:

A. Rank of countries from **highest** to **lowest** with respect to:

<u>Pop. Size 2008</u>	<u>Projected Pop. 2050</u>	<u>% Pop. Change</u>	<u>CBR</u>
1 - Indonesia	1 - Indonesia	1 - Philippines	1 - Philippines
2 - Japan	2 - Philippines	2 - Malaysia	2 - Malaysia
3 - Philippines	3 - Vietnam	3 - Indonesia	- Indonesia
4 - Vietnam	4 - Japan	4 - Vietnam	3 - Vietnam
5 - Thailand	5 - Thailand	5 - Singapore	4 - Thailand
6 - South Korea	6 - South Korea	6 - Thailand	5 - Singapore
7 - Malaysia	7 - Malaysia	7 - South Korea	6 - South Korea
8 - Taiwan	8 - Taiwan	8 - Taiwan	7 - Taiwan
9 - Singapore	9 - Singapore	9 - Japan	- Japan

B. Answers:

- 1) Japan's relatively low birth rate and high death rate
- 2) The Philippines' relatively high birth rate and low death rate
- 3) Malaysia, Indonesia, and to a lesser extent, Vietnam
- 4) Taiwan, South Korea, and to a lesser extent, Thailand and Singapore
- 5) Positive net migration (more immigrants than emigrants)

Group 2:

A. Rank of countries from **highest** to **lowest** with respect to:

<u>% Pop. <15 yrs</u>	<u>% Pop. 65+ yrs</u>	<u>% Pop. 15-64 yrs</u>	<u>CBR</u>
1 - Philippines	1 - Japan	1 - South Korea	1 - Philippines
2 - Malaysia	2 - South Korea	- Taiwan	2 - Malaysia
3 - Indonesia	- Taiwan	- Singapore	- Indonesia
4 - Vietnam	3 - Singapore	2 - Thailand	3 - Vietnam
5 - Thailand	4 - Thailand	3 - Vietnam	4 - Thailand
6 - Singapore	- Vietnam	4 - Japan	5 - Singapore
7 - Taiwan	5 - Indonesia	- Indonesia	6 - South Korea
- South Korea	6 - Malaysia	5 - Malaysia	7 - Taiwan
8 - Japan	- Philippines	6 - Philippines	- Japan

B. Answers:

- 1) Philippines
- 2) Malaysia, followed by Indonesia
- 3) They have relatively high fertility
- 4) Japan
- 5) South Korea and Taiwan
- 6) They have relatively low fertility
- 7) South Korea, Taiwan, Singapore, and Thailand
- 8) They also have relatively low fertility
- 9) Japan's proportion of people in the working ages (15-64) is lower because it has the largest proportion of people in the oldest ages (65+).

Group 3:

A. Computation

	% <15	% 15-64	% 65+	Youth Dependency Ratio (per 100)	Old-age Dependency Ratio (per 100)	Total Dependency Ratio (per 100)
Indonesia	29	65	6	44.6	9.2	53.8
Malaysia	32	64	4	50.0	6.2	56.2
Philippines	35	61	4	57.4	6.6	64.0
Singapore	19	72	9	26.4	12.5	38.9
Thailand	22	71	7	31.0	9.9	40.9
Vietnam	26	67	7	38.8	10.4	49.2
Japan	13	65	22	20.0	33.8	53.8
South Korea	18	72	10	25.0	13.9	38.9
Taiwan	18	72	10	25.0	13.9	38.9

B. Rank of countries from **highest** to **lowest** with respect to:

Youth Dep. Ratio

- 1 - Philippines
- 2 - Malaysia
- 3 - Indonesia
- 4 - Vietnam
- 5 - Thailand
- 6 - Singapore
- 7 - Taiwan
- South Korea
- 8 - Japan

Old-age Dep. Ratio

- 1 - Japan
- 2 - South Korea
- Taiwan
- 3 - Singapore
- 4 - Vietnam
- 5 - Thailand
- 6 - Indonesia
- 7 - Philippines
- 8 - Malaysia

Total Dep. Ratio

- 1 - Philippines
- 2 - Malaysia
- 3 - Indonesia
- Japan
- 4 - Vietnam
- 5 - Thailand
- 6 - Singapore
- South Korea
- Taiwan

C. Answers:

- 1) **Philippines**
- 2) **Its high level of fertility**
- 3) **Japan**
- 4) **Philippines, Malaysia, Indonesia, and Japan**
- 5) **Indonesia's dependents are predominantly children, while Japan's dependents are predominantly old people.**

- **STUDENT READER 3: Population and Age-Sex Composition**

A. About Population (Chapter 1)

Just as effective development depends on reliable knowledge of natural and other resources, so does effective development planning depend upon natural knowledge of the composition, growth, and movement of population (21 May 1975).

*Rafael Salas
Executive Director (1969-1987)
United Nations Population Fund*

Everyone is a member of a population, and population factors have an impact on many facets of life — from where we live to the prices we pay for goods and services. The need for health care preoccupies the political leaders on the industrialized countries whose populations are “aging,” while the need for classrooms, employment opportunities, and housing preoccupies the leaders of countries that are still growing rapidly.

Population conditions influence history. Likewise, historical events can significantly affect populations. Wars can decimate a generation of men, as happened in the 20th century in the Soviet Union, France, Iraq, and several other countries. The discovery of new medicines often leads to increases in life expectancy, and different causes of death become more prominent. Alternatively, population change may sound a warning of other important changes. Environmental contamination may be detected first by increased reports of illness and rising mortality rates in certain geographic areas. In all these ways and more, population is news.

Population information is best communicated in terms of numbers and rates, it is not enough to know that life expectancy is increasing. How many years are being added? Over what time period has the change occurred? Which people are affected? What proportion of the population do they represent? Such information is more meaningful when it provides an indication of the magnitude and distribution of the phenomenon, as well as the trend. To be useful, data must be expressed clearly as well as accurately. Birth rates are often confused with growth rates; declining growth rates are sometimes mistakenly equated with declining population size.

Demography is the scientific study of population. Demographers seek to know the levels and trends in population size and its components. They search for explanations of demographic change and their implications for societies. They use censuses, birth and death records, surveys, visa records, even motor vehicle and school registrations. They shape these data into manageable forms such as simple counts, rates, or ratios.

B. Age and Sex Composition (Chapter 2)

Age and sex are the most basic characteristics of a population. Every population has a different age and sex composition—the number and proportion of males and females in each age group—and this structure can have considerable impact on the population’s social and economic situation, both present and future.

“Young” and “Old” Populations

Some populations are relatively young, that is, they have a large proportion of people in the younger age groups. The high-fertility countries of Africa with large proportions of young adults and children are

examples. Other populations are relatively old, such as many countries in Europe. These two types of populations have markedly different age compositions; as a consequence, they also have different proportions of the population in the labor force or in schools, as well as different medical needs, consumer preferences, and even crime patterns. A population's age structure has a great deal to do with how the population lives.

Developing countries have relatively young populations while most developed countries have old or "aging" populations. In many developing countries, 40 percent or more of the population is under age 15, while four percent is 65 or older. On the other hand, in all but a few developed countries, less than 25 percent of the population is under age 15 and more than 10 percent is 65 or older.

Median Age

The median age is the age at which exactly half the population is older and half is younger. [For example: In 1995, the median age in Jordan, with a young population, was 18, while that in Sweden was 38, signifying an older population.]

Sex Ratio

The sex ratio is the ratio of males to females in a given population, usually expressed as the number of males for every 100 females. [For example: In 1995, there were 96 males per 100 females in Japan; In Chile in 1995, the sex ratio for ages 60-64 was 85; for ages 80 and older it was 54.]

The sex ratio at birth in most countries is about 105 or 106 males per 100 females. After birth, sex ratios vary because of different patterns of mortality and migration for males and females within the population.

Age-Dependency Ratio

The age-dependency ratio is the ratio of persons in the "dependent" ages (generally under age 15 and over age 64) to those in the "economically productive" ages (15-64 years) in a population.¹

Where more detailed data are lacking, the age-dependency ratio is often used as an indicator of the economic burden the productive portion of a population must carry—even though some persons defined as "dependent" are producers and some persons in the "productive" ages are economically dependent.

Countries with very high birth rates usually have the highest age-dependency ratios because of the large proportion of children in the population. [For example: The age-dependency ratio in France in 1996 was 53. This means that there were 53 persons in the dependent ages for every 100 persons in the working ages. By contrast, Libya had an age-dependency ratio of 92 in 1995, with 45 percent of its population under age 15 and three percent ages 65 and older. In Japan, the age-dependency ratio was only 45 in 1997, with 15 percent of its population under age 15 and 16 percent ages 65 and older.]

Population Pyramid

A population pyramid graphically displays a population's age and sex composition. Horizontal bars present the numbers or proportions of males and females in each age group. The sum of all the age-sex groups in the population pyramid equals 100 percent of the population. Pyramids may show single years of age as does the one for Japan (*in page 93*), or show data in age groups as do those (*for Nigeria, United States, and Spain in page 94*).

¹ The age-dependency ratio is sometimes divided into old-age dependency (the ratio of people ages 65 and older to those ages 15-64) and child dependency (the ratio of people under age 15 to those ages 15-64).

The bottom bars in Japan's pyramid show the percentage of the population that was under age one in 1995. Each year, a new cohort is born and appears at the bottom of the pyramid, while the cohorts above it move up.² As the cohorts age, they inevitably lose members because of death, and may gain or lose members because of migration. After age 45 the attrition process accelerates, causing the narrowing peak of all population pyramids. Such pyramids can tell a great deal about a population at a glance. Notice, for example, that females form the substantial majority in the oldest age groups. In most countries, females outlive males.

Three General Profiles

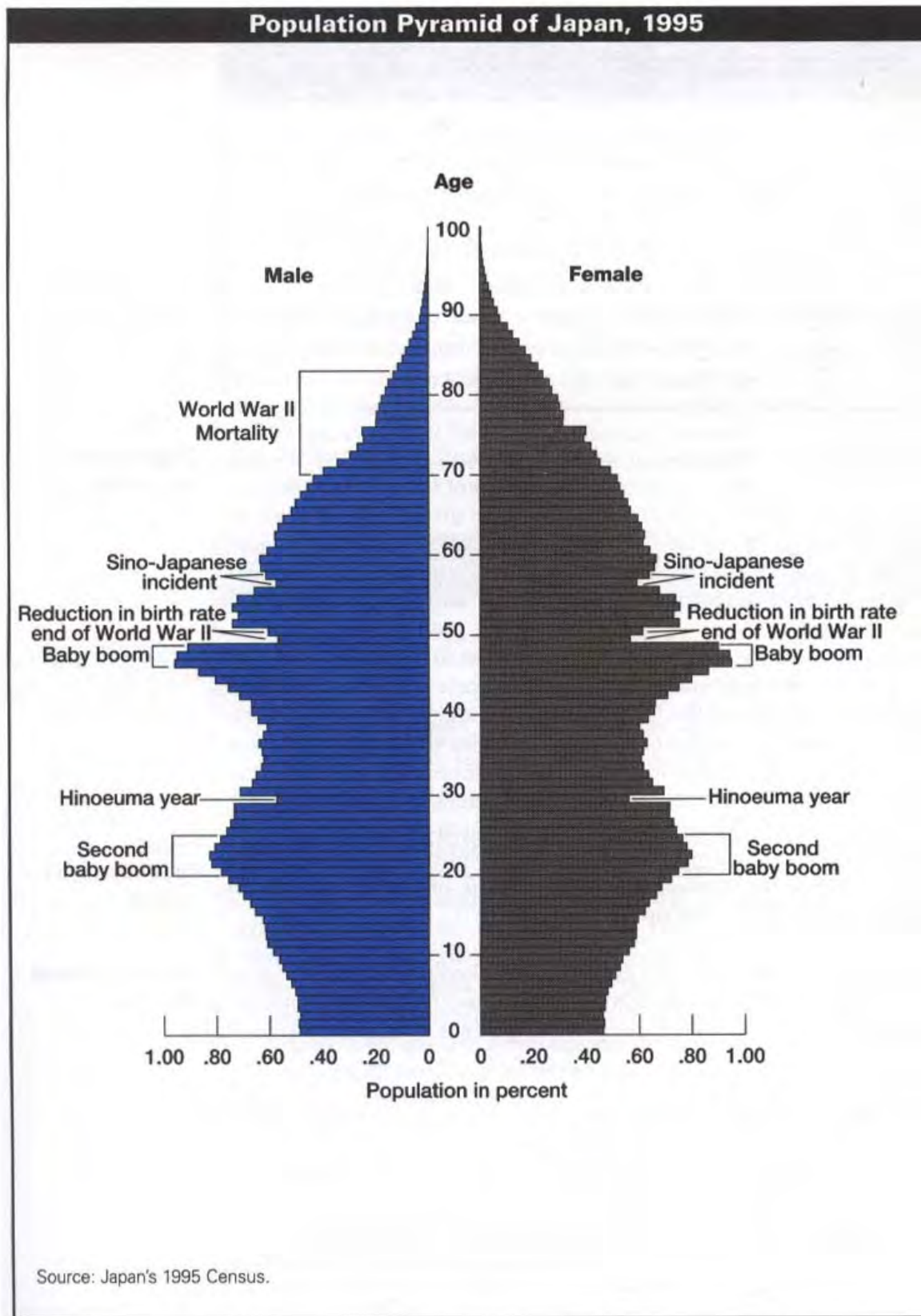
Population of countries can differ markedly as a result of past and current patterns of fertility, mortality, and migration. However, they all tend to fall into three general profiles of age-sex composition.

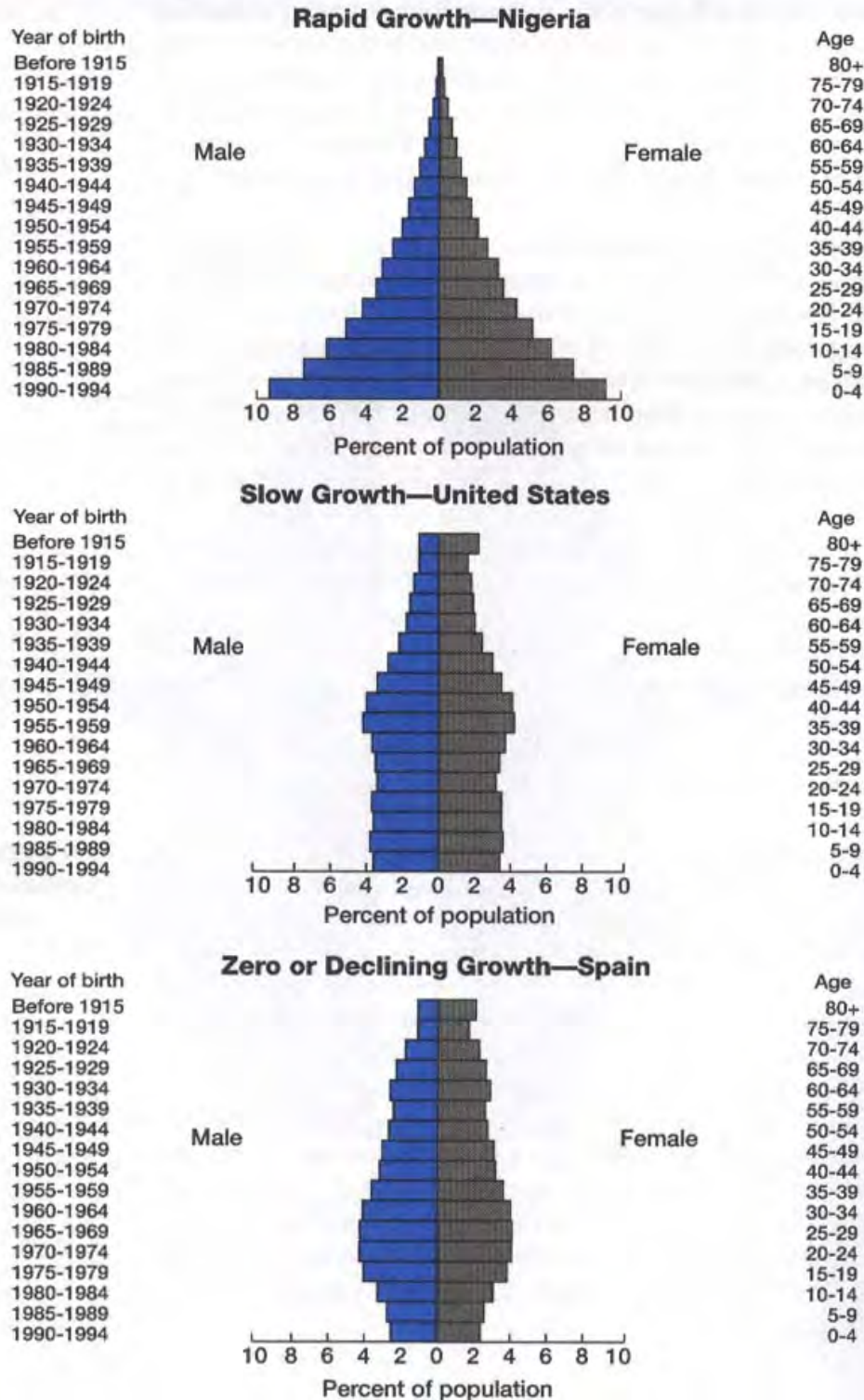
- a) **Rapid growth** is indicated by a pyramid with a large percentage of people in the younger ages.
- b) **Slow growth** is reflected by a pyramid with a smaller proportion of the population in the younger ages.
- c) **Zero growth or decreasing populations** are shown by roughly equal numbers of people in all age ranges, tapering off gradually at the older ages.

As shown in the figure (of the pyramids of Nigeria, United States, and Spain), the age structure of Nigeria's population is characteristic of countries experiencing rapid growth; each cohort is larger than the previous cohort, producing a pyramid shape. This expansive age structure is the result of high birth rates. Spain's population, with roughly equal numbers in all age ranges, is typical of populations experiencing population decline or zero growth. The shape of the United States' age structure indicates a population that is growing, but at a slower rate than Nigeria's.

The pyramid (of Japan) in 1995, is a striking example of a population whose age-sex composition has been altered by past events. The low proportion of males ages 70-83 represents the loss of young men during World War II. The relatively small size of the population ages 56-57 (both males and females) is a demographic response to the Sino-Japanese Incident in 1938 and 1939. The population ages 49 and 50 reflects the reduction in the birth rate around the end of World War II. The large group ages 46-48 was born during the first "baby boom" period (1947-1949). The very small percentage of 29-year-olds corresponds to the birth year of 1966—"the year of Hinoeuma" or "the year of the Firehorse." Superstition maintains that being born during the year of Hinoeuma, which comes every 60 years, is bad luck for girls. The large percentages in the ages 21-24 show Japan's second "baby boom" period (1971-1974). Population pyramids that are constructed by single years of age can illuminate reasons for a population's age structure that larger age categories might mask.

² A cohort is a group of people sharing a common demographic experience. The most commonly used cohort (as in the case of the Japan example above) is the birth cohort—people born in the same year or period.



Age Patterns of Population: Nigeria, United States, and Spain, 1995

Sources: U.S. Census Bureau and the United Nations Population Division.

Comparing Populations

The likelihood of getting married or dying varies at different ages. Populations that have comparatively large numbers of elderly are likely to have more deaths and fewer births each year than will a population of equal size that is largely composed of young families (other factors being equal). As a result, Finland, with a large proportion of older persons compared with Albania, will have more deaths per 1,000 population than Albania.

When comparing populations (for example, which country has higher fertility), care should be taken that the age structure of the populations does not seriously affect the comparison. Birth and death rates are affected by the proportions of persons in the different ages and can give misleading comparisons (although the death rate is much more likely to do so than the birth rate). [For example: The U.S. crude death rate was 8.6 deaths per 1,000 population in 1990. Mexico's crude death rate that year was 5.2. However, if Mexico's age structure had been the same as that of the United States in that year, Mexico's standardized (or age-adjusted) death rate would have been 9.8, higher than in the United States.]

C. Age Structure and Population Growth

Along with the birth rate, age structure is the demographic "engine" that drives (or retards) population growth. In many developing countries, large proportions of young people virtually guarantee that population will continue to grow during periods of declining fertility and even after fertility drops to "replacement level."³ The effect of a high birth rate upon age structure can be seen in Burkina Faso, where women average nearly seven children each. In 1995 there were about 458,000 persons in the 35-39 age group, but 2 million in the under-5 age group and 1.6 million people ages 5-9.

Source:

- Population Reference Bureau. (2004). *Population Handbook*, (5th ed.), Washington, DC.

³ **Replacement-level fertility** is the level of fertility at which women in the same cohort have exactly enough daughters (on average) to "replace" themselves in the population. **Population momentum** refers to the tendency of a population to continue to grow after replacement-level fertility has been achieved. A population that has achieved replace or below-replacement fertility may still continue to grow for some decades because past high fertility leads to a high concentration of people in the youngest ages. Total births continue to exceed total deaths as these youth become parents. Eventually, however, this large group becomes elderly and deaths increase to equal or outnumber. Thus it may take two or three generations (50-70 years) before each new birth is offset by a death in the population.

• STUDENT READER 4: Economic Growth

A. The GNP and GDP

The gross national product (GNP) and the gross domestic product (GDP) are two of the most frequently used economic indicators when assessing the status of the Philippine economy.

GNP vs. GDP

The gross national product (GNP) is defined as the total value of income earned by residents of a country regardless of where the income came from. GDP on the other hand, is the total value of production realized by resident producers in an economic territory. In its simplest terms, GDP is the value of goods and services made in the Philippines while GNP is the value of goods and services made by Filipinos.

Vital to understanding these economic concepts is to look at the scope by which economic territory and residency are defined. For instance, the GDP measures output of economic activities within the economic territory of a country. There are areas inside the geographic jurisdiction of the country that are not part of the economic territory such as foreign embassies and offices like the Asian Development Bank (ADB) and the United Nations. At the same time, there are areas outside the country's geographic territory that are part of its economic territory like the Philippine embassies located abroad.

The GNP, on the other hand, measures the total income of Filipino residents from all locations. The concept of residency is not equated to nationality. Filipinos who have migrated abroad and became residents of foreign countries are not accounted for in the measurement. At the same time, foreigners living in the country who have acquired residency are included in accounting the Philippine GNP. One common mistake committed is attributing the high GDP growth to the large increase in overseas Filipino workers (OFW) remittances. These remittances are not part of the GDP but are accounted for in the GNP.

Source:

- Philippine Institute for Development Studies. (2006). *Economic Issue of the Day*. 6 (6).

B. Economic Growth vs. Economic Development

Economic development refers to **social** and **technological progress**. **Economic growth** is often assumed to indicate the level of economic development. The term "economic growth" refers to the increase (or growth) of a specific measure such as real national income, gross domestic product, or per capita income. National income or product is commonly expressed in terms of a measure of the aggregate value-added output of the domestic economy called gross domestic product (GDP). When the GDP of a nation rises economists refer to it as economic growth.

The term economic development on the other hand, implies much more. It typically refers to improvements in a variety of indicators such as literacy rates, life expectancy, and poverty rates. GDP is a specific measure of economic welfare that does not take into account important aspects such as leisure time, environmental quality, freedom, or social justice. Economic growth of any specific measure is not a sufficient definition of economic development.

Source:

- Economic development. (n.d.). Retrieved June 1, 2009, from the Economic development Wiki: http://en.wikipedia.org/wiki/Economic_development

Student Reader 5: Population and National Income

The national income of a country is often taken as an indicator of its standard of living, and one approach to national accounting, involves adding together all the incomes received by the people who share in the economy's production. Economists try to distinguish between three **factors of production** (or **inputs**) used in an economy to produce and distribute goods and services. As shown below, each factor can produce an income.

Factors of production

Factor of production	Example of income
Land (including natural resources and other "free gifts of nature")	Rent
Labour	Wages, salaries, and the earnings of self-employed workers
Capital (buildings, and production goods, such of machines)	Profit of companies and public corporations, dividends, and interest

In some ways technological change and enterprise can be regarded as a fourth factor which contributes towards increasing incomes from the other factors.

The sum of all these incomes is the gross domestic product (GDP), and dividing by the population gives us per capita GDP. The growth of per capita GDP is influenced by the rate of population growth: if total GDP is growing at, say, 2% per annum and population at 3% then per capita GDP will fall.

Source:

- Meyer, P. and D. Lucas. (1994). Population and Resources. In Lucas and Paul Meyer (Eds.), *Beginning Population Studies* (2nd ed.). Australia: National Centre for Development Studies, Australian National University.

• STUDENT READER 6: Implications of Alternative Demographic Trends

A. Introduction

The rapid growth of population in the less developing countries in the early postwar period has generated concerns regarding the effects such rapid growth could have on the national capacities for attaining major developmental goals. This section reviews the various analyses/views regarding the implications of population change, first on economic growth, and then later on specific developmental concerns. It may be necessary to distinguish at this point different concepts and measures of population and development since conclusions regarding their relationships may vary depending on which measures are used. For example, one can speak of population in terms of the absolute size of the population, the rate of growth of the population, and the size of the population per unit of land area or density. Conversely, one can speak of total income, income per worker, and per capita income. We shall explicitly take note of these distinctions in our discussion below.

B. Implications on Economic Growth

If population growth is neutral with respect to income growth, then it is a matter of arithmetic to show that per capita income grows more slowly if population grows more rapidly, and conversely, per capita income grows more rapidly if population grows more slowly. But such mechanical calculations obviously have no substantive content. What we want to find out is whether a rapid population growth relative to a low or moderate one will tend to balance to have a positive or negative contribution to the growth of per capita incomes. And if so, what are the mechanisms involved? We take it as given that influencing population growth rates is not an end in itself, but as one of the interdependent set of strategies for achieving the nation's development goals.

Coale's Model. Some of the earlier models dealing with the implications of rapid population growth on per capita incomes attempted to show that total income tends to grow more slowly when population growth rates are high. Perhaps the most influential and the earliest of this work in the postwar period is that of Coale and Hoover (1958); the major arguments are best described in Coale (1969).

Coale (1969) examined the implications of alternative population growth rates on the growth of per capita income and on full employment in less developed countries characterized by high fertility, low and declining mortality, rapid population growth, and of course, low incomes. The unit of analysis is the national economy. Migration is nil, mortality is low or declining and hence, the only variable causing population change by deliberate policy is fertility. The analysis first involves the examination of the effects that contrasting fertility regimes would have on (a) the burden of dependency, i.e., the ratio of the population under 15 and over 64 years of age to the population of working ages, 15-64 years; (b) the rate of labor force growth; and (c) the density of population relative to resources. Then the analysis considers how changes in (a), (b) and (c) influence the increase in per capita income and the provision for productive employment.

Coale assumes that to accelerate economic growth, an economy must increase its level of net investment. Coale emphasizes, however, that although a high level of net investment is necessary, it is not a sufficient condition for rapid economic growth. There are obviously other important facts, e.g., proper allocation of resources, leadership, organization, technology, etc. However, Coale assumes that all these other factors are equally present under contrasting fertility trends. Hence, the only variable that needs to be considered is the level of net investment and how this might be affected by rapid population growth.

The workings of Coale's model can best be described with the aid of Figure 2 in the following page. Consider first the effects of an increase in population growth, due to constant high fertility in the face of a low or declining mortality. In the short run, say from 0-15 years, the demographic effects of an

increase in population growth is to increase the dependency burden. This in turn reduces savings due to the increased consumption of a larger population, and in turn, the level of net investment needed to increase the productive capacity of the economy. Furthermore, with the increased dependency burden, the pattern of investment may tend to be shifted towards “welfare” type investments, i.e., investments in health, education, etc., rather than to directly productive types, e.g., plants and factories, etc. Thus, the resulting level and composition of net investments resulting from the effects of increased dependency burden would tend to reduce total output growth, and with the high growth of population, on per capita output or per capita income growth.

In the intermediate run, say 15 years or so, the continued high fertility will affect the size and growth of the labor force. A given level of investment will be needed to employ the additions to the labor force (“capital widening”), while a given level will be needed to increase capital per worker to increase labor productivity (“capital deepening”). Given the adverse effects of high dependency burden on the rate of savings and investment, this high fertility country will, therefore, tend to have great difficulty in providing employment for the growing labor force, as well as great difficulty in increasing productivity per worker. Hence, output growth tends to be slowed down.

In the very long run, say 70 years or more, the cumulative impact of high fertility could lead to high density of labor force relative to resources, with consequent adverse impact on output growth, i.e., through the operation of diminishing returns. However, Coale placed little stress on the very long run as such, and qualified that the potential adverse effects of high density can be mitigated in situations where non-extractive industries are dominant and a large volume of trade is possible. However, these advantages do not necessarily follow from high population growth rates, hence, the long run effects could be considerably bleak indeed.

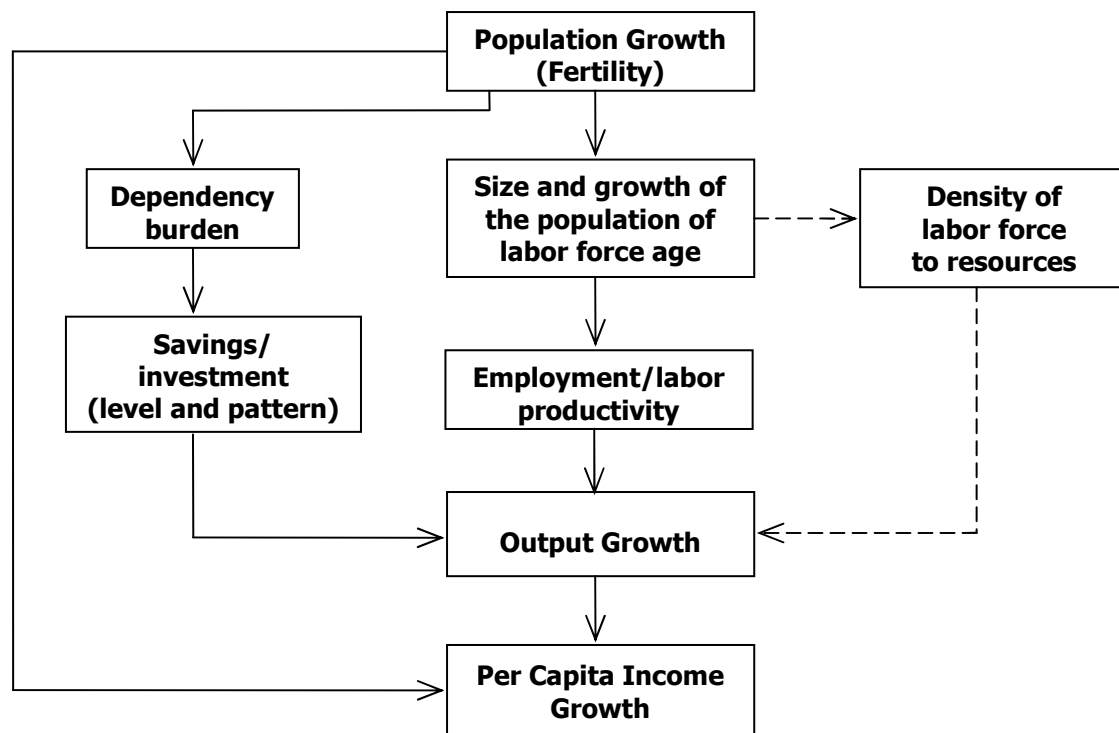


Figure 1. Coale's (1969) Model on the Implications of Alternative Fertility Trends on Economic Growth

Now consider the case where the country succeeds in reducing its fertility through appropriate policy measures. In the short run, the effect of the reduced dependency burden is to raise savings and net investment, and therefore, output growth. Furthermore, more of the investments can be put into more directly productive activities, and hence, enhance further growth. In the intermediate run, the reduced fertility will reduce the growth of the labor force which, given high levels of investment now available due to the reduced dependency burden, can more easily be provided with productive employment and more capital per worker. Both lead to faster output growth. In the long run, the low fertility population is better able to adjust and accommodate the growth in absolute size of the population, as the doubling time of population is considerably reduced.

Positive Effects of Population Growth. Several writers have stressed the positive effects of population growth on economic growth, drawing insights mainly from the historical experience of advanced countries or of primitive societies. Implicit in their arguments is that the **initial population size or growth rate is very low.**

One of the positive effects of population growth is related to the idea of “economies of scale.” As population grows, the domestic market increases in size to the point where economies of scale in production is possible.* That is, as market size increases, diversification and specialization between firms increases, leading to efficiencies and lower cost per unit of output. Additionally, certain types of overhead capital are quite lumpy, e.g., transportation and communication systems. Excess capacity exists when the number of users are low. With increased population, such overhead capital becomes viable and are provided. These in turn lead to external economies and eventually higher output.

The validity of the economies of scale argument depends upon a number of factors. One is the population size already reached. In large populations, are there still sizeable potentials for economies of scale or have all the potentials already been achieved? In fact, in large and densely settled populations, would not diseconomies of scale or congestion effect be the more important concerns? Secondly, the market size depends on both income and population. In low income countries, an increase in population does not automatically translate into a large market. Finally, from a policy standpoint, is population growth necessary for reaping economies of scale? The important concept in economies of scale is not size of population per se, but density. Density can be increased by changing patterns of settlements tied to spatial development strategies. In another vein, extending the size of the market can be achieved much more flexibly through expansion of foreign trade.

A second mechanism through which population growth is said to have a positive effect on the economy is through its effect on technological change. With respect to agriculture, Boserup (a noted agricultural economist) (1965) argued that population increase leads to the adoption of more intensive systems of agriculture in primitive communities and an increase in total agricultural output. Although the proximate effect of this change in agricultural systems is to reduce output per man-hour, Boserup considers secondary effects which can set off a genuine process of economic growth, with rising output per man-hour first in non-agricultural activities, and later in agriculture itself. The mechanisms involved are twofold, according to Boserup. First, the intensification of agriculture may compel farm workers to work harder and more regularly, leading to work habits that raise labor productivity. Secondly, the increasing population density facilitates the division of labor and the spread of communication and education. Boserup, however, stressed that these mechanisms may not be operative in densely settled communities with a very high rate of population growth and which are unable to undertake the investment necessary for introducing still more intensive methods of agricultural production.

A third mechanism through which rapid population growth can have a positive effect on economic growth is related to considerations regarding the quality of the labor force. Leibenstein, a noted economist, suggested that to the extent that the younger worker cohorts that enter the labor force are of higher quality, e.g., higher educational attainment, than the older worker cohorts who leave through retirement or death, the average quality of the labor force improves more rapidly if the rate of population growth is higher (other things equal) rather than lower.

Leibenstein calls this the replacement effect. How valid is the assumption that younger workers are of higher quality than older workers? It is possible, for example, that the increased population pressure on educational services may lead to lower quality investment per pupil, thus resulting in lower average labor quality of younger workers than of older workers. In fact in the same article, Leibenstein examined other mechanisms through which rapid population growth may affect labor quality. He suggested that higher rates of population growth compared to lower rates are associated with a higher dependency ratio, a higher average sibling number, a closer birth spacing and a greater number of pregnancies per woman, and higher maternal mortality and morbidity. The impacts of these demographic effects on dependency, malnutrition, degree of maternal deprivation, speech and personality formation, and I.Q. are all detrimental to the average acquired economic quality of the labor force, and therefore, on economic growth.

Several other potential positive effects of population will be briefly mentioned here. Let us briefly consider one argument that relates to work effort. It is argued that a higher dependency burden leads to greater work effort on the part of the working population, i.e., parents work more when the family size is large. If this is so, is more work per se the object of development, or is it not in fact income per work effort that is our major concern when we consider measures of family welfare? If increased work effort is desired, do we need greater deprivation arising from high fertility as an incentive, or would appropriate wage policies do the trick?

* Economies of scale in production means that the cost per unit of output declines as output, or the scale of the operations, is increased.

Source:

- Herrin, A. (1983). Population and Development: Introductory Perspectives. *Population/Development Planning and Research Project*. Pasig City: NEDA.

• STUDENT READER 7: Population-Development Interactions

Population arguments in the continuing population-development debate often involve extreme arguments revealed by statements such as population is the cause of poverty and major economic problems and population does not have anything to do with development: poverty is caused by mismanagement, greed, and injustice. At other times the arguments are completely contrasting such as population growth stimulates economic growth, on the one hand, and population growth slows down economic growth, on the other. To properly assess such statements, there is a need for a clearer understanding of the complex interrelationships between population and development or more narrowly between population and economic growth.

Population growth is the increase in the number of people in a given area in a given time period. It is determined by the interplay of four major processes: fertility, mortality, in-migration, and out-migration. The population of the Philippines has grown from 19 million in 1948 to 77 million in 2000. Population growth has remained high at 2.3 percent per year during the decade of the 1990s. If this growth rate remains, the population will double in 30 years.

The implication of population growth to development can easily be appreciated by treating time as a scarce resource. For example, as Table 1 shows, a two percent growth rate would double the population in only 35 years, while a one percent growth rate would double the population in 70 years.

Table 1: Time as a scarce resource

Rate of population growth in percent	Time in years for population to double in size
1	70
2	35
3	23
4	17
5	14

The higher the growth rate, the fewer the number of years before the population will double. With such a shorter time, it would be difficult to accommodate the doubling of the population at higher standards of living. A slower population growth rate, on the other hand, would give more time for the country to develop its economy and establish the necessary institutions to accommodate the doubling of the population at higher standards of living. This is especially important for the Philippines considering that its economy has not grown as rapidly as it could have during the last 30 years and that poverty rates still remain high. More time is needed not only to recover and catch up with neighboring countries but also to bring the economy towards a path of rapid and sustained economic growth and poverty reduction.

Economic growth affects population through several mechanisms:

- higher income promotes better health that lowers the number of deaths (which increases population growth);
- higher income can lead to lower demand for children as well as greater access to family planning methods – together they act to lower the number of births (which reduces population growth); and
- higher income can have a positive or negative impact on population growth depending on which mechanism has a larger impact.

On the other hand, population affects economic growth through several mechanisms:

- lower deaths help increase productivity and incomes; and
- lower births result in lower proportion of youth dependents and higher proportion of the population in the working ages relative to the total population.

Both these results have favorable effects on economic growth.

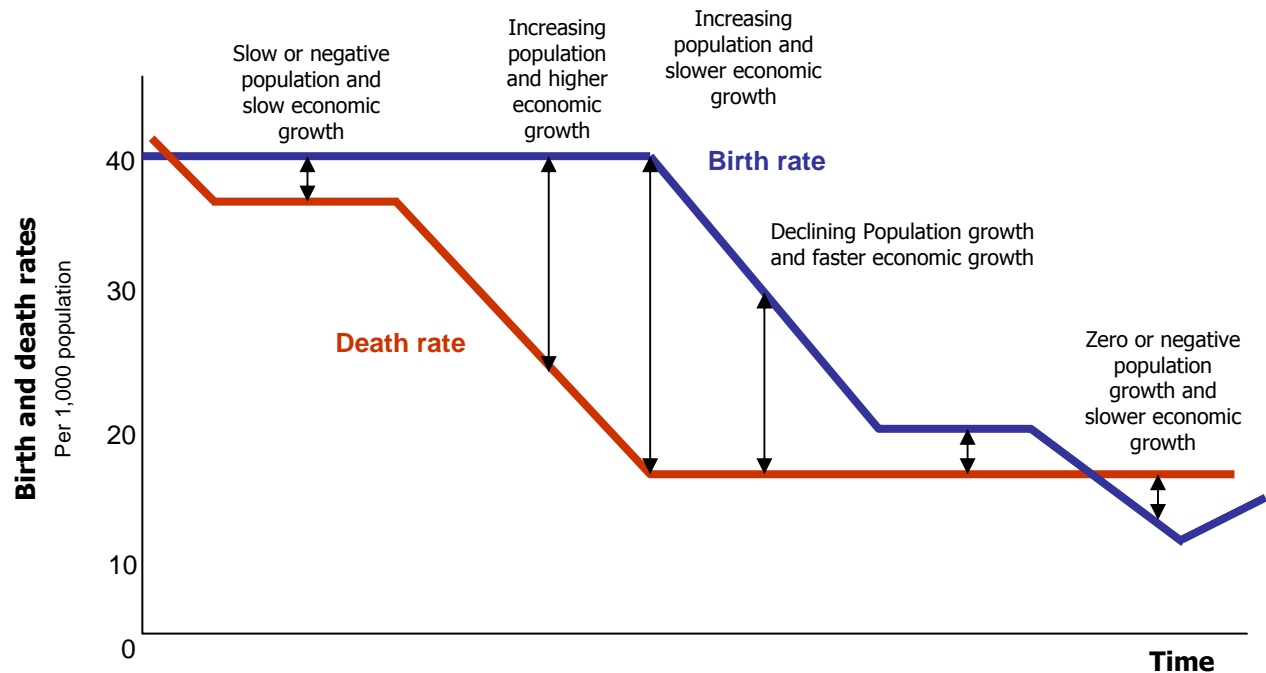


Figure 2: Population and economic growth at different stages of the demographic transition

It is possible to see slow or negative population growth accompany slow economic growth (see Figure 3). In this case, the slow economic growth and low incomes give rise to high mortality that slows down population growth. Historically, this would be the case prior to the agricultural and industrial revolutions that occurred in Western Europe. It is also possible to see population growth increasing with higher economic growth. A key factor in this relationship is that economic growth reduces mortality, and hence, engenders rapid population growth. This has been the experience of many developing countries after the postwar era. Increasing population growth with slower economic growth can also be possibly seen as in the case of developing countries including the Philippines that still exhibit high fertility while mortality has gone down significantly. A number of former developing countries, such as many of our neighboring Asian countries that succeeded in reducing fertility during the last 30 years or so exhibit declining population growth and faster economic growth. Finally, slow or zero population growth may be associated with slower economic growth as in the case of advanced economies. But this phenomenon occurs at already very high incomes compared to the pre-industrial period where the same correlation is observed but at a much lower per capita income.

Simple correlations of population growth and economic growth without understanding the key mechanisms for their relationships at different stages of the demographic transition (transition from high birth and death rates to low birth and death rates) may lead one to conclude that no significant correlations exist or that the correlation is positive or at times negative. It is important, therefore, to understand key relationships at different points in time occurring in different countries under differing circumstances.

While population is important, it is not the only factor affecting economic growth. Natural resources, good policies, and quality institutions are also important. Recent empirical studies (see for example, Bloom and Canning, 2001; Mapa and Balisacan, 2004) that explicitly take these other factors into the analysis of the impact of population on economic growth find the following:

- a) Better health and increased life expectancy have positive effect;
- b) Effect of total population growth is negative;
- c) Effect of growth of working ages is positive;
- d) Effect of the difference between growth of working ages and the growth of total population is negative;
- e) Good policy (high quality institutions and openness to trade) leads to higher growth; and
- f) The impact of demographic change is greater when institutions are better.

The above relationships are depicted in Table 2. A study (Sachs, et al., 1998) compared the economic growth experience of the Philippines with neighboring countries that included the “Four Tigers” (Hongkong, Singapore, South Korea, and Taiwan) and Southeast Asia (Thailand, Malaysia, Indonesia) and China. Economically, these two sets of countries have grown very rapidly during the last 30 years compared to the Philippines. An examination of the factors that contributed to the difference in economic growth experience reveals that population factors altogether lowered the Philippines’ economic growth by 0.8 percentage points. The effect of the different population variables are as expected. Our lower life expectancy compared to the Four Tigers widened the difference in our economic growth rate with those of the Four Tigers’; our higher total population growth had a negative effect on the economic growth difference; and our slightly higher growth of the population of working ages had a positive effect. On balance, however, the effect of all the population variables led to a slower economic growth rate by 0.8 percentage points compared to the Four Tigers.

Looking at the other factors, it is noteworthy that policy variables (the Philippines’ low government savings rate, its protectionist trade policies, and poor quality of institutions) reduced our economic growth potential by 3.3 percentage points compared to those of the Four Tigers as a group. Clearly then, policy and institutions matter in explaining economic growth, but so do population factors as Table 2 clearly reveals.

Table 2: Sources of Economic Growth Differentials: The Philippines and Neighboring Countries, 1965-90 (percent, annual average)

	Contribution of each variable to the difference in per capita growth in the Philippines relative to each country group	
	Four Tigers	Southeast Asia/China
Initial conditions	0.5	-0.8
Initial GDP per capita	0.7	-0.9
Schooling	-0.2	0.1
Resource and geography	-1.2	0.0
Natural resources	-0.3	0.0
Landlocked	0.0	0.0
Tropics	-0.5	-0.3
Coastline/land area	-0.4	0.3
Policy variables	-3.3	-1.9
Government savings rate	-0.4	-0.1
Openness	-1.7	-1.2
Institutions	-1.2	-0.7
Demography	-0.8	0.3
Life expectancy	-0.4	0.5
Growth in working age population	0.3	0.1
Growth in total population	-0.7	-0.3
Difference in:		
Predicted growth	-4.7	-2.4
Actual growth	-5.3	-3.3

Note: The Four Tigers include Hongkong, Singapore, South Korea, and Taiwan. Southeast Asia includes Thailand, Malaysia, and Indonesia

Source: Sachs, et al. (1998)

An updated study comparing the Philippines with South Korea, Thailand, and Indonesia also revealed that had the Philippines followed the population growth path of these countries, the Philippines' economic growth path would have been higher leading to greater poverty reduction than what it actually experienced. As in these types of studies, the role of initial conditions, resources, and more importantly, policy variables were all explicitly taken into account in the analysis (see Mapa and Balisacan, 2004).

While it can be argued that the impact of fertility reduction on the proportion of working ages can have favorable impacts on economic growth (often called the first demographic dividend), there are concerns that continued fertility reduction leading to increased proportion of the elderly can have negative effects on economic growth. Recent studies (see for example, Mason, 2006), however, suggest that this is not inevitable: increased longevity can motivate greater savings during the working ages, which in turn can fuel capital formation and hence further economic growth (referred to as the second demographic dividend).

Source:

- Herrin, A. (2007). Social Science Perspectives on Population and Development. In *A Balancing Act: Social and Catholic Perspectives on Population and Development*. Manila: John J. Carroll Institute on Church and Social Issues and the Philippine Center for Population and Development.

• STUDENT READER 8: Does Population Change Matter in Economic Development?

A. Introduction

For many decades, rapid population growth has been one of the main challenges confronting developing countries. How can a country that can barely feed its existing population hope to prosper when there are so many new people every year? Reverend Thomas Malthus was among the first to recognize this challenge when in his 1798 *Essay on Population*, he put forth the hugely influential pessimistic view that population growth, powered by an irrepressible passion between the sexes, tends to depress income growth. By contrast, and more recently, others (such as Julian Simon and Esther Boserup (1965)) have suggested that population growth can actually promote economic development by spurring technological innovation. Still another group maintains that there is no overall effect of population growth on economic growth.

In the last few years, however, new research has revived and substantially extended a nearly forgotten idea first asserted more than 50 years ago: Although population growth per se may have no net effect on economic growth, the specific manner in which population grows—and, in particular, the changes in age structure that accompany population growth—can have, and has had, an enormous effect. For a prototypical country, the argument runs as follows:

The country starts out with high fertility and mortality rates. Many babies are born, but a large number of them die; there is also widespread sickness and early death among the general population. As advances in public health reach the general population, mortality rates fall, especially among infants and children who increasingly survive when earlier they might have died. After a period of time, as they realize their children are more likely to survive, couples choose to have fewer of them. This process can be encouraged and reinforced by family planning, education development, and other improvements in living standards. If medical advances are accompanied by economic growth, moreover, working opportunities for women become more widespread and the opportunity cost of having children therefore increases. The experience of different regions in the second half of the 20th century shows that the time lag between the onset of the fall in mortality rates and the corresponding decline in fertility rates can occur within widely different time frames, from 15 years upwards.

The initial fall in mortality rates creates a “boom generation,” in which there are more people than in earlier generations because survival rates are higher. When fertility rates fall, the boom stops, but the age structure of the population then shows a “bulge” that is created by the non-synchronous falls in mortality and fertility. The bulge is particularly pronounced if the period between mortality and fertility decline is short, as it was in East Asia, for example. The bulge works its way through the age structure and, for a period of time, the share of the population that is of working age (generally taken to be 15-64) can be significantly higher than it was previously and than it will be in the future.

These age structure effects are temporary and dissipate as the baby boom generation eventually ages, but they do provide an often-lengthy window of opportunity for rapid economic growth. While this large cohort of people is of working age, there are, by historical standards, relatively few young and elderly people. This expansion in the relative size of the working-age population corresponds to an expansion of the per capita productive capacity of the economy, creating the potential to heighten the pace of economic growth. Moreover, because people save most during their working years, the relatively large size of the working-age population will likely result in increased savings rates, providing a further long-term stimulus.

In addition, there are behavioral effects; for example, having fewer children can boost women’s participation in the labor force, and allows economic resources to be redirected from meeting the basic needs of a large cohort of children to providing higher levels of capital, education, and health per child, increasing future productivity and income levels.

This recent shift in focus from growth in total population numbers to changes in population age structure represents something of a watershed in academic thinking on population issues. Earlier work based only on the overall growth of population suffered from a basic flaw. Population growth (in an economy with no net migration) is the difference between the birth rate and the death rate. A country can reduce its population growth rate by reducing its birth rate or increasing its death rate, but these have very different effects on economic performance through their effect on age structure, since the effect of births is concentrated at the base of the population pyramid (i.e., age zero) while the effect of deaths is diffused throughout the pyramid (i.e., across the whole age range). Treating the two as symmetric (i.e., by just focusing on overall population growth) has turned out to be a fundamental mistake that led to an under-appreciation of the importance of demographic change and its potential effects on economic performance.

B. The importance of policy

The potential for a “demographic dividend” is not always realized; economic growth is not an automatic outcome of changes in the population structure. A large working-age population requires a matching demand for labor if the demographic dividend is to be enjoyed. Without appropriate policies the extra labor supply can result in unemployment or underemployment, with political instability, elevated rates of crime, and the deterioration of social capital a possible further consequence.

The key determinants of whether a country will capitalize on its demographic opportunity are how flexible the economy is and how far it is able to absorb a rapidly increasing labor force.

Well-chosen, effectively implemented policies in these areas—education, engagement with the global economy, and labor—are essential complements of the dividend offered by the “demographic transition,” as this process of demographic change (from a period of high death and birth rates to low death and birth rates) is commonly known.

C. Reaping the dividend: Family planning and fertility reduction

Lowering birth rates is key to bringing about the demographic bulge and the economic bonus that can result. Family planning has been a central area of effort for many countries that want to lower their birth rate and make their societies more manageable, but in recent years the actual and projected rate of world population growth has shown signs of moderation and family planning has slipped off many international policymakers’ radar screens.

Several factors are responsible for declines in fertility. One is human development itself. As infant and child health improves, and as people’s incomes rise, couples tend to choose to have fewer children. This process takes place to a significant extent without any governmental action, as couples perceive that fewer births are required to hit family size targets, and as improving economic conditions favor small families—fewer children with more invested in their health and education tend to do disproportionately better than many children with little investment, while the opportunities for women to participate in work rather than child-rearing increase. Probably the best-known and certainly most pithy summary of this view comes from the former Indian Minister of Health Karan Singh, who is reported to have said, “Development is the best contraceptive”.⁴

⁴ Recently, however, Mr. Singh backtracked a bit, offering yet another intriguing one liner: “Contraception is the best development”.

D. Conclusion

People's economic needs and contributions vary over the life cycle (youth dependency, prime working ages, and elderly dependency). Working-age people support young people, both within families and by virtue of what society as a whole spends on them and invest in facilities for them. Working-age people also provide support for the elderly, although in many cases, the elderly engage in productive economic activities. These patterns form the basis for powerful links between demographics and economics — links that hinge critically on the economic implications of the age structure of the population.

Most importantly, as the demographic transition unfolds, the share of working-age people in the population increases and subsequently decreases. Since the economic needs and the labor potential of working-age people are different from the needs and potential of youth and the elderly, the increased share of working/saving-age people opens the door to possible economic benefits.

However, the positive links from demographic change to economic change are not automatic. Age structure changes just create the potential for economic shifts. Whether that potential is realized depends on the policy environment. Well-chosen policies in the areas of education, labor, trade, and governance can be key in allowing a country to benefit from changes in its age structure. Government can also take measures (such as public health improvements and greater access to family planning) to catalyze and speed up demographic change.

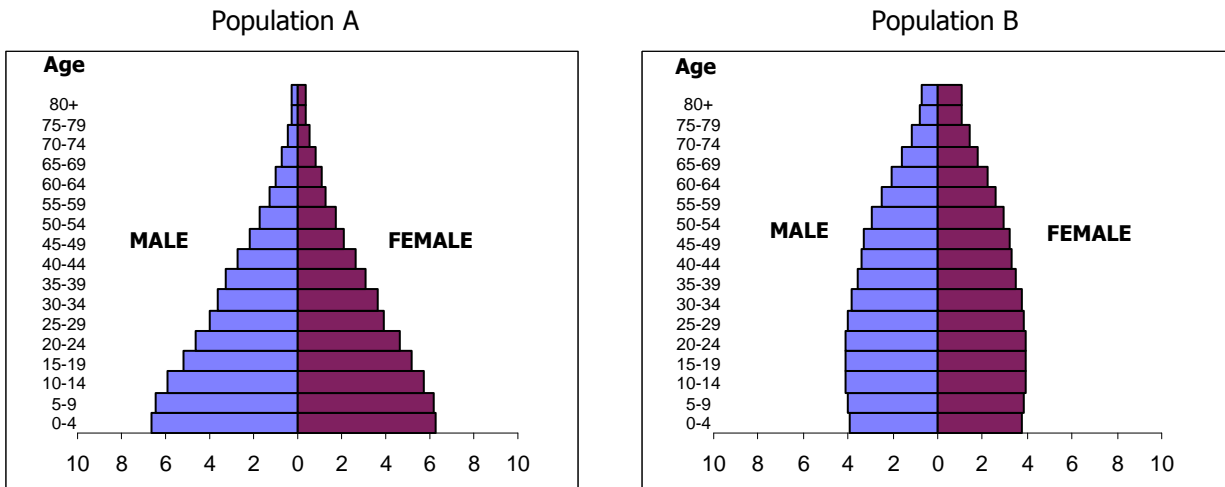
There are also reverse links; that is, economic development affects demography. Typically, income growth leads to a decline in mortality. It leads to even greater fertility decline, both because parents who are earning more implicitly assign a higher value to their time (so it becomes more costly to spend time with children) and choose to invest more of their resources in fewer children. This reverse link magnifies the effect of the initial decline in mortality and fertility. Thus, countries can experience a virtuous spiral of cumulative causality, in which demographic and economic developments feed back positively on each other.

The interactions discussed in this paper apply, at least, potentially, to all countries as they undergo a demographic transition. Countries are at very different phases in this transition. Some have already seen huge economic benefits arising from demographic change, others are in a position to benefit but for lack of good policies have not yet been able to, and for still others the potential economic benefits lie ahead.

Source:

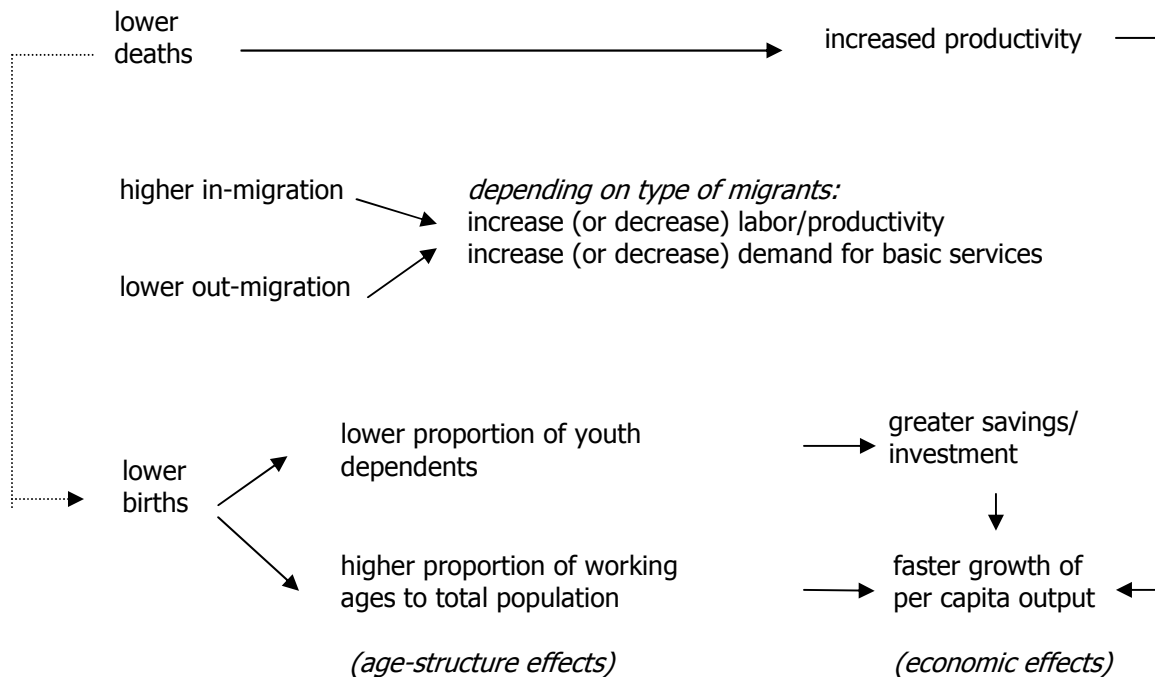
- Bloom, David and D. Canning. (2003). How Demographic Change Can Bolster Economic Performance in Developing Countries. *World Economics*, 4 (4), 1-14.

• **DIAGRAM B. Population Pyramids**



Source: hypothetical data

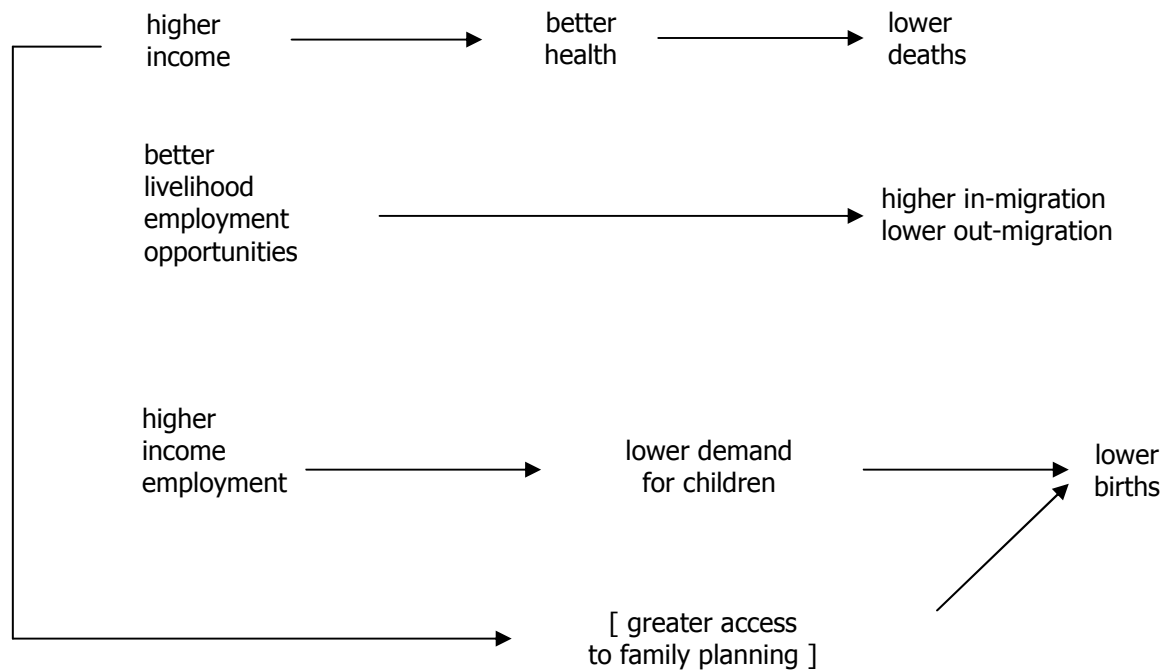
DIAGRAM C. How the Population Affects the Economy



Source:

- Herrin, Alejandro. (2006). *Population and Development: Concepts and Interrelationships* [PowerPoint Slides].

Diagram D. How the Economy Affects Population



Source:

- Herrin, Alejandro. (2006). *Population and Development: Concepts and Interrelationships* [Power-Point Slides].

POPULATION, HUMAN CAPITAL, AND DEVELOPMENT

By: Lydia Curaza, Rhena Amor Dinerman and
Emmanuel Descallar

Suggested

Time Frame : 3 Hours
(1 hour per lesson)
Subject Area : Economics, Sociology,
Social Science,
Religious Education
Year Level : 3rd or 4th Year College

LEARNING COMPETENCIES

1. Deepen understanding of the interrelationships between population processes and human capital formation
2. Invest in human capital for the development of human potential to its fullest extent
3. Appreciate the need to develop human potential to the fullest
4. Establish the relationship between population, human capital, and poverty

OBJECTIVES

The students are expected to:

1. Analyze the relationships between population processes and human capital formation
2. Discuss human capital formation in the context of human development
3. Point out the significance of developing human potential to the fullest
4. Establish the relationship between human capital formation and poverty
5. Gain understanding of the Church's teaching regarding preferential option for the poor

LEARNING CONTENT

Concepts

1. The age-sex composition and growth of population affect the formation of human capital in reference to health, education, training, and migration
2. Investments in human capital increase productivity and enhance the development of human potential
3. Human potential affects human development or well-being
4. The curtailment of human development leads to poverty
5. Population affects poverty through its effect on human capital
6. The Catholic Church advocates implementation of programs promoting preferential option for the poor

Skills

1. Reasoning
2. Analyzing
3. Critical thinking

Values

1. Open-mindedness
2. Understanding
3. Sense of social responsibility
4. Gratefulness
5. Productivity

Prerequisite knowledge

1. Population processes of births, deaths, and migration
2. Age-sex composition
3. Human capital

LEARNING RESOURCES

References

- Corner, L. (1992). Human Resources. Lecture Notes, Australia: National Centre for Development Studies, Graduate Program in Demography.
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Websites

- Brown, G. (2009). *Speech by the Prime Minister Gordon Brown of Great Britain at St. Paul's Cathedral on the opening of the G-20 Summit in London*. Retrieved from <http://www.number10.gov.uk/Page18858>
- Capability approach. (n.d.). Retrieved April 30, 2009, from Capability approach Wiki: http://en.wikipedia.org/wiki/Capability_approach
- Economic development. (n.d.). Retrieved June 1, 2009, from the Economic development Wiki: http://en.wikipedia.org/wiki/Economic_development

Materials

Activity Sheet 1: Population Pyramids
 Student Reader 1: On Human Resources and Human Capital
 Student Reader 2a: Human Capital Formation, A Lifelong Process
 Student Reader 2b: Life Cycle Perspective of Services Needed for Human Capital Formation
 Student Reader 3: Economic Growth in Developing Countries: Education Proves Key
 Student Reader 4: Population and Resources
 Activity Sheet 2: Hypothetical Conditions Relating to Human Capital
 Student Reader 5: Economic Growth and Development
 Student Reader 6: Capability Approach to Human Development
 Diagram A: The Development Process
 Student Reader 7: Parable of the Talents
 Student Reader 8: Population and the Fight Against Poverty
 Activity Sheet 3: Recommendations for Poverty Alleviation
 Student Reader 9: A Call for Shared Values at the G-20 Summit of 2009

LESSON 1: Population Processes and Human Capital Formation

LEARNING ACTIVITIES

Preparation

IMPORTANT: This module assumes that the students have already taken up the lessons in the **High School module: Population and Human Capital** and in the **College module: Population and Economic Growth**. If they have not, it is necessary that the concepts and the readers given in those modules be introduced to, and studied by, the class prior to this lesson.

- Post the two pictures (population pyramids) of **Activity Sheet 1** on the board. Divide the class into two groups. Ask each group to select a moderator, a secretary, and a reporter. Assign the first group to discuss and report on the demographic profile of Population A and the second group on the demographic profile of Population B based on the age-sex distribution depicted in their respective pyramids. By comparing the two pyramids, each group should be able to discuss and report on the following characteristics of the population assigned to them:
 - a) population growth rate (whether high or low/declining)
 - b) fertility and mortality rates (whether high or low/declining)
 - c) age structure (whether a “young” or “aging” population)
 - d) child, old-age and total dependency ratios (whether high or low)
 - e) sex ratios (predominance of males or females) at youngest and oldest ages
- After discussion, ask the reporter of each group to present to the class the result of their discussion.

From a comparative perspective, the demographic profiles of the two populations would be as follows:

Population A

High growth rate
High fertility
High or declining mortality
Young population
High child dependency ratio
Low old-age dependency ratio
High total dependency ratio
More males than females at youngest ages

Population B

Low/declining growth rate
Low/declining fertility
Low mortality
Aging (or old) population
Declining child dependency ratio
High/increasing old-age dependency ratio
Low total dependency ratio
Predominantly more females than males at oldest ages

- Answer questions and resolve issues arising from the presentations.
- Distribute **Student Readers 1** to **4** and give the students time to read them.
- After the students have read **Student Readers 1-4**, ask the following questions:

What is human capital formation?

It is the process of enhancing the quality or productive capacity of human labor.

What are the various types of investments on human capital?

Investments on health, nutrition, education, skills training, and migration

At what point in the life cycle should investments on human capital be made?

Human capital formation is a life-long process. It starts at conception and continues throughout the life course. However, investments on health, nutrition, and education are most critical during childhood because these investments will continue to yield benefits from childhood until late adulthood. (see, e.g., Gultiano and King, 2006)

Development

- Divide the class into four groups. Tell the class that each group will do a role-play based on the four scenarios given below.
- Explain each scenario clearly to the class. Instruct the groups that they will do role-playing depicting two time periods, namely: 1) the *present* family situation as described in the scenarios below, and 2) the situation of the family (and its members) *20 years hence*.

Scenario A-1: Assume the case of Population A as illustrated in the pyramid shown earlier. A “young” population means high fertility. In this population, poorer households generally have higher fertility compared to the more affluent households. Assign Group 1 to do a role-play about a family with six children and how this family would address the need of investing on **health** and **nutrition** for their six children as well as the other members of the family. The group should demonstrate how/where the family would obtain the resources to meet this need. After demonstrating this situation, the group should also demonstrate what the children’s and

the family's situation would be in 20 years time, contingent on how well the family has coped with their health and nutrition needs in the past.

Scenario A-2: Assume the same scenario as in A-1, but assign Group 2 to role-play on the need to invest on **education** and **skills training** for six children and the other members of the family. Group 2 should also portray strategies for meeting this investment need and show what the resulting family situation would be 20 years after.

Scenario B-1: Assume the case of Population B as illustrated earlier. An "aging" population means low fertility. It also means that households generally have lower child dependency burden and more family members of working ages. Assign Group 3 to do a role-play about a family with two children and how this family would go about investing on the **health** and **nutrition** of these children. Group 3 should also show the situation of this family 20 years hence.

Scenario B-2: Assume the same household demographics as in Scenario B-1. Assign Group 4 to portray the family's strategy for investing on the **education** and **skills training** of the two children and other members of the family. Group 4 should also portray the family's situation after 20 years.

Note: According to economists, **migration** can also be viewed as an investment on human capital. In the scenarios given above, migration can be used as a means of accessing better health care, education, training and job opportunities; these all lead to improvements in productivity, earnings, living conditions, and well-being.

- After preparing for the role-play, let each group give their respective presentations.
- Summarize key points/messages delivered in each presentation.

Closure

- Ask the students to fill out **Activity Sheet 2** below. The responses on this sheet can help assess what the students have learned from the presentations. Responses in the last column will serve as a transition to the succeeding lesson on human development in the next meeting.

ACTIVITY SHEET2: Hypothetical conditions relating to human capital

What if you...	What do you think your occupation and monthly salary would be at age 30?	How would you feel about yourself then?
...had dropped out of school after elementary		
...had a Masters degree in Economics		
...had tuberculosis		
...suffered from severe depression		
...were a computer expert		
...were a multi-awarded musician		

- Collect the questionnaires.
- Distribute **Student Readers 5** and **6** as reading assignments for the next meeting.

LESSON 2: Human Capital and Development

LEARNING ACTIVITIES

Preparation

- Review lessons learned from the previous meeting by asking the following:

What investments are needed for human capital formation?

Investments on health, nutrition, education, and skills training

(Migration may be mentioned, however, it is not a necessary investment for human capital formation.)

Why is it necessary to invest in human capital?

To improve the quality of the labor force and enhance productivity (earnings) of individuals

What is the result of increased productivity for the country?

Economic growth

What do education, good health, proper training, and increased productivity do to a person's well-being?

Increases well-being

For contrast, ask also:

What do lack of education, poor health, lack of skills, and low productivity do to a person's well-being?

Decreases well-being

- Give illustrations of increased well-being by reading some of the answers that the students gave in the answer sheets they filled out during the last meeting. Next, give examples of decreased well-being from the same answer sheets.
- Explain to the class that the concept of "development" extends beyond mere economic growth; it includes various aspects of human development or welfare.

Development

- Ask a volunteer to read a description of human development according to Sen's capabilities approach as articulated by Herrin (2005) below:

Development is the sustained capacity to achieve a better life.

Better life, includes:

- length of life
- quality of life that people succeed in living

Quality of life involves:

- capability to do
- capability to be

Underlying these capabilities is the freedom of choice (freedom “to do” and “to be”).

Hence development is also about expanding the range of choices.

Capability “to do” and “to be” includes:

- a) to be free from premature death (reduced mortality)
- b) to be free from preventable illness (reduced morbidity)
- c) to be well-nourished (improved nutritional status)
- d) to be able to communicate ideas and feelings (increased literacy)
- e) to be knowledgeable and skillful (increased education and training)
- f) to be free from physical harm (improved security)
- g) to do productive and rewarding work (increased employment)
- h) to enjoy nature in its pristine form (improved environmental protection)
- i) to enjoy interaction with friends, family, and other members of the community (reduction of stigma related to certain diseases)
- j) to migrate to take advantage of economic and social opportunities (productive migration)
- k) to bear and rear children (achievement of desired fertility)

- Lead the students to a discussion of how these capabilities are affected by the formation of human capital (health, nutrition, education, training, and migration). Emphasize that in order to achieve human development, human capital investments are imperative.
 - Point out to the class that human development (the capability “to do” and “to be”) means developing human potential to the fullest extent. Thus, human capital formation is a prerequisite for the full development of human potential.
 - Show **Diagram A** to the class. Trace the effects of human capital formation on employment and earnings, and on the consumption and well-being of individuals and households. Note also that population influences well-being (or human development) because it affects productive resources, productivity and income, and the consumption of goods and services. Note further that the interactions between population, resources, productivity, and welfare are affected by the policy environment and the quality of institutions. Good governance and good policies facilitate positive influences that bring about well-being.
5. Ask the class to form five groups. Each group should select a moderator, a secretary, and a reporter from among its members. Each group will draw by lot a case/scenario that they will discuss, analyze, and report about.

The cases to be drawn by lot are as follows:

- a) A population with high fertility and rapid population growth
- b) A population with declining fertility and slow population growth
- c) A population with high child dependency burden
- d) A population with a high proportion of people in the working age
- e) A population experiencing heavy out migration of professionals and skilled workers

- Instruct the groups to trace the effect of their particular demographic scenario on people's well-being (or human development) by tracing the concept map as illustrated in **Diagram A**.
- After giving the groups time to discuss and analyze their respective cases, ask the reporter of each group to present the result of their analysis to the class. Encourage further class discussion after each presentation.

The group analyses should give detailed elaboration on the following hypothesized relationships:

a) Higher fertility and rapid population growth would put a strain on resources including the formation of human capital. This would lead to lower productivity and income, which in turn results in reduced consumption of goods and services, and ultimately, reduced well-being.

b) Declining fertility and slower population growth would have the opposite effect of a) above, that is, low fertility and growth will allow for increased inputs in production, including improvements in human capital, which then lead to increased productivity and income, and the consumption of goods and services. Well-being is then increased.

c) The effect of high child dependency burden on well-being is mediated in the same way as in a) since high child dependency burden is the result of high fertility.

d) The effect of a high proportion of working-age population on well-being is similar to that of b) since declining fertility will cause the child dependency burden to decrease and the working-age population to swell, thus promoting employment and productivity and, subsequently, increased consumption and well-being. A caveat in this case however is that the right policies (for human capital formation and labor absorption/employment generation) must already be in place.

e) Heavy out migration or emigration of professionals and skilled workers can have a dual effect on well-being. A negative effect may result if the exodus of professionals and skilled workers means depriving the population of a quality labor force (especially if these professionals are mainly responsible for human capital formation such as those in the medical and teaching professions). A positive effect may result if these migrant professionals and workers contribute to investments in human capital at the household and macro levels through the remittances that they send. Whether the net effect is positive or negative has yet to be ascertained.

Closure

- On a sheet of paper, tell the students to write a paragraph about how their parents (or guardian) have invested in developing their human potentials. Tell them to express appreciation by describing what they have become now and hope to become in the future.
- End the session by having someone read **Student Reader 7: The Parable of the Talents** to the class. Give the students a minute to reflect on the reading.
- Distribute **Student Readers 8** and **9** as reading assignments for the next meeting.

LESSON 3: Population, Human Development, and Poverty

LEARNING ACTIVITIES

Preparation

- Review the lessons learned in the last meeting by asking the following questions:

How can improvements in human capital be achieved?

By investing on health, nutrition, education, and training

What is the result of investments on human capital?

Economic growth and human development (well-being)

How may one gauge the extent of human development?

By examining the range of people's choices, that is, their capability "to do" and "to be"

- Allow the students to elaborate on the "capabilities approach" to measuring human development.

Ask: How would you commonly refer to the people who are deprived of human development?

The poor

Ask: What is one reason why the poor are lacking in human development?

Lack of investment in human capital

Development

- Give the class a definition of poverty from the perspective of entitlements and capabilities, i.e.,

Poverty means:

- 1) the lack of entitlements as measured by the level of consumption of:
 - a) goods and services bought from current money income or produced by the household in kind, and
 - b) goods and services provided for free or received as gifts.
- 2) capability deprivation as measured in terms of indicators of well-being discussed above.

(Source: Herrin, Alejandro. (2005). *Population, Health, Poverty, and Local Governance* (PowerPoint slides)).

- Remind the class of **Diagram A** by posting the diagram on the board.
- Review how poverty (lack of well-being) comes about by tracing the concept map. Ask volunteers to explain:
 - a) how production/employment (or lack thereof) can result in poverty (i.e., low consumption of goods and services and lack of well-being)
 - b) how human capital causes (or perpetuates) poverty
 - c) how population factors cause (or exacerbate) poverty
- Tell the students that they can also use **Student Reader 8** as aid in their analysis.
- Distribute **Activity Sheet 3**. For each of the explanations given above, ask the students to write their recommendations on how to mitigate the effect of these various factors on poverty. Recommendations may be applied at the micro (individual or household) level or at the macro (societal) level. Policy recommendations at the community or country level are encouraged.

ACTIVITY SHEET 3: Recommendations for Poverty Alleviation

Poverty resulting from:	Strategies at the micro level	Strategies at the macro level
Production and employment		
Human capital formation		
Population factors		

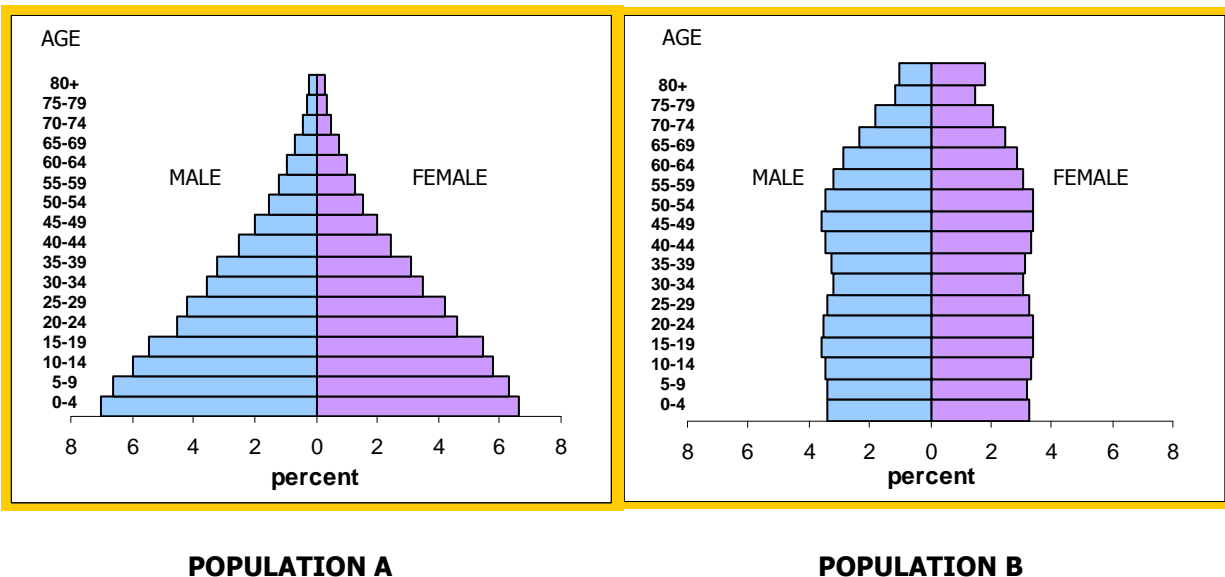
- Ask a few volunteers to read what they wrote on their activity sheet.
- Collect **Activity Sheet 3**.
- Tell the class that being mindful of, and focusing one's attention to, the plight of the poor, and finding means of alleviating their condition is a way of responding to the Church's teaching on the "preferential option for the poor." This teaching asks that we view the world from the perspective of the poor, and help find ways for them to be heard, protected, and given the opportunities to reach their full potential. Stress that human capital formation targeted on the poor is an important means toward this end.
- Ask someone to read aloud **Student Reader 9** to the class. This is a good example of how "preferential option for the poor" should be promoted globally in light of current international developments.

Closure

- Ask the students to reflect on the messages written in **Student Reader 9**. Tell them to write a brief reaction paper on the Reader.
- Collect and check the papers.

ATTACHMENTS

• ACTIVITY SHEET 1: Population Pyramids



Source: hypothetical data

• STUDENT READER 1: On Human Resources and Human Capital

A resource is defined in economics as a relatively scarce factor of production. This implies that something only becomes a resource when it is involved in, or at least has the potential for involvement in, production. Note that the characteristic of relative scarcity gives a resource a price and distinguishes the economic use of the term resource from its everyday meaning.

The concept of human beings as a resource implies a concern with their role as an **input** into the development process. It therefore implies a supply-sided approach to the role of human beings in development.

If human resources are regarded as an input into the development process, the quality of those human resources can be regarded as a **capital good, human capital**.

[A capital good is a good that has itself been produced and possesses reproductive power that can be used in the production of other goods. Thus a capital good is a factor of production that has been produced at some cost and is subject to depreciation (loss of value) with use (for example due to wear and tear or obsolescence). **Capital Formation** is the process of producing/creating new capital.]

In this case, expenditure decisions about, say, health or education would be regarded as human capital formation, the process of changing the quality or productive power of human labour.

Human capital formation is affected by decisions about:

- health and nutrition, in so far as these affect education or employment and productivity;
- education, in so far as it affects employment and productivity; and
- migration, in so far as it affects education and employment.

In standard neoclassical economic theory, individuals' decisions about these matters may be regarded as investments. [An investment is an expenditure on a capital good that is made in order to obtain future return (benefit).]

The essence of human capital theory is the idea that many types of personal expenditure are undertaken, not for the present enjoyment of the individual making the expenditure, but for the sake of future returns. It is this future orientation that justifies the use of the terms 'capital' and 'investment' in relation to human resource development.

In this view, certain expenditures on education, health, migration, job search, in-service training, etc., may be regarded as investment undertaken to increase the future earnings of the individual or the future gains to the economy.

Source:

- Corner, Lorraine. (1992). Human Resources. Lecture Notes, Australia: National Centre for Development Studies, Graduate Program in Demography.

- **STUDENT READER 2a: Human Capital Formation, A Lifelong Process**

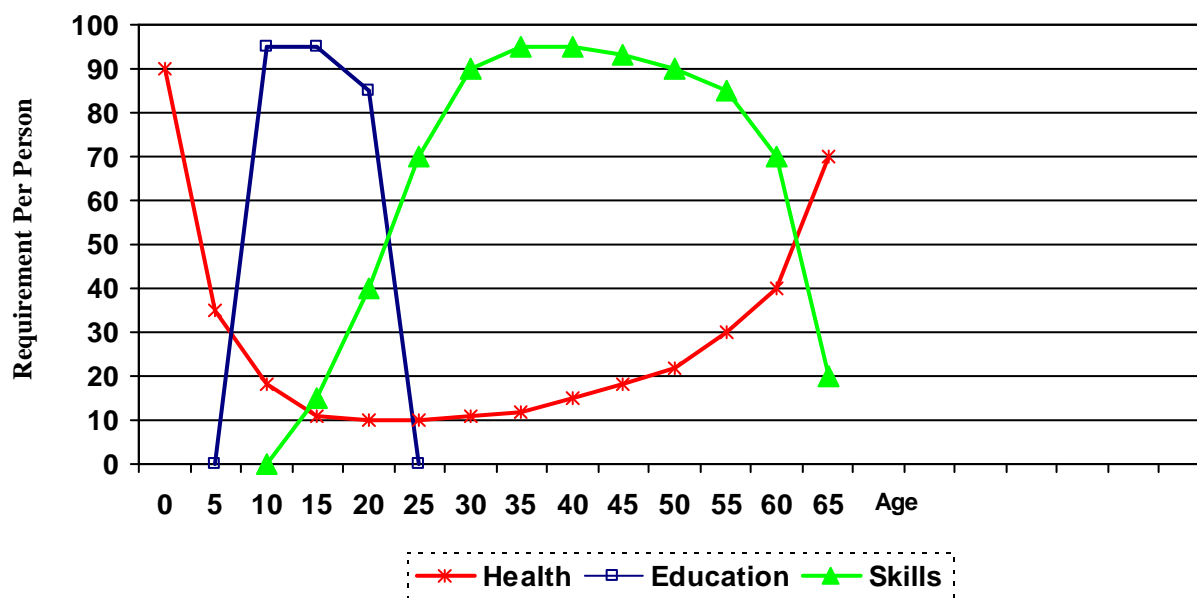
Human Capital includes health, education, and skills of persons that affect their productivity and the development of their full potentials. Human capital formation is a lifelong process. Early childhood development in terms of proper nutrition, good health, and cognitive and psychosocial development are needed to facilitate learning in school and to enhance economic productivity (earnings) and maintain good health in later life. Adult learning enables workers to continually upgrade their skills to meet the changing needs of business and industry, and to help advance their own careers and learning potentials. Education is life long; education for everyone — males and females, from toddlers to workers — is an important investment that must be provided by, and for, individuals and society as a whole. It has been recognized that lifelong learning is a primary factor to knowledge diffusion and productivity growth. Numerous studies have documented the rising value of human capital in the global economy. Today, most employers require workers to learn skills throughout life. And in order to facilitate learning and remain productive throughout the adult years, it is equally important to maintain good health.

By: Aurora Nocellado

- **STUDENT READER 2b: Life Cycle Perspective of Services Needed for Human Capital Formation**

Because people's needs vary at different stages of life, changes in age composition within the household or society as a whole represent changing requirements, opportunities, and constraints for the family's and country's development, respectively. If viewed from an aggregate perspective (i.e., as a collection of people in the household or in society as a whole), the graph below depicts the intensity of service requirements for health, education, and employment over the life course. If there are more children (in a family or society) than older people, health and basic education requirements need to be prioritized; if the youth and young adults predominate (as in the case of a society that is transitioning from a "young" population to an "old" population), tertiary education, skills training, and job generation are crucial, even as young childbearing women also require maternal health care; when older people predominate, health care and social security (including retirement benefits) must be adequately provided.

By: Aurora Nocellado



Source: Herrin. (2007). Adapted from Corsa and Oakley. (1971)

• **STUDENT READER 3: Economic Growth in Developing Countries: Education Proves Key**

New research proves the long held expectation that human capital formation (a population's education and health status) plays a significant role in a country's economic development. Better education leads not only to higher individual income but is also a necessary (although not always sufficient) precondition for long-term economic growth.

Investment in secondary education provides a clear boost to economic development, much more than can be achieved by universal primary education alone. Hence the current focus of the United Nations Millennium Development Goals on universal primary education is important but insufficient. University primary education must be complemented with the goal of giving broad segments of the population at least a completed junior secondary education.

Only broad based secondary education and universal primary education is likely to give poor countries the human capital boost necessary to bring large segments of the population out of poverty. For more industrialized countries, tertiary education of younger adults also plays a key role in economic growth.

For international policymakers, more and better education should become the top priority because it empowers the people to help themselves and thus helps to improve governance and to reduce corruption. A concerted effort for much more primary and secondary education combining national and international forces would appear to be the most promising route out of poverty and toward sustainable development.

Source:

- International Institute for Applied Systems Analysis (IIASA). (2008). Economic Growth in Developing Countries: Education Proves Key. *Policy Brief*, 3, 1.

• STUDENT READER 4: Population and Resources

Labour

Where a population is increasing, then the supply of labour can also be expected to increase. An increase in the numbers of workers in a sparsely populated region may bring economic advantages, but if a country is poor, and land and capital are scarce, unemployment and under-employment may result.

In the 1960s, econometric studies showed that inputs of labour and capital explained only a relatively small part of economic growth. There was an increasing emphasis on human resources, particularly on human capital investments in health and education. Three main benefits can be seen: an improved quality of life, higher productivity, and lower fertility and mortality.

Improvements in the quality of the labour force can arise from better education and training, migration to places where workers are needed, and better health services so that the worker is sick less often and lives longer. Although a developing country may have a large quantity of people in the labour force, it may lack quality. If workers with special skills or training are in short supply, then these shortages can cause bottlenecks which check the expansion of the economy.

Source:

- Meyer, P. and D. Lucas. (1994). Population and Resources. In Lucas and Paul Meyer (Eds.), *Beginning Population Studies* (2nd ed.). Australia: National Centre for Development Studies, Australian National University.

• ACTIVITY SHEET 2: Hypothetical Conditions Relating to Human Capital

What if you...	What do you think your occupation and monthly salary would be at age 30?	How would you feel about yourself?
...had dropped out of school after elementary		
...had a Masters degree in Economics		
...had tuberculosis		
...suffered from severe depression		
...were a computer expert		
...were a multi-awarded musician		

• STUDENT READER 5: Economic Growth and Development

Economic Growth vs. Economic Development

Economic development refers to **social** and **technological progress**. **Economic growth** is often assumed to indicate the level of economic development. The term "economic growth" refers to the increase (or growth) of a specific measure such as real national income, gross domestic product, or per capita income. National income or product is commonly expressed in terms of a measure of the aggregate value-added output of the domestic economy called gross domestic product (GDP). When the GDP of a nation rises economists refer to it as economic growth.

The term economic development on the other hand, implies much more. It typically refers to improvements in a variety of indicators such as literacy rates, life expectancy, and poverty rates. GDP is a specific measure of economic welfare that does not take into account important aspects such as leisure time, environmental quality, freedom, or social justice. Economic growth of any specific measure is not a sufficient definition of economic development.

Source:

- Economic development. (n.d.). Retrieved June 1, 2009, from the Economic development Wiki: http://en.wikipedia.org/wiki/Economic_development

• STUDENT READER 6: Capability Approach to Human Development

The **Capability Approach** (a.k.a. **Capabilities Approach**) began life in the 1980s as an approach to **welfare economics** in which **Amartya Sen** tried to bring together a range of ideas that were hitherto excluded from, or inadequately formulated in, traditional approaches to the economics of welfare. Initially Sen argued for the importance of real freedoms in the assessment of a person's advantage, individual differences in the ability to transform resources into valuable activities, the centrality of the distribution of welfare within society, the multi-variate nature of activities that give rise to happiness, and against excessive materialism in the evaluation of human welfare. Subsequently, and in collaboration particularly with political philosopher **Martha Nussbaum**, development economist **Sudhir Anand** and economic theorist James Foster, Sen has helped to make the Capabilities Approach predominant as a paradigm for policy debate in human development where it inspired the creation of the UN's **Human Development Index** and a preferred framework for discussing equality of opportunity especially with respect to gender equity.

The approach emphasizes functional capabilities ("substantive freedoms", such as the ability to live to old age, engage in economic transactions, or participate in political activities); these are construed in terms of the substantive freedoms people have reason to value, instead of **utility** (**happiness**, desire-fulfillment or **choice**) or access to resources (**income**, commodities, **assets**). Poverty is understood as capability-deprivation. It is noteworthy that the emphasis is not only on how human beings actually function but on their having the capability, which is a practical choice, to function in important ways if they so wish. Someone could be deprived of such capabilities in many ways, e.g., by ignorance, government oppression, lack of financial resources, or false consciousness.

This approach to human well-being emphasizes the importance of freedom of choice, individual heterogeneity and the multi-dimensional nature of welfare. In significant respects, the approach is consistent with the handling of choice within conventional **microeconomics consumer theory** although its conceptual foundations enable it to acknowledge the existence of claims, like rights, which normatively dominate utility based claims.

A. What Capabilities Matter?

Nussbaum (2000) frames these basic principles in terms of ten capabilities, i.e., real opportunities based on personal and social circumstance. This approach contrasts with a common view that sees development purely in terms of GNP growth, and poverty purely as income-deprivation. It has been highly influential in development policy where it has shaped the evolution of the human development index. **HDI** has been much discussed in philosophy and is increasingly influential in a range of social sciences.

The ten capabilities Nussbaum argues should be supported by all democracies are:

1. *Life*. Being able to live to the end of a human life of normal length; not dying prematurely, or before one's life is so reduced as to be not worth living.
2. *Bodily Health*. Being able to have good health, including reproductive health; to be adequately nourished; to have adequate shelter.
3. *Bodily Integrity*. Being able to move freely from place to place; to be secure against violent assault, including sexual assault and domestic violence; having opportunities for sexual satisfaction and for choice in matters of reproduction.
4. *Senses, Imagination, and Thought*. Being able to use the senses, to imagine, think, and reason--and to do these things in a "truly human" way, a way informed and cultivated by an adequate education, including, but by no means limited to, literacy and basic mathematical and scientific training. Being able to use imagination and thought in connection with experiencing and producing works and events of one's own choice, religious, literary, musical, and so forth. Being able to use one's mind in ways protected by guarantees of freedom of expression with respect to both political and artistic speech, and freedom of religious exercise. Being able to have pleasurable experiences and to avoid non-beneficial pain.
5. *Emotions*. Being able to have attachments to things and people outside ourselves; to love those who love and care for us, to grieve at their absence; in general, to love, to grieve, to experience longing, gratitude, and justified anger. Not having one's emotional development blighted by fear and anxiety. (Supporting this capability means supporting forms of human association that can be shown to be crucial in their development.)
6. *Practical Reason*. Being able to form a conception of the good and to engage in critical reflection about the planning of one's life. (This entails protection for the liberty of conscience and religious observance.)
7. *Affiliation*.
 - a. Being able to live with and toward others, to recognize and show concern for other human beings, to engage in various forms of social interaction; to be able to imagine the situation of another. (Protecting this capability means protecting institutions that constitute and nourish such forms of affiliation, and also protecting the freedom of assembly and political speech.)
 - b. Having the social bases of self-respect and non-humiliation; being able to be treated as a dignified being whose worth is equal to that of others. This entails provisions of non-discrimination on the basis of race, sex, sexual orientation, ethnicity, caste, religion, national origin, and species.
8. *Other Species*. Being able to live with concern for and in relation to animals, plants, and the world of nature.

9. *Play*. Being able to laugh, to play, to enjoy recreational activities.

10. *Control over One's Environment*.

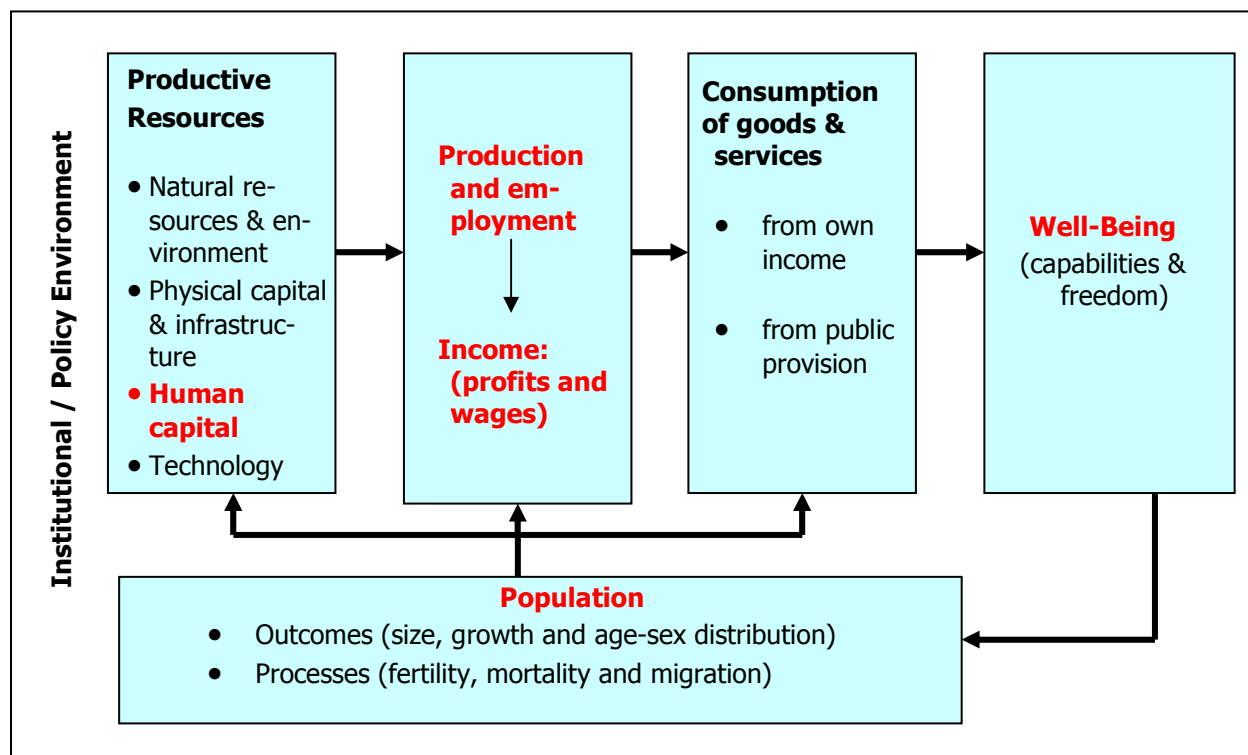
- a. *Political*. Being able to participate effectively in political choices that govern one's life; having the right of political participation, protections of free speech and association.
- b. *Material*. Being able to hold property (both land and movable goods), and having property rights on an equal basis with others; having the right to seek employment on an equal basis with others; having the freedom from unwarranted search and seizure. In work, being able to work as a human being, exercising practical reason and entering into meaningful relationships of mutual recognition with other workers.

Source:

- Capability approach. (n.d.). Retrieved April 30, 2009, from Capability approach Wiki: http://en.wikipedia.org/wiki/Capability_approach

• **DIAGRAM A. The Development Process**

A Simple Framework of the Development Process



Source: Herrin, 2005

• **STUDENT READER 7: Parable of the Talents**

For it is just like a man about to go on a journey, who called his own slaves and entrusted his possessions to them. To one he gave five talents, to another, two, and to another, one, each according to his own ability; and he went on his journey. Immediately the one who had received the five talents went and traded with them, and gained five more talents. In the same manner the one who had received the two talents gained two more. "But he who received the one talent went away, and dug a hole in the ground and hid his master's money.

Now after a long time the master of those slaves came and settled accounts with them. The one who had received the five talents came up and brought five more talents, saying, 'Master, you entrusted five talents to me. See, I have gained five more talents.' His master said to him, 'Well done, good and faithful slave. You were faithful with a few things, I will put you in charge of many things; enter into the joy of your master.'

Also the one who had received the two talents came up and said, 'Master, you entrusted two talents to me. See, I have gained two more talents.' His master said to him, 'Well done, good and faithful slave. You were faithful with a few things, I will put you in charge of many things; enter into the joy of your master.'

And the one also who had received the one talent came up and said, 'Master, I knew you to be a hard man, reaping where you did not sow and gathering where you scattered no seed. 'And I was afraid, and went away and hid your talent in the ground. See, you have what is yours.'

But his master answered and said to him, 'You wicked, lazy slave, you knew that I reap where I did not sow and gather where I scattered no seed. 'Then you ought to have put my money in the bank, and on my arrival I would have received my money back with interest. 'Therefore take away the talent from him, and give it to the one who has the ten talents.'

For to everyone who has, more shall be given, and he will have an abundance; but from the one who does not have, even what he does have shall be taken away. 'Throw out the worthless slave into the outer darkness; in that place there will be weeping and gnashing of teeth.'

Source:

- Matthew 25:14-30

• **STUDENT READER 8: Population and the Fight Against Poverty (in the Philippines)**

A. Review of the country's demographic and poverty alleviation record

The demographic development of the country can be described in a couple of statements. There is slow decline in fertility. Slower in fact than most countries in the region, including Indonesia, which has a lower per capita income level and lower average educational achievement than us. The infant mortality performance, on the other hand, merely reflects our state of development in that it is lower than Indonesia because we have a higher per capita income than them and higher than Thailand because we have a lower per capita income than them.

In terms of our poverty alleviation record, meanwhile, only modest gains have been achieved in the last 15 years, with poverty declining from 44.2 percent in 1985 to 33.7 percent in 2000 or merely about 0.7 percentage points annually. In fact, the number of the poor has not been reduced but

instead has increased from 4.6 million in 1985 to 5.14 million in 2000. Moreover, the gains in poverty are only clear in urban areas where poverty declined by 14 percentage points from 1985 to 2000 compared to only four percentage points in rural areas. And finally, there has not been any improvement with regard to the aspect of income distribution as shown in the various measures of inequality.

B. Family size and poverty incidence

Invariably, poverty incidence is seen to be higher among those with larger family sizes. This empirical regularity is found everywhere in the world and for the Philippines, the data are shown in Table 1. Of course, a careful researcher would be quick to point out that what is depicted here is association, not causation. The rest of this *Notes*, however, will provide support to the hypothesis that apart from association, there is indeed causation.

Table 1. Philippine poverty incidence and family size

Family Size	Poverty Incidence			
	1985	1991	1997	2000
	44.2	39.9	31.8	33.7
1	19.0	12.7	9.8	9.8
2	20.0	21.8	14.3	15.7
3	26.6	22.9	17.8	18.6
4	36.4	30.1	23.7	23.8
5	42.9	38.3	30.4	31.1
6	48.8	46.3	38.2	40.5
7	55.3	52.3	45.3	48.7
8	59.8	59.2	50.0	54.9
9+	59.9	60.0	52.6	57.3

C. Population and poverty: links and evidence

There are three channels through which demographic changes affect poverty outcomes. These are the *growth*, *distribution* and *conversion* channels.

Growth channel. This refers to the impact of demographic changes on the level and growth of the average attainable well-being per person, usually measured in terms of average income. This can be likened to the impact of demographic changes on the “growth of the pie.” The impact of demographic changes on economic growth had been clearly demonstrated by the experience of East Asian countries and to a smaller extent by our neighboring countries. The rapid decline in fertility had created an opportunity for East Asian countries to grow faster. This is known in the literature as the “demographic bonus” and has contributed as much as one-half of recorded growth in Southeast Asia and about one-third in East Asia between 1965 to 1990.

The importance of the growth channel is clearly demonstrated in the case of the Philippines. In spite of its boom-bust economic growth record, it has been established that Philippine economic growth contributed a bigger proportion, compared to redistribution, to the decline in poverty incidence. Without this even tentative economic growth, therefore, our poverty alleviation record would have been substantially

poorer. Given the experience of our neighbors, we would, however, have achieved a more stable or even higher economic growth — and consequently a faster decline in poverty incidence — had we reduced our population growth.

Distribution channel. This refers to the impact of demographic changes on the distribution of income given the average attainable well-being per person. This can be construed as the impact of demographic changes on the “sharing of the pie.”

At the aggregate level, high fertility skews the distribution of income against the poor as shown in cross-country analyses. While there is still no direct evidence on this in the Philippines, it is not difficult to surmise that this is also true for the Philippines. As mentioned earlier, we have had a boom-bust economic growth in the last 25 years. This means a weak demand for labor. The supply of labor, on the other hand, grew rapidly given the continued high fertility and rapid population growth. Bringing these two together means a non-increasing or even declining level of real wages, which would redound to a shrinking share of labor—the main asset of the poor—in output.

At the household level, demographic changes like, say, additional children, may be said to affect the distribution of resources if they influence, for instance, the drive of households to generate resources. Research results show that the presence of additional children has no clear impact on the labor force participation of the father although the impact on that of the mother is clear: it declines as the mother usually decides to stop working. This contributes to the skewing of the distribution of resources against families with a large number of children.

Conversion channel. This refers to the impact of demographic changes on the conversion of the attainable well-being into actual well-being per person. This can be thought of as the impact of demographic changes on the “generation of actual personal well-being from the share of the pie.”

One of the main issues in this channel is whether the poor have larger families because they prefer to have large families. This has been used to explain results such as those shown in Table 1. If they do, then it would lower their well-being if government tries to convince them to adopt a smaller family size norm.

Evidence on access to family planning services and contraceptive prevalence rates, however, continuously show that the poor have poorer access and have lower contraceptive prevalence rates than richer households. Thus, they obviously have weaker control over their fertility compared to richer households as may be seen, for instance, in the higher level of unmet need among the poor. In addition, the difference between actual and desired fertility is also higher among the poor. Thus, unless the poor and the rich have equal abilities in controlling fertility, it would be erroneous to claim that the poor prefer to have large families.

It is also well-established that the poor invest less on the human capital of their children. Large family size has been shown to be a negative determinant of school participation among older children and education expenditure per child. It has also been known to be associated with poorer health and survival rates among children, and has been identified as the main mechanism of the inter-generational transmission of poverty. Finally, recent evidence shows that the vulnerability of households to economic shocks increases with larger family size. This means that households with larger families are less able to protect their attained well-being from the negative impacts of economic shocks.

Source:

- Orbeta, A. Jr. (2003). Population and the Fight Against Poverty. *Philippine Institute for Development Studies (PIDS) Policy Notes*, (2003-04).

• **ACTIVITY SHEET 3: Recommendations for Poverty Alleviation**

Poverty resulting from:	Strategies at the micro level	Strategies at the macro level
Production and employment		
Human capital formation		
Population factors		

• **STUDENT READER 9: A Call for Shared Values at the G-20 Summit of 2009**

The reason I have long been fascinated by Adam Smith who came from my home town Kirkcaldy is that he recognised that the invisible hand of the market had to be underpinned by the helping hand of society, that he argued the flourishing of moral sentiments is the foundation of the wealth of nations. So the challenge for our generation is whether or not we can formulate global rules for our financial and economic systems that are grounded in our shared values.

Now that people can communicate instantaneously across borders, cultures, and faiths, I believe we can be confident that across the world we are discovering that there is a shared moral sense. It is a sense strong enough to ensure the constant replenishment of that well of values on which we depend and which must infuse our shared rules.

And when people ask can there be a shared global ethics that will lie behind global rules, I answer that through each of our heritages, our traditions and faiths, there runs a single powerful moral sense demanding responsibility from all and fairness to all.

Christians do not say that people should be reduced merely to what they can produce or what they can buy - that we should let the weak go under and only the strong survive. No, we say do to others what you would have them do unto you.

And when Judaism says love your neighbour as yourself. When Muslims say no one of you is a believer until he desires for his brother that which he desires for himself. When Buddhists say hurt not others in ways that you yourself would find hurtful. When Sikhs say treat others as you would be treated yourself. When Hindus say the sum of duty is do not unto others which would cause pain if done to you, they each and all reflect a sense that we all share the pain of others, and a sense that we believe in something bigger than ourselves - that we cannot be truly content while others face despair, cannot be completely at ease while others live in fear, cannot be satisfied while others are in sorrow. We all feel, regardless of the source of our philosophy, the same deep moral sense that each of us is our brother's and sister's keeper.

Call it as Adam Smith did the moral sentiment, as Lincoln did the better angels of our nature, call it as Winstanley did the light in man, call it duty or simply conscience - it means we cannot and will not pass by on the other side when people are suffering and we have it within our power to help.

So I believe that we have a responsibility to ensure that both markets and governments serve the public interest, and to recognise that the poor are our shared responsibility and that wealth carries unique responsibilities too.

I know that there is one analysis which says we must seize the opportunity of this crisis to reject materialism in all its forms. But for me, the answer doesn't lie in asking people to forswear material things or giving up on aspiration for their futures, but instead in remembering what our pursuit of growth and prosperity was really all about, spreading freedom so that ever more people can live the lives they choose.

But it is no repudiation of wealth to say wealth should help more than the wealthy, no criticism of prosperity to say our first duty is to those without it, no attack on the life-long attachment I have had to aspiration to say each of us has a responsibility to ensure no-one is left behind.

Today we must reaffirm the age old truths about society that when those with riches help those without, it enriches us all, and the truth when the strong help the weak it makes us all stronger. But our meeting is only the start and world leaders only one part. I am still humbled by the memory of one of the protestor's signs I saw at the Make Poverty History rally in Edinburgh in 2005. It said "You are G8 we are 6 billion."

Source:

- Brown, G. (2009). *Speech by the Prime Minister Gordon Brown of Great Britain at St. Paul's Cathedral on the opening of the G-20 Summit in London*. Retrieved from <http://www.number10.gov.uk/Page18858>

PART II

Human Sexuality and Responsible Parenthood

THE MIRACLE OF LIFE

By: Amparo Requina

Suggested

Time Frame	: 1 hour and 20 minutes (40 minutes per lesson)
Subject	: Science
Grade Level	: Grade 5

LEARNING COMPETENCIES

1. Understand human reproduction
2. Appreciate the differences between male and female reproductive systems
3. Recognize the wonder of man/woman as God's creation

OBJECTIVES

The students are expected to:

1. Identify the parts of the male and female reproductive systems
2. Relate the structure of the male and female reproductive systems to the capacity to have babies
3. State that the human reproductive system is part of God's creation

LEARNING CONTENT

Concepts

1. Boys and girls vary in their reproductive system
2. The baby is formed from the union of the sperm from the man and the egg from the woman
3. The propagation of the human species is part of God's plan in the context of the family

Skills

1. Identifying
2. Analyzing
3. Matching
4. Relating
5. Explaining

Values

1. Appreciate the functions of the male and female reproductive systems
2. Respect for differences of being a boy or a girl

LEARNING RESOURCES

References

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Materials

Charts on the male and female reproductive organs
 Puzzle (Baby)
 Envelopes with letters to form sperm cell, egg cell
 Answer sheets
 Teacher Resource1: Biological Differences Between a Boy and a Girl
 Teacher Resource 2: Human Fertility
 Worksheet 1: The Male Reproductive Organs
 Worksheet 2: The Female Reproductive Organs
 Student Reader 1: Parts and Functions of the Male and Female Reproductive Systems
 Teacher Resource 3: Suggested Questions for the Fishbowl Activity
 Student Reader 2: Differences Willed by God
 Teacher Resource 4: Pictures of a Sperm Cell and an Egg Cell
 Teacher Resource 5: Stages of Fetal Growth and Development

LESSON 1: Human Reproduction: How a Baby is Formed**LEARNING ACTIVITIES****Preparation****Activity 1: Jigsaw Puzzle**

- Form the students into 4-5 groups.
- Give each group an envelope with parts of a figure inside it. (The picture of the baby should depict the biological differences between boys and girls. See example in **Teacher Resource 1**)
- Instruct each group to form the figure in 2 minutes.
- Discussion will follow.

Ask: *What figure have you formed?*

A baby

Ask: *What figure is being formed?*

**We formed a baby boy.
We formed a baby girl.**

Ask: *Where do you think babies come from?*

**From God
From parents**

Ask: *If babies come from God, to whom did God give the responsibility to be his co-creators?*

To a married man and woman

Ask: *How do a married man and woman form another human being?*

Through sex

Note: The teacher should process the answers to do away with misconceptions. Although the Church teaches that children should be born within marriage there may be cases where a baby is born to a man and woman who are not married.

Development

- Tell the class that to understand better the contribution of the man and the woman, we are going to have a closer look at the distinctive parts of a man and a woman.

- Present to the class the chart of the male and female reproductive organs. (This can also be done through a power point presentation.) For teacher's reference see **Teacher Resource 2**.

Ask: *Are you familiar with these illustrations?*

- Tell the class, these are what we call the male and the female reproductive systems.

Ask: *What do you mean by reproduction?*

- Encourage the students to share their ideas on the word "reproduction."

Possible Answers:

**Reproduction is having a baby.
A man and woman having sex
More people**

Ask: *What is the role of the man in reproduction?*

Ask: *What is the role of the woman in reproduction?*

- Inform the students that for them to know the answer, they will be doing the next **Activity 2**, "What's the Word, that's the Word..."

Activity 2: What's the Word, that's the Word

- With the same grouping as of the first activity, give each group 2 envelopes (two different colors) with letters inside.
- Tell the students to form the word from the letters of the first envelope (blue) in 2 minutes. Give the clues that this will be in 2 words and this is the distinct contribution of male in reproduction. For encouragement to do it fast, give points to those who can form the word first.
- Instruct the students to do the same with the second envelope (pink) which is the distinct contribution of a female in reproduction.

Ask: *What words are formed?*

**"Sperm cells" for male
"Egg cell" for female**

- Then ask the students, what particular part in the reproductive system these cells come from. (Give time for the students to express their answers).
- Tell the class that there is a need for them to be familiar with the parts and functions of both the male and female reproductive systems.

Activity 3: Think, Pair and Label

- Let the students choose a partner within their group.
- Instruct them to answer **Worksheets 1 and 2** wherein they are to label the parts of male and female reproductive organs according to some descriptions given. This should be done in 5 minutes.

- After the labeling activity, ask the students to exchange papers with their seatmates for checking. The teacher will give the correct answers.
- After knowing all the parts of the male and female reproductive systems, ask the students to identify/guess the particular part responsible for the reproduction of sperm cells/egg cell.
- Lead the class to appreciate the gift of human fertility or the capacity to have a baby and the male and female reproductive systems by letting them read ***Student Reader 1***.

Activity 4: Fish Bowl

- Prepare strips of paper written with questions based on the given reading. Roll up each of the strips of paper and place them in the fish bowl. (See ***Teacher Resource 3*** for possible questions).
- Ask a representative from each group to pick a rolled paper for him/her to answer. This should be done one at a time.
- Recognize a correct answer by giving the group a point. If the answer is wrong, give the chance for the other groups to answer.
- Based on the identified parts and functions of the male and female reproductive organs, ask the students some questions, for example:

Ask: *How is a baby formed?*

The baby is formed by the union of the father's sperm cell and the mother's egg cell.

Closure

- Lead the class to appreciate that persons are gifts from God. Let them read ***Student Reader 2***

Ask: *How are persons created by God?*

In His image and likeness, in perfect equality as persons and their respective beings as man and woman

Ask: *What is the reality of being a man and a woman?*

Being a man and a woman is good and willed by God and reflect the Creator's wisdom and goodness.

Ask: *Are we thankful for being a male or a female?*

LESSON 2: The Reproductive System: How Fertilization Takes Place

LEARNING ACTIVITIES

Preparation

Activity 1: Review

- Using the strips of cartolina with the functions of a male and female reproductive systems, let the students tape on the left column the functions of the male reproductive system and on the right column that of the female reproductive system.

Phrases on the strips:

1. Carries egg cell
2. Produces sperm cells
3. Houses immature egg cells
4. Engage in sexual intercourse
5. Holds the testicles/testes
6. Organ whereby urine or semen leaves the body
7. Where the baby grows

Answers:

1. Fallopian tube
2. Testes
3. Ovaries
4. Man and woman
5. Scrotum
6. Penis
7. Uterus

Development

- Ask: *How are the male and female reproductive systems related?*

The reproductive systems of males and females differ in structure and function but complement each other in the reproduction process.

- Then tell the class, "Let's try to find out the details of such relationship in a film that we are going to watch."

Activity 2: How Fertilization Takes Place

- (The film on fertilization by National Geographic is recommended).
- Please see fertilization slide followed by pregnancy slides in case the film is not available. (See **Teacher Resource 4**).

- Pre-viewing Activity

Overview: Explain what is to be viewed and its importance.

Show the class the picture of a sperm cell and of the egg cell. (See **Teacher Resource 5**)

Viewing Behavior Standards: Give reminders on the proper behavior during the activity. Let them take some notes.

- Viewing Activity
- Post-viewing Activity

Activity 3: Group Sharing

- Group the students by 5. Let them share their answers to the following questions:

How did you feel upon seeing the film?

What makes you feel that way?

When does life begin?

Can anybody at anytime procreate or produce an offspring? Why or why not?

- After a 5-10 minute sharing, call the class to a plenum.
- Have a representative from each group give the summary of their sharing.
- Ask students to answer the following questions:

Biologically, when is a person capable of having a baby?

At puberty, a boy and a girl start developing the capacity to have a baby. This is due to bodily changes leading to the development of both the male and female reproductive systems.

A woman can get pregnant only on certain days of each month, while the boy can get a girl pregnant from his first ejaculation and for the rest of his life.

What is the basis for a man and a woman to have a baby?

Biologically, a boy and a girl who are fertile can have a baby. But once a baby is born, the baby is totally dependent on the people around him. The best basis for a man and a woman to have a baby is their love for each other, the capability to provide for the baby's needs until maturity, and a commitment to raise the child as part of a family.

Closure

- Present a family picture and explain how babies are formed and what babies need.
- Emphasize that babies come from the union of the sperm and the egg. The sperm and the egg meet through sexual intercourse. This is where each person comes from. Relate that this Miracle of Life is part of God's plan, which is based on how each person is created: with the need to be loved and the capacity to love. A baby elicits the human capacity to love, and at puberty the attraction between a boy and a girl can lead to a mature love that is the basis for forming the family. The gift of fertility is a gift from God, and the best gift one can give to a lifetime partner.

ATTACHMENTS

- **TEACHER RESOURCE 1: Biological Differences Between a Boy and a Girl**

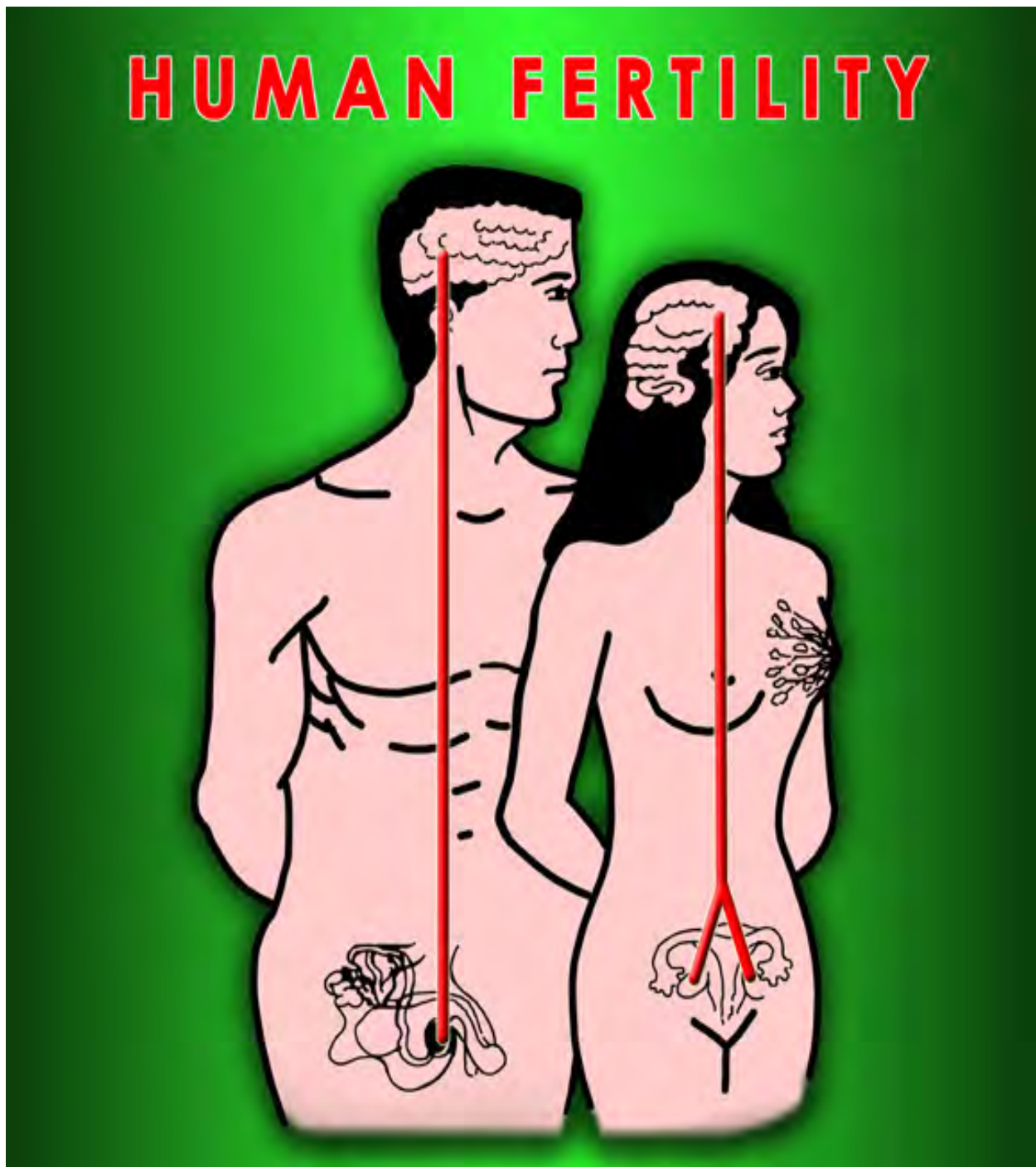


BOY



GIRL

• **TEACHER RESOURCE 2: Human Fertility**



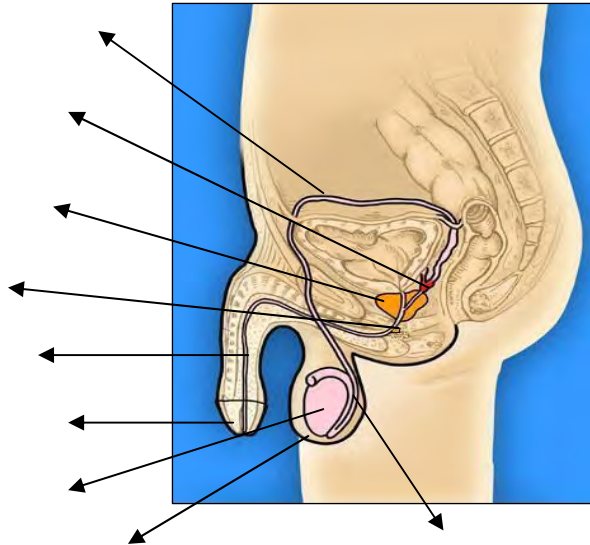
Source:

- Institute of Reproductive Health, Philippines. (2002). *All Natural Family Planning Manual*. Quezon City: IRH, Philippines.

• WORKSHEET 1: The Male Reproductive Organs

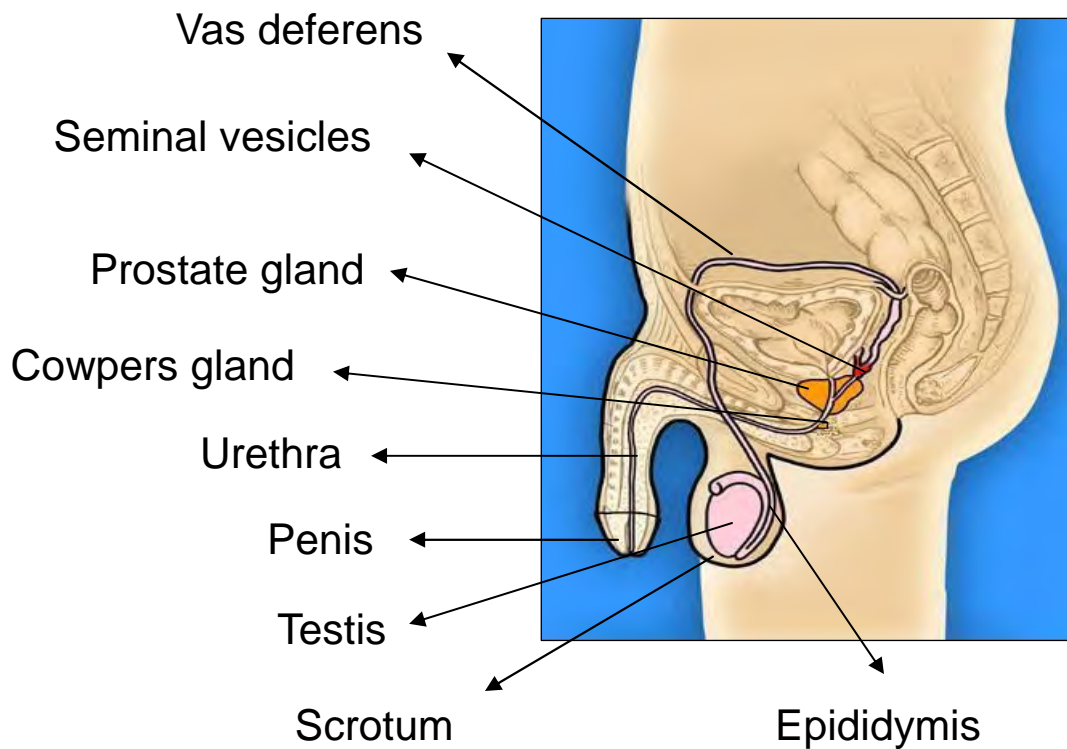
Instruction: Label each part according to the given choices in the box. Write your answer adjacent to the arrow.

Vas deferens
Epididymis
Scrotum
Urethra
Penis
Testicles
Prostrate gland
Seminal vesicle
Cowpers gland



Answer:

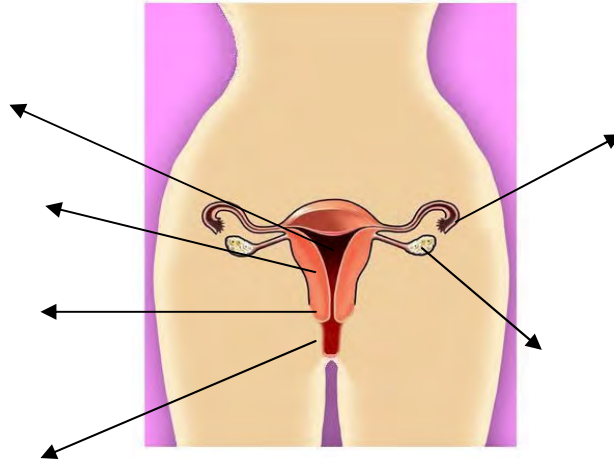
Male Reproductive System



• WORKSHEET 2: The Female Reproductive Organs

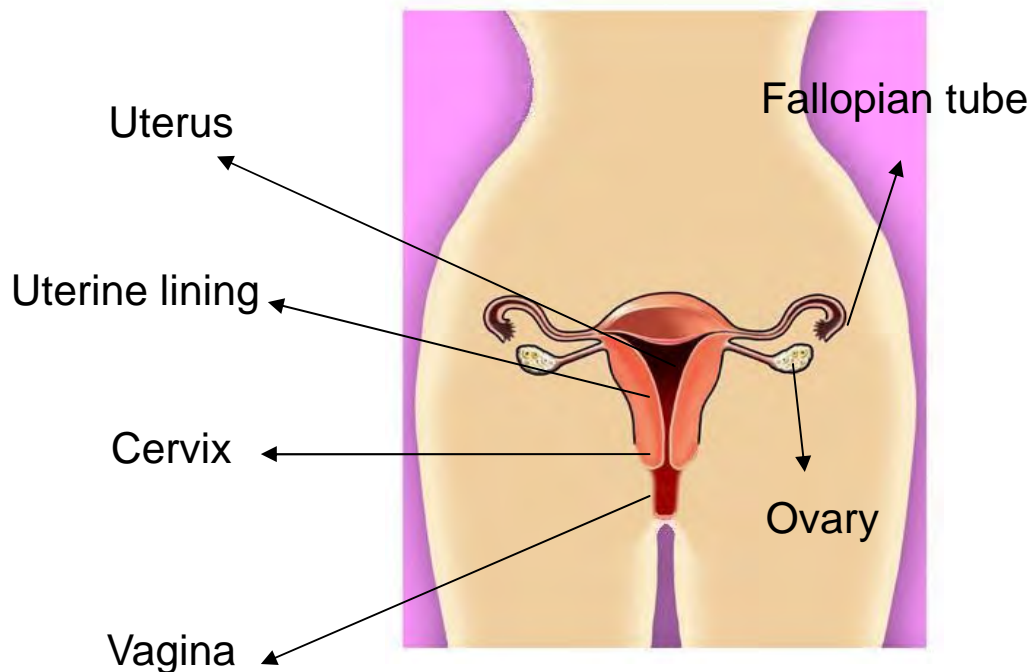
Instruction: Label each part according to the given choices in the box. Write your answers adjacent to the arrow.

Uterus
 Uterine Lining
 Cervix
 Fallopian Tube
 Vagina
 Ovaries



Answer:

Female Reproductive System



• STUDENT READER 1: Parts and Functions of the Male and Female Reproductive Systems

For boys:

From puberty on, **sperm** are continuously produced in the **testicles** (or **testes**), which are found inside the **scrotum**. As the sperm mature, they move into the **epididymis**, where they remain to mature for about two weeks. The sperm then leave the epididymis and enter the **vas deferens**. These tubes pass through the **seminal vesicles** and the **prostate gland**, which release fluids that mix with the sperm to make **semen**. During **ejaculation**, the semen travels through the **penis** and out of the body by way of the **urethra**, the same tube that carries urine. The **urethral** or **urinary opening** is the opening from which a man urinates or ejaculates.

Key Words

Sperm	Male sex cell that is the contribution of the man in the conception of a baby
Erection	Spontaneous enlargement of the penis due to flow of blood caused by stimulation or arousal
Ejaculation	Forceful release of seminal fluid from the penis
Semen	Fluid that leaves a man's penis when he ejaculates
Fertility	Ability to get a girl pregnant with his baby
Sexual intercourse	An act between a man and a woman whereby sperms are deposited in the vagina

Tracing the passage of the sperm cell

Testicles (testes)	Male reproductive glands, which produce sperm
Scrotum	Pouch of skin that holds the testicles
Epididymis	Organ where sperm mature after they are produced in the testicles
Vas deferens	Long, thin tubes that transport sperm away from the epididymis
Seminal vesicles	Small glands that produce a thick, sticky fluid that provides energy for sperm
Prostate gland	Gland that produces a thin, milky fluid that enables the sperm to swim and become part of the semen
Urethra	Canal that carries urine from the bladder (the place where urine is collected in the body) to the urinary opening. In males, the urethra also carries semen
Penis	External male organ through which semen or urine leaves the body; male organ for sexual intercourse

For girls:

Every girl is born with thousands of eggs in her **ovaries**. The eggs are so small that they cannot be seen by the naked eye. Once a girl has reached puberty, a tiny egg matures in one of her ovaries and then travels down the **fallopian tube** on its way to the **uterus**. This release of the egg from the ovary is called **ovulation**. The uterus prepares for the egg's arrival by developing a thick and soft lining like a pillow. If the girl has sexual intercourse around the time she ovulates, at the time the egg is in the fallopian tube, there might be some sperm waiting to unite with the egg. If the egg is united with the sperm (called **fertilization**), the fertilized egg travels to the uterus, and attaches to the lining of the uterus and remains there for the next nine months, growing into a baby. If the egg is not fertilized, then the uterus does not need the thick lining it has made to protect the egg. This lining flows through the **cervix** and then out of the **vagina**. This flow of blood is called the "period" or **menstruation**.

Key Words

Egg Cell	Female sex cell that is the contribution of a woman in the conception of a baby
Ovulation	The periodic release of a mature egg from an ovary
Fertility	Ability to get pregnant
Sexual intercourse	An act between a man and a woman whereby sperm are deposited in the vagina
Fertilization	Union of the egg with the sperm
Implantation	The fertilized egg cell attaches to the prepared lining of the uterus
Menstruation	The monthly discharge of blood and tissue from the lining of the uterus

Tracing the passage of the egg cell:

Ovaries	Two glands that contain thousands of immature eggs
Fallopian tubes	Tubes that carry the egg from the ovaries to the uterus
Uterus	Small, hollow, muscular female organ where the fetus is held and nourished from the time of implantation until birth
Cervix	Lower portion of the uterus, which extends into the vagina
Vagina	Canal that forms the passageway from the uterus to the outside of the body. It is the organ where sperm are deposited, where menstruation flows out, and where the baby normally passes during birth; female organ for sexual intercourse

Source:

- Institute of Reproductive Health and Family Health International. (2003). *My Changing Body, Fertility Awareness of Young People*. Washington DC: IRH.

• TEACHER RESOURCE 3: Suggested Questions for the Fishbowl Activity

1. What male reproductive body part is responsible for the production of sperm cells?
2. What female reproductive body part is responsible for the maturation of egg cells?
3. How do the sperm and egg cell meet?
4. Where do the sperm and egg cell meet?
5. What is reproduction?
6. In what body part of the woman does the baby grow?
7. What is menstruation?
8. What is the role of man in reproduction?
9. What is the role of woman in reproduction?
10. What do you call the union of the egg cell and the sperm cell?

Answer:

1. **The male reproductive glands that produce the sperm cells are the testes.**
2. **The female reproductive glands responsible for the maturation of the egg cells are the ovaries.**
3. **The sperm and egg meet through sexual intercourse.**
4. **The sperm and egg meet in the fallopian tube.**
5. **Reproduction is when a man and a woman having sex produce a baby.**
6. **The baby grows inside the uterus of the woman.**
7. **Menstruation is the monthly discharge of blood and tissue from the lining of the uterus.**
8. **The contribution of the man in the conception of a baby is the sperm cell.**
9. **The contribution of the woman in the conception of a baby is the egg cell.**
10. **The union of the sperm cell and the egg cell is called fertilization.**

• STUDENT READER 2: Differences Willed by God

Man and woman have been created, which to say is willed by God: on one hand, in perfect equality as human persons; on the other, in their respective beings as man and woman. "Being man" or "being woman" is a reality which is good and willed by God: man and woman possess an inalienable dignity which comes to them immediately from God their creator. Man and woman are both with one and the same dignity "in the image of God." In their "being man" and "being woman", they reflect the Creator's wisdom and goodness.

Source:

- *Catechism of the Catholic Church*. (1994). Manila: Word and Life Publication. 369.

Above all, it is important to underline the equal dignity and responsibility of women with men. This equality is realized in a unique manner in that reciprocal self-giving by each one to the other, and by both to the children, which are proper to marriage and the family.

In creating the human race, "male and female," God gives man and woman an equal personal dignity, endowing them with the inalienable rights and responsibilities proper to the human person (Gen 1:27).

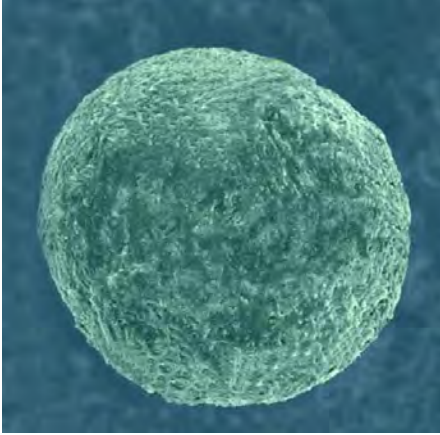
The totality which is required by conjugal love also corresponds to the demands of responsible fertility. This fertility is directed to the generation of a human being, and so by its nature, it surpasses the purely biological order and involves a whole series of personal values.

God created man in his own image and likeness: calling him to existence through love, he called him at the same time for love. . . Love is therefore the fundamental and innate vocation of every human being.

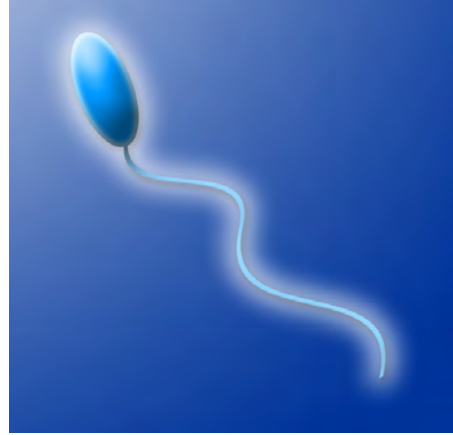
Source:

- Pope John Paul II. (2005). *Familiaris Consortio: Apostolic Exhortation of Pope John Paul II on the Role of the Christian Family in the Modern World*. Pasay City: Paulines Publishing House Daughters of St. Paul.

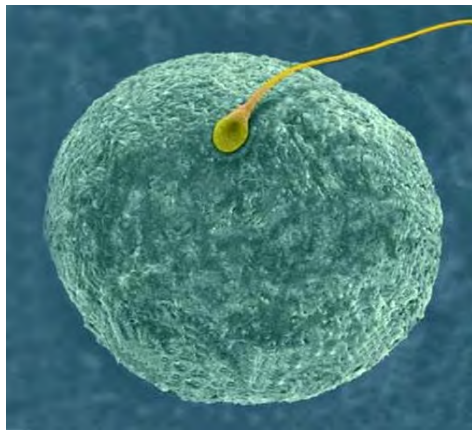
- **TEACHER RESOURCE 4: Pictures of a Sperm Cell and an Egg Cell**



Egg



Sperm



Fertilization: the union of the egg cell and the sperm cell

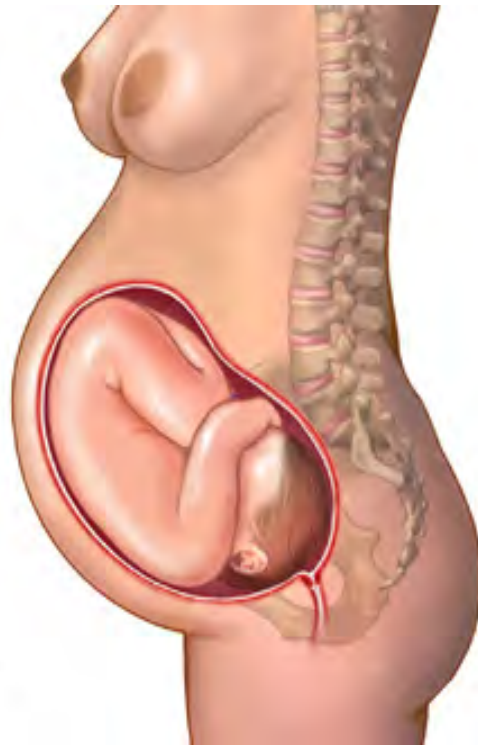
- **TEACHER RESOURCE 5: Stages of Fetal Growth and Development**



3rd month (12 weeks)



6th month (24 weeks)



9th month (38 weeks)

Source:

- Department of Health. (2009). *All Natural Family Planning Manual*. Manila: DOH.

AMAZING CHANGES AT PUBERTY

By: Rosalina Barton and Claire Pino

Suggested

Time Frame : 1 hour and 20 minutes
(40 minutes per lesson)
Subject : Science
Grade Level : Grade 5

LEARNING COMPETENCIES

1. Know that boys and girls undergo changes during puberty
2. Understand that these changes are part of the process of growing up
3. Learn the proper healthy and hygienic practices in relation to physical changes
4. Gain awareness that these changes lead to a greater appreciation of God's gift of being male or being female

OBJECTIVES

The students are expected to:

1. Identify the physical changes in boys and girls during puberty
2. Describe the physical changes at puberty as part of the process of growing up
3. List down healthy and hygienic practices with regard to these physical changes and the possible effects if these practices are not observed
4. Accept these changes as part of God's gift of being male and female

LEARNING CONTENT

Concepts

1. Boys and girls undergo physical changes during puberty
2. Puberty is a period when boys and girls begin to rapidly mature sexually and physically
3. Well-being during puberty is affected by healthy and hygienic practices
4. Being male or female is God's gift

Skills

1. Identifying
2. Describing
3. Relating
4. Explaining
5. Clarifying
6. Differentiating

Values

1. Acceptance
2. Physical health
3. Self-worth
4. Joy and gratitude
5. Social awareness and responsibility

LEARNING RESOURCES

References

- Castillo-Ramirez, M. (Ed.). (2000). *Sex-Talk with Kids & Teens Human Life*. Quezon City: International Asia and Episcopal Commission on Family Life of the Catholic Bishop's Conference of the Philippines.
- Fallaria, R. (2004). *Science Spectrum 5*. Manila, Philippines: Rex Book Store, Inc.
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- PATH Foundation Philippines. (2004). *Couple's Educators' Refresher Course Training Manual*. Manila: PATH Foundation.
- Pope Paul VI (1975). *Declaration of Certain Questions Concerning Sexual Ethics*, Rome: Sacred Congregation for the Doctrine of the Faith.
- Rosales, V. n.d. *Sex Education: A Basic Guide to Parents*, Manila: Institute for the Study of Human Reproduction.
- Tabada, E. (2006). *Productive Living 5*. Quezon City, Philippines: ABIVA Publishing.

Websites

- Happiness Foundation Inc. (2001). *Social Changes in Puberty*, from <http://www.happiness.org/>. Retrieved March 9, 2004.
- *Monitor on Psychology*, 32 (3). Retrieved March 2001 from <http://www.apa.org/about/contact.html>
- www.fad.org
- www.irh.org

Materials

Song Sheet 1: Changes (from the movie, "Shrek")
 Teacher Resource 1: Collage Presentation of the Different Stages of Development
 Student Reader 1: Causes of Physical Changes During Puberty
 Worksheet 1: Amazing Changes: Different Physical Changes During Puberty
 Worksheet 2: Healthy / Hygienic Practices
 Teacher Resource 2: Q and A on Masturbation
 Worksheet 3: Amazing Changes Activity: Different Socio-Emotional Changes and Wholesome Practices
 Student Reader 2: Socio-Emotional Changes During Puberty
 Student Reader 3: Practices of Young People
 Student Reader 4: Pope John Paul II and His Messages to Young People
 Teacher Resource 3: Socio-Emotional Changes During Adolescence
 Cut-out Flower-Shaped Papers
 Metacards

LESSON 1: Physical Changes**LEARNING ACTIVITIES****Preparation****Activity 1: Song Analysis: Changes (from the movie "Shrek")**

- Lead the students to sing the song "Changes". A copy of the song and music is provided (see **Song Sheet 1**).
- Quartet Sharing:

Let each group think of the answers to the following questions: What is the message of the song on changes and the kind of changes experienced? Ask some members of the groups to share to the class their answers.

Reality of change, that time may change a person to become older

Ask: *What kind of changes are mentioned in the song?*

Physical changes

Ask: *Have you experienced these changes?*

Activity 2: Identifying Stages of Puberty

- Ask the class if they have experienced these changes. Show to the class **Teacher Resource 1: Collage Presentation of the Different Stages of Development**.

Ask: *What stage of development are they going through?*

Puberty

Ask: *What is puberty?*

Explain to the class that puberty is a time when the bodies of boys and girls physically change. Bodies grow bigger and taller, sex organs start maturing, and hair often starts growing in new places on the body.

During puberty, a girl becomes physically able to become pregnant and a young boy becomes physically able to get a girl pregnant.

Ask: *Are you now in this stage?*

Ask: *What are the different physical changes that a boy and girl undergo at puberty?*

Note: Not all students may have undergone all the changes; some undergo this change early and others later. Nonetheless, all of them will experience these changes.

Development

Activity 3: Group, Think, and Gallery Viewing

- Divide the class according to their sex (boys and girls) with 3 small groups per sex.
- Let the students do the "AMAZING CHANGES" activity. They will identify the different physical changes during puberty. (**Worksheet 1**) The answers will be written in the petals (changes in girls), leaves and stem (changes in boys) of the cut-out flower-shaped papers. Then, the group will view the answers posted.

The following are the possible answers for the **Physical changes**:

Body Part	Changes in girls	Changes in boys
Skin	Skin becomes oily sometimes with pimples and acne	Skin becomes oily sometimes with pimples and acne
Hair	Hair increases on legs, underarms and in pubic area	Hair increases on legs, chest, face, underarms and in pubic area
Breast	Enlargement of the nipple, breasts grow	Enlargement of the nipple, breasts grow
Body size	Roundness of hips, shoulders broaden, weight and height increase	Shoulders and chest broaden, muscles become stronger, weight and height increase growth of Adam's Apple
Perspiration (Sweat)	Perspiration increases and body odor may be experienced	Perspiration increases and body odor may appear
Voice	Voice deepens slightly	Voice deepens and may crack
Teeth	Eruption of the third molar (wisdom tooth)	Eruption of the third molar (wisdom tooth)
Sexual organs	Period of menstruation begins (menarche – first menstruation)	Nocturnal emissions or wet dreams

- Tell the students that these physical changes are normal and become increasingly evident in boys and girls when they reach puberty.

Ask: What do boys and girls undergo during puberty?

Boys and girls undergo physical changes during puberty.

Ask: What physical changes do boys and girls undergo during puberty?

- Ask the students, "Now that you are aware of the physical changes in boys and girls, can you tell how these changes happen?"
- Discuss revelations about the different changes during puberty and its causes.
- To handle the topic, teachers are advised to refer to the following websites:
 - www.fad.org
 - www.irh.org
- Ask for a volunteer to read **Student Reader 1**. For the teacher to be prepared to handle possible questions on masturbation, s/he should read **Teacher Resource 2**.
- After the volunteer has read **Student Reader 1**, ask the students the following:

What are the causes of the physical changes?

- **Sex hormones are responsible for the physical changes**
- **The pituitary gland releases hormones that regulate the sex hormones**
- **For the boys, an increase in the production of the androgen and testosterone (male sex hormones)**
- **For the girls, an increase in the estrogen and progesterone (female sex hormones)**

What will likely be the result if you will experience these changes?

Change in behavior and attitudes

Have you experienced these changes?

Why do you undergo these changes?

Part of growing up and sexual maturation process

How do you feel about these physical changes?

Feeling of awkwardness, feeling of self-confidence, being conscious of one's physical appearance, etc...

What is the expected behavior/conduct towards these changes?

Acceptance of changes as part of growing up, and take care of oneself

Which of the physical changes require special attention?

Menarche (first menstruation), sweating, odor, eruption of the third molar, maturation of sexual organs

- In preparation in going to **Worksheet 2**, ask the students the following questions:

Why is it important to keep different parts of our body clean?

What are the different healthy and hygienic practices related to these changes?

Let the students work on **Worksheet 2: Health/Hygienic Practices**

Ask: *What will likely happen if these healthy practices are not observed?*

Ask: *Why are healthy and hygienic practices important?*

Well-being during puberty is affected by healthy and hygienic practices.

Closure

Sentence Completion

1. I have learned that _____
2. I show my appreciation for the different physical changes by _____
3. The physical changes make me _____
4. The topic is important to me because _____

LESSON 2: Socio-Emotional Changes

LEARNING ACTIVITIES

Preparation

Review:

Ask: *What is puberty?*

Puberty is the period of life when an individual undergoes physical changes and becomes capable of reproduction.

Ask: *What are the different changes that boys and girls undergo at puberty?*

A. Physical changes**Boys**

- deepening of the voice
- growth of the Adam's apple
- increase in height
- nocturnal emissions or "wet dreams"
- growth of facial and body hair
- especially around their genitals (pubic hair)
- enlargement of the nipple
- broadening of shoulders
- muscles become stronger
- eruption of the third molar (wisdom tooth)

Girls

- breast enlargement
- menarche (first menstruation)
- broadening of shoulders
- eruption of the third molar (wisdom tooth)
- growth of body hair especially around their genitals (pubic hair)
- growth in height
- roundness of hips
- deepening of the voice

Ask: *What other changes do boys and girls undergo at puberty aside from the physical changes? (draw out prior knowledge without discussing yet)*

Boys and girls also undergo socio-emotional changes during puberty.

Development**Activity 1: Group, Think, and Share**

- Ask the students to complete **Worksheet 3** by writing the different feelings that boys and girls undergo during puberty.

The answers will complete the petals (changes in girls) leaves and stem (changes in boys) of the cut out flower-shaped papers. Then, a group representative will share their answers to the whole group.

Ask: *Which of these changes have you experienced personally?*

- Put a star beside these changes.

Ask: *How do you feel because of the physical changes?*

Boys and Girls

- **Awkward**
- **Self-conscious**
- **Concern about their appearance or how their bodies look**
- **Sexual curiosity and attraction (like crushes!)**
- **Asserts independence from parents, e.g., choice of clothes, interests, choice of friends**

- **Uncomfortable especially when alone in the presence of adults**
- **Idealistic**
- **Adventurous**
- **Courageous**
- **Daring**
- **Fun-loving**
- **Risk-taker**
- **Innovative**

Ask: *How do boys and girls at puberty manifest these feelings due to physical changes? (Ask students to read **Student Readers 2, 3 and 4**)*

Ask: *Have you experienced these changes? How did your social life change during puberty?*

- Reflection:

Ask: *What are the socially-expected behaviors/conduct toward these changes?*

- **Acceptance of changes as part of growing up**
- **Ability to cope with adjustments**
- **Confidence and trust**
- **Normal and comfortable with physical urges**
- **Joy and gratitude for God's gift of growing up**
- **Openness to guidance**

Ask: *Why should we accept these changes?*

- Teacher processes the answers. (See **Teacher Resource 3**). The teacher needs to emphasize the positive and negative actions or feelings but should assure the students that these feelings are normal.

Ask: *Why do we need to be grateful to God?*

Ask: *How can you show your appreciation and gratitude for God's gift of being male and female?*

Closure

- **Poem, Story, Song or Letter Writing**

Ask: *Do you have any advice for anyone who is about to enter puberty?*

- Based on what you have learned from our discussion, write a poem, story, song or letter to a brother, sister or friend who is about to enter puberty. Describe what he/she will go through and offer tips to better prepare for these changes.

ATTACHMENTS

- **SONG SHEET 1: Changes** (from the movie "Shrek")

Oh yeah
Mmm
Still don't know what I was waiting for
And my time was running wild
A million dead-end streets and
Every time I thought I'd got it made
It seemed the taste was not so sweet
So I turned myself to face me
But I've caught a glimpse
Of how the others must see the faker
I'm much too fast to take that test

Ch-ch-ch-ch-changes
(turn and face the strain)
Ch-changes
Don't want to be a richer man
Ch-ch-ch-ch-changes
(turn and face the strain)
Ch-ch-changes
Just gonna have to be a different man
Time may change me
But I can't trace time

I watch the ripples change their size
But never leave the stream
Of warm impermanence
So the days float through my eyes
But still the days seem the same
And these children that you spit on
As they try to change their worlds
Are immune to your consultations
They're quite aware of what they're going through

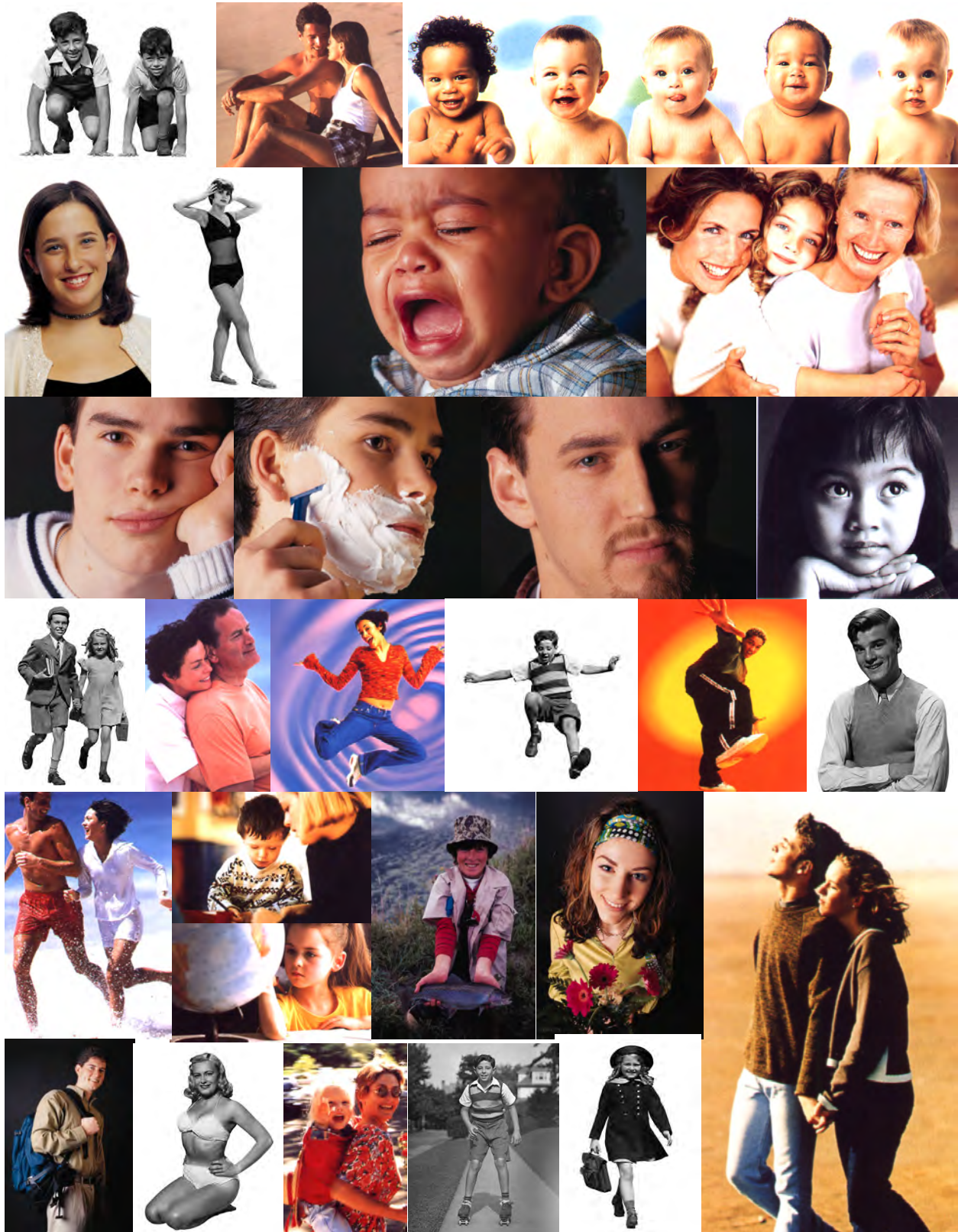
Ch-ch-ch-ch-changes
(turn and face the strain)
Ch-ch-changes
Don't tell them to grow up and out of it
Ch-ch-ch-ch-changes
(turn and face the strain) Ch-ch-changes

Where's your shame
You've left us up to our necks in it
Time may change me
But you can't change time

Strange fascination, fascinating me
Ah changes are taking the pace I'm going through

Ch-ch-ch-ch-changes
(turn and face the strain)
Ch-ch-changes
Oh, look out you rock n rollers
Ch-ch-ch-ch-changes
(turn and face the strain)
Ch-ch-changes
Pretty soon now you're gonna get a little older
Time may change me
But I can't trace time
I said time may change me
But I can't trace time

TEACHER RESOURCE 1: Collage Presentation of the Different Stages of Development



HUMAN SEXUALITY AND RESPONSIBLE PARENTHOOD

• STUDENT READER 1: Causes of Physical Changes During Puberty

Puberty is a time when the bodies of boys and girls physically change. Bodies grow bigger and taller, sex organs start maturing, and hair often starts growing in new places on the body.

During puberty, a girl becomes physically able to become pregnant and a young boy becomes physically able to get a girl pregnant.

This happens because new chemicals called hormones are being produced in the body. Hormones create changes in the body, beginning the process of turning young people into adults.

Puberty typically starts between ages 8 to 13 in girls, and ages 10 to 15 in boys, although some start a bit earlier or later. Each person is a little different, so everyone starts and goes through puberty at one's own pace.

The different hormones are responsible for the different changes in the young person. As he or she gets nearer to puberty, the brain and the pituitary gland release hormones that regulate the reproductive organs of both males and females. These hormones stimulate the ovaries of girls to produce estrogen and progesterone and the testes of boys to produce androgen and testosterone. They cause the development and maturation of the sexual organs. Part of the effects of these hormones is the upsurge of physical sexual urges many times experienced as physical attractions. These are all a necessary and normal part of this stage of growing up. Puberty lasts for about two to five years. When the growth period is over, the young person's height would be more or less his adult height.

Boys' shoulders will grow wider and their bodies will become more muscular. Boys will experience erections and wet dreams. (**Teacher Resource 2** provides a Q and A on masturbation in case students inquire)

Girls will notice an increase in body fat and occasional soreness of the nipples as the breasts start to enlarge. Hips become rounder. One or two years after breasts start to develop, they usually experience their first menstrual period. They usually see a white or clear liquid from the vagina. This is another sign that her hormones are working with relation to egg cells starting to mature.

These are all signs that their bodies are undergoing fast normal changes, and that their puberty hormones are doing their job.

Source:

- Institute for Reproductive Health and Family Health International. (2003). *My Changing Body, Fertility Awareness of Young People*. Washington DC: IRH.

- WORKSHEET 1: Amazing Changes: Different Physical Changes During Puberty**

Instructions: Ask the students to answer the following questions:

What are the amazing physical/bodily characteristics / changes that boys and girls undergo during puberty?

The answers may be written in the petals (changes in girls) leaves and stem (changes in boys) of the cut-out flower-shaped papers. Then, the group will view the answers posted.

Ask: *Which of these changes have you experienced personally?*

Put a star beside these changes.

- WORKSHEET 2: Healthy/Hygienic Practices**

Instructions: Aside from the given body parts or physical changes, write down other body parts/ changes that need special attention, the healthy practices that correspond to the given physical changes, and the effects that will likely happen if these healthy practices are not observed.

Physical Changes	Healthy/Hygienic Practice	Effects if healthy practices are not observed
Face Teeth Hair Odor Genital Others: (pls. specify)		

Possible Answers:

Physical Changes	Healthy/Hygienic Practice	Effects if healthy practices are not observed
Face Teeth Hair	Washing the face Brushing teeth Combing or brushing hair	Acne, pimples Poor teeth, bad breath Untidy hair, unpleasant look
Odor	Use of deodorant, taking a bath	Bad odor
Genital	Taking a bath, washing genitals	Bad odor, infections
Others: (pls. specify)		

• **TEACHER RESOURCE 2: Q and A on Masturbation**

Q. What is masturbation?

Masturbation – Both men and women can relieve sexual feelings and experience sexual pleasure through masturbation. Many boys and girls begin to masturbate during puberty. Some boys and girls also never masturbate. Boys may stroke their penises until they ejaculate. Girls' vaginas may become wet, moist or tingly from self-stimulation and they may experience an orgasm.

Q. Can masturbation be harmful?

It is during the period of puberty and adolescence when sexuality is awakened and when the young woman, but more particularly the young man, needs the guidance and understanding of those around them. The sexual awakening is not of course, an overnight occurrence. In young men, this awakening is usually accompanied by a discovery of masturbation. This is a result not only of the sexual urge, but also of the impatient desire to experience new thrills and experiences. Will power and stamina, very much like athletic prowess, can come only through gradual and more powerful discipline. Athletic excellence, military precision, mathematic ability – practically all talents – come only through constant exercise and training. Some forms of discipline include rigorous physical exercise to enable him to dominate his physical body, some form of mental gymnastics, or mental discipline, as in some difficult subjects or martial arts. True maturity is reached only when a person has, as a man or as a woman, mastered himself. Sexuality, in its maturity, is a privilege and a responsibility. Helping him or her see this, and guiding him/her towards it, is one of the greatest services and obligations we have to the young.

Source:

- Rosales, V. n.d. *Sex Education: A Basic Guide to Parents*, Manila: Institute for the Study of Human Reproduction.

Many people, males and females alike, masturbate at sometime in their lives. There is no scientific evidence that masturbation causes any harm to the body or to the mind. Masturbation only becomes a medical problem when it does not allow a person to function properly or when it is done in public. However, there are many cultural and religious barriers to masturbation.

Q. What does the Church say about masturbation?

- For it (i.e., masturbation) lacks the sexual relationship called for by the moral order namely the relationship which realizes "the full sense of mutual self-giving and human procreation in the context of true love." All deliberate exercise of sexuality must be reserved to this regular relationship.
- On the subject of masturbation modern psychology provides much valid and useful information for formulating a more equitable judgment on moral responsibility and for orienting pastoral action. Psychology helps one to see how the immaturity of adolescence (which can sometimes persist after that age), psychological imbalance or habit can influence behavior, diminishing the deliberate character of the act and bringing about a situation whereby subjectively there may not always be serious fault. But in general, the absence of serious responsibility must not be presumed, as this would be to misunderstand people's moral capacity.

Source:

- Pope Paul VI. (1975). *Declaration of Certain Questions Concerning Sexual Ethics*, Rome: Sacred Congregation for the Doctrine of the Faith.

• **WORKSHEET 3: Amazing Changes Activity: Different Socio-Emotional Changes and Wholesome Practices**

Instructions: Write down the different socio-emotional changes associated with puberty, and the corresponding wholesome practice as we relate with one another.

SOCIO-EMOTIONAL CHANGES	WHOLESOME PRACTICES IN RELATION TO OTHERS

Socio-emotional changes can be classified into:

1. Changes in the way they feel about themselves
2. Changes in their relationship with their parents
3. Changes in friendships
4. Changes in feelings of love

The following are common feelings of those entering puberty:

- Self-consciousness about appearance
- More concern about the body
- Having questions about oneself
- Struggling with who I am, what I believe in
- Moodiness
- Anger (Why Me?)
- Depression (Poor Me)
- Emotional outbursts
- Need for more privacy
- Need for more independence
- Relationships with friends become more important
- Opinions of friends and age group become more important, sometimes more than parents or school authorities
- Worry about the future as compared to childhood
- New crushes
- Feeling sexually attracted to persons
- Curiosity about sexual terms
- Becoming more daring, accepting challenges
- Wanting to be accepted and recognized especially by peers
- "Who cares" attitude with regard to "old" rules
- Dressing up like everyone else in one's group
- Not wanting to be treated as a child
- Not wanting to be in adult company alone
- Not comfortable with nudity
- Likes to be treated as an adult
- Seeking change to meet ideals
- Can accomplish a lot when motivated

Wholesome practices include:

- A healthy questioning of existing rules
- Discussion of the reasons for some rules
- Negotiating new rules with adults
- Hygienic practices that address bodily changes
- Wholesome boy-girl activities in groups
- Getting factual information on sexuality
- Being able to express opinions freely
- Grooming and dressing like peers in an acceptable manner
- Getting involved in varied school and community activities to address idealism
- Having negotiated family responsibilities
- Keeping open communication and dialogue with adults
- Developing interests, skills, and talents
- Joining groups with like interests and values
- Keeping up active learning
- Getting to know more peers
- Introducing friends to family and family to friends
- Reviewing what was learned in childhood
- Getting to know your own standards on sexuality and relationships
- Getting to know what you find attractive in your crushes and what you don't

Instruction: Put a check mark {✓} if you agree or disagree with the given statements.

AGREE / DISAGREE

1. Begin to show admiration towards other people
2. Girls may get pregnant at this time when they engage in sexual intercourse
3. Start to experiment with new things
4. May become restless and rebellious
5. Conscious of one's look and appearance
6. Sensitive to what people say
7. Awkward feeling in relation with other people
8. Don't like to be treated like children
9. Inquisitive
10. Changing moods

Follow-up:

1. Why do you agree with some statements?
2. Why do you not agree with some statements?
3. What does it tell you about adolescents?

• **STUDENT READER 2: Socio-Emotional Changes During Puberty**

By: Rose Barton and Claire Pino

During puberty young people might feel uncomfortable, clumsy, self-conscious, awkward, and overly sensitive or become easily upset.

Feeling anxious about how the changes in the body look is one of the things young people are most sensitive about.

It is common to feel sad or depressed sometimes. One will be struggling with a sense of identity and questions about oneself are asked.

Young people need more independence and privacy, relationships with friends and opinions of others become more important.

They become more aware of the opposite sex and feel sexually attracted to them.

Acting on such feelings is a big responsibility and it is best to wait until one is older. (During puberty, girl becomes physically able to become pregnant. However, she is still a child growing into a more mature adult and not yet ready to become pregnant).

Feelings of the high school respondents on the changes experienced:

"Uneasy especially when your armpits smell, you are embarrassed."

"You are conscious of your pimples, especially when somebody comments on their size."

"I was scared when my breast started to enlarge, it was painful. Then my fear worsened when I noticed that one breast was bigger than the other. I was also scared when I had my first menstrual period; it just came out and I was not aware what it was. It was only later that I realized I was having my period."

"Happy because at least there are some changes in my body and I take note of them. Unlike before that I didn't give much attention to myself."

"I'm conscious of my appearance and my actions because I'm already a teenager; what clothes to wear and especially how to groom myself to make myself feel good and attractive."

"Uncomfortable to discuss about sex matters in the family."

Source:

- Happiness Foundation Inc. (2001). *Social Changes in Puberty*, from <http://www.happiness.org/>. Retrieved March 9, 2004.

• **STUDENT READER 3: Practices of Young People**

Today's Filipino youth were born during the period of economic miracles in Asia. It is no secret that the unprecedented economic prosperity in the region had eluded the Philippines, thus, the present Filipino youth grew up as mere spectators of economic upturns in the economies of their Asian counterparts. The challenge to them as vanguards of the society which will hopefully complete the economic transition and build a just society is a tremendous one. They have every reason to demand an active intergenerational effort. They have the energy, the open minds, and the time to make this happen but they need to be protected, enabled, and empowered by the adult society in which they live. All adolescents go through a period of risk-taking but society needs to manage that risk-taking phase in their lives. Adult society needs to ensure that the young people pass through this stage of life with enhanced well-being, with reduced risks, and increased connectedness to the important institutions in their societies, for the youth are partly a creation of these institutions and they respond to these institutions accordingly.

Source:

- Natividad, J. and M. Marquez. (2004). In Search of Foci for Intervention. *Youth and Risk Behaviors in the Philippines*, A Report of a Nationwide Study 2002 Young Adult Fertility and Sexuality Study. G. Cruz, et al. (eds) Quezon City: Demographic Research and Development Foundation Inc. University of the Philippines Population Institute.

Filipino Adolescents: Some Basic Facts from the Young Adult Fertility and Sexuality Survey (YAFS-3)

- 1/5 of the entire population are 15-24 years old (in absolute numbers: 16.5M);
- By 2030, the adolescent population in the Philippines is estimated to reach 30M;
- Main activities of adolescents: 31% of adolescents are "idle" while 47% are still in school;
- 44% of adolescents have experienced living away from home;
- Majority of adolescents attended public schools;
- 1 in 10 had experienced school suspension;
- Boys have a higher likelihood of suspension than girls;
- On average, Filipino adolescents have 5 close friends;
- 42% knew that some of their friends are having premarital sex (56% among boys and 31% among girls);
- 83% of Filipino youth are Catholics;
- Regardless of religion, 66% attend [religious] ceremonies at least once a week;
- 6% have regular internet access; and
- 55% of adolescents have access to pornographic reading materials and x-rated films/videos.

Adolescence is a healthy transition period from childhood to adulthood. Sexual development is a normal part of the transition. Most adolescents go through the transition without many problems. But a large number engage in risk behaviors in ways that can leave scars that can hurt their development in many aspects.

What makes a good program (youth as resources rather than as problems to be managed)

A recently released policy report, "What Do Adolescents Need for Healthy Development? Implications for Youth Policy," written by Columbia University psychologists Jodie Roth, PhD, and Jeanne Brooks-Gunn, PhD, concluded that good after-school programs "are best characterized by their approach to youth as resources to be developed rather than as problems to be managed."

According to the above report, good programs should:

- Help young people develop strong, positive relationships with adults;
- Build on the young persons strengths rather than focus on their weaknesses;
- Provide an environment that helps young people develop positive relationships with peers;
- Give youth challenges to which they can rise;
- Provide enriching, creative activities in which they can participate;
- Give youth opportunities to develop leadership and decision-making skills;
- Focus on the developmental needs of young people by nurturing teens' autonomy and at the same time lending them guidance; and
- Provide all of these opportunities over the long-term.

Source:

- *Monitor on Psychology*, 32 (3). Retrieved March 2008, from <http://www.apa.org/about/contact.html>

• STUDENT READER 4: Pope John Paul II and His Messages to Young People

For two decades, Pope John Paul II reached out to the young people of the world, bringing thousands of them together every two or three years for international celebrations.

The World Youth Day conferences became a defining characteristic of his papacy. Pope John Paul II saw the events as a way to reach out to the next generation of Catholics, demonstrate his confidence in them, and rejuvenate the church and carry forth its teachings, according to the U.S. Conference of Catholic Bishops.

"His concern for youth, this is one of the things that made this pope unique," said the Rev. Antonio Joy Zabala of Mary Star of Sea parish in Oxnard, California.

Excerpts from Pope John Paul II's Messages to the Young during the Different World Youth Days

"It is first of all necessary for you young people to give a forceful witness of love for life, God's gift. This love must extend from the beginning to the end of every life and must struggle against every attempt to make man the arbiter of his brother's life, of unborn life, of life that is waning or that of the handicapped and the weak."

"I ask you young people, who naturally and instinctively make your "love of life" the horizon of your dreams and the rainbow of your hopes, to become "prophets of life." Be such by your words and deeds, rebelling against the civilization of selfishness that often considers the human person a means rather than an end, sacrificing its dignity and feelings in the name of mere profit. Do so by concretely helping those who need you and who perhaps, without your help, would be tempted to resign themselves to despair."

"The building of a civilization of love requires strong and persevering characters, ready for self-sacrifice and anxious to open up new paths of human coexistence by overcoming divisions and the various forms of materialism. This is a responsibility of the young people of today who will be the men and women of tomorrow, at the dawn of the third Christian millennium."

"The world in which we are living is shaken by crises of various kinds, among which one of the most dangerous is the loss of the meaning of life. Many of our contemporaries have lost the true meaning of life and they are looking for substitutes in reckless spending, in drugs, in alcohol, and eroticism. They are looking for happiness, but the result is deep sadness, an empty heart and, not infrequently, despair."

"In this situation many young people are asking themselves fundamental questions: How am I to live my life so as not to lose it? On what basis must I build my life to make it truly a life of happiness? What must I do to give meaning to my life? How must I behave in life situations that are often complex and difficult – in the family, the school, the university, at work, in the circle of my friends? ... These are questions, and at times very dramatic questions, that many of you young people are certainly asking yourselves today."

"To be young is already in itself a special and specific treasure for every young man and young woman (cfr. *Letter to the Youth of the World*, n. 3). This treasure consists, among other things, in the fact that yours is an age of many important discoveries. Each one of you discovers him or herself, his or her personality, the meaning for him or for her of existence, the reality of good and evil. You also discover the whole world around you - the human world and the world of nature. Now, among these many discoveries there must not be lacking one that is of fundamental importance for every human being: *the personal discovery of Jesus Christ*."

"Another prerogative of the children of God is freedom; this also is part of their *heritage*. We touch here on a subject to which you young people are particularly sensitive, because what is at issue is an immense gift that the Creator has placed in our hands. But a gift that must be used rightly. How many *false forms of freedom* there are, leading to slavery!"

"You young people have also your own place. A very important one. On the threshold of the year Two Thousand, the Church feels called by the Lord to an ever more intense effort of evangelization; she has special need of you, of your dynamism, your authenticity, your ardent will to grow, the freshness of your faith. So, place your youthful talents unreservedly at the service of the Church, with the generosity that is characteristic of your age."

"In a very real sense, the twenty-first century...belongs to you. I ask you, therefore, to think carefully about the choices in life which you have to make."

Source:

- John Paul II. (2002). *Every Child a Light: The Pope's Message to Young People*, Vereb, J. (ed.)

• **TEACHER RESOURCE 3: Socio-Emotional Changes During Adolescence**

Psycho-Emotional Changes in Adolescents

- A central concern during adolescence is answering the question, "Who Am I?" - their search for identity.
- Their search for identity is influenced by: appearance and other physical attributes, cognitive abilities, more reasoning, school achievement, preparation for the world of work, coming into terms with sexual stirrings, forming romantic attachments, relationships with parents/siblings/peers, and sexual activity.
- To form an identity, adolescents must ascertain and organize their abilities, needs, interests, and desires so they can be expressed in a social context.
- Identity forms as young people resolve three major issues: the choice of an occupation, the adoption of values to believe in and live by, and the development of a satisfying sexual identity.
- Adolescent period is not really a time of adolescent rebellion, involving emotional turmoil, conflict with family, and hostility toward adult values. Adolescent rebellion frequently amounts to just a series of minor faults. Negative moods do increase as boys and girls move through these teen years but they do not typically bring wide emotional swings.
- Age does become a powerful bonding agent in adolescence that adolescents prefer to spend their time with their peers than with their parents.
- It is important during this teen period to spot individual characteristics of troubled teens and the influence of the environment – parents, peers, and community – to their behaviors.

Source:

- PATH Foundation Philippines. (2004). *Couple's Educators' Refresher Course Training Manual*. Manila: PATH Foundation.

MY RELATIONSHIPS: ATTRactions AND INFLUENCES

By: Jocelyn Alix Tan

Suggested

Time Frame	:	1 hour and 20 minutes (40 minutes per lesson)
Subject	:	Makabayan
Grade Level	:	Grade 6

LEARNING COMPETENCIES

1. Be familiar with the different types of human attraction
2. Gain understanding of the different types of human attraction and their effect on adolescent behavior
3. Appreciate the influences of family, friends, and the environment on boy-girl relationships
4. Realize that a person is created to be in relation with others

OBJECTIVES

The students are expected to:

1. Identify the different types of human attraction
2. Describe the effects of human attraction on behavior
3. Discuss the influences of family, friends, and the environment on boy-girl relationships
4. Assess the relationships with family, friends, and the environment

LEARNING CONTENT

Concepts

1. Different types of human attraction include friendship, crush or infatuation, mutual understanding (MU), hero worship
2. Adolescent behavior is affected by the types of human attraction experienced by adolescents
3. Family, friends, and the environment influence boy-girl relationships
4. The human person is created to be in relation with others

Skills

1. Identifying
2. Describing
3. Expressing one's ideas and opinions

Values

1. Respect and acceptance
2. Appreciation
3. Being "other-oriented"
4. Responsibility
5. Discipline

Prerequisite knowledge

1. Physical and socio-emotional changes in puberty

LEARNING RESOURCES

References

- Craig, G. (1979). *Child Development*. Englewood Cliffs, New Jersey: Prentice-Hall, Inc.
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Materials

Song Sheet 1: Time to Change

Teacher Resource 1: Definitions of Relationship Terms

Student Reader 1: Eight Characteristics of the Adolescent Period

Student Reader 2: Readers on Homosexuality

Teacher Reader 1: Elements of Sex Education in the Context of Psycho-Sexual Development Based on Erickson's Eight Stages of Human Development

Student Reader 3: Influence from Parents, Peers, and Media

Worksheet 1: Checklist for Adolescents

Puzzles of words to be defined, one word per brown envelope

Bond papers or Cartolina

Cutout hearts – red, white, and yellow

Cutout stars – red, yellow, green, and blue

LESSON 1: What's in my Heart

LEARNING ACTIVITIES

Preparation

Activity 1: Song Analysis

- Give the students a copy of ***Song Sheet 1: Time to Change***. You can ask the students to sing the song.
- Ask the students, "What is the song about?" Write down their responses on the board. (One possible answer is "It is about the changes a boy or girl goes through when reaching puberty.")
- Distribute bond papers to the students, and ask them to write their analysis of the song in relation to their experiences of the changes happening to them.
- Collect their papers.
- Tell the students: "You or some of you are now in the starting line of the Adolescent Period. Your Grade 5 teacher had discussed with you the changes that occur when one reaches puberty. He or she may have also discussed what Adolescence is all about. I will now discuss briefly the eight characteristics of the Adolescent period, just to bring you back a bit."

Activity 2: Introductory Reader – Characteristics of the Adolescent Period

- Distribute ***Student Reader 1***.
- Tell the students that they have already taken up Characteristics 1 to 3 in Grade 5. To review, ask the students to read aloud the first three characteristics of the adolescent period in ***Student Reader 1***.
- Mention that for this and the subsequent lessons, the discussions will focus on characteristics 4, 5, and 7, namely:
 - 4) Adolescence is an age of identity formation.
 - 5) Adolescence is an age of sexual fascination and fear.
 - 7) Adolescence is an age of inferiority.

Development

- Tell the students the following:
 1. For most adolescents, physical and sexual maturation and heightened sex drive increase interest in the other sex.
 2. Now the boys and girls begin self-consciously to approach one another, to pester, tease, and make mock attacks, instead of quietly ignoring each other. This is some form of attraction.

3. At this time in your life you are drawn to your friends more than to your parents for recreation, companionship, and understanding because of a stronger need to belong, to be identified with, and to be "understood." You become more involved in different types of relationships like: friendships (best friends, close friends, acquaintances, barkadas, clubs), crushes, romantic relationships (MU, going steady).
4. In your search for identity you will consider some people as your "inspiration", your "idol", your role model--- what we call hero worship. They give us an idea of what we want to be when we grow up and how to get there. (See **Teacher Resource 1** for possible definitions)

Activity 3: Role Play

- Ask the students to prepare a short role play on the type of relationship that they defined. The teacher may give a situation for each group to portray.
- Ask each group to read aloud the term and its definition and then present their role play.
- Process the activity. Ask the class:

How did you find the activity?

Did you notice any differences in the behavior of the members in the 4 groups?

Compare the way you might behave when you are with your friends, your crush, or your idol.

How do you think you will behave?

How important are relationships to a person growing up?

They help me grow up, somebody listens to my problem, have a companion in activities, help in assignments, etc.

Closure

- To close the session, tell the students that for most adolescents, participating in heterosexual relationships is an important part of growing up. Boys and girls typically have little to do with each other before puberty and may express discomfort in the presence of opposite-gender peers. With maturation comes greater interest in the other sex, and eventually as they grow older, go dating, get involved in courtship, then attachment and love.

Take Home Task

- Divide the class into two. Half of the class will work on the collage, and the other half on the song composition.
- Each half of the class will divide themselves into 5 groups. Tell them to bring their assignments to the next session.

Collage Making:

1. Make a collage of pictures on relationships that caught your attention. Paste on a sheet of paper or cartolina.
2. Give your reason(s) for choosing those pictures. Write them at the back of the paper or cartolina.

Or

Song Composition:

1. Compose a song on relationships, to be sung in the next session. Print the lyrics on ¼ size paper or cartolina.
2. Give your reason(s) for selecting this song. Write this on the back of the paper or cartolina.

LESSON 2: Fitting In

LEARNING ACTIVITIES

Preparation

Activity 1: Picture Analysis

- Present some pictures on relationships to the class. Some of the pictures may show a boy and girl, or friends angry or upset with each other.
- Discuss briefly the different types of human attraction, and the possible behavior manifested by adolescents as an effect of these attractions.
- Ask the students to study the pictures, then inquire, "How do you behave when your crush is nearby?" "Is there a difference in the way you behave when you are with your friends or when you are with your family?" "What happens to a girl or a boy when friends quarrel or when his/her crush ignores him/her?" "How does a boy or a girl feel when this happens?"

Development

Activity 2: Task Analysis

- Ask the students to present their collage or their song. Each group will present their pictures and sing their song in class. The other classmates study the pictures and should listen carefully to the words of the songs. After each presentation, the audience will answer the following questions:
 1. What does the selection of pictures tell you?
 2. What are the feelings expressed by the collage?
 3. What kind of relationship is mentioned in the song?
 4. What are the feelings expressed by the lyrics of the song?
 5. What can you say to the presenters about their collage and song?
- Synthesize the responses to demonstrate that attractions may or may not lead to relationships. Attractions are normal when a boy or girl feels attracted to particular persons at this stage. At some stage this could be boy-girl, boy-boy, and girl-girl attractions.

Activity 3: Understanding Same-Sex Attraction

- Ask the students to read **Student Reader 2**. Ask the students to write down their thoughts on the following:

Why do you think some people are attracted to the same sex?

They are influenced by others; hero-worship of someone of the same sex

What should be the right attitude of people towards same-sex attractions?

We should have an open mind that it may be temporary and we should not label people nor discriminate against them.

How do you feel about same-sex attraction now after reading Student Reader 2?

We should not label people or discriminate against them.

- Collect their papers.
- Discussion: Tell the students that gay and lesbian identity develops gradually, usually beginning with confusion, denial, and ending with self-affirmation and coming out. Many gay, lesbian and bisexual adolescents report that during childhood they felt different from their peers. Males in particular say that they felt isolated, alienated, and more easily hurt emotionally than their age-mates. Same sex attractions were reported to occur at about age 12, followed by same-sex erotic fantasies at about age 14, labeling their feelings as homosexuals at about age 16, and labeling oneself as gay (including lifestyle) at about age 23.

Closure

- Emphasize to the students that it is important for the adolescent to know that sexual feelings and behaviors during adolescence do not necessarily predict their final sexual orientation.
- Assignment: Write an essay about attraction.
 1. Materials: 3 sheets of short-sized bond paper.
 2. On each sheet of paper write an essay or poem about "My Idol" "My Best Friend(s)", "My Crush." Think of someone you admire very much. She/he may be living, or may be a historical or fictional character (for "My Idol"). Mention the characteristics that attracted you to these persons. Include how you behave and feel when you think of them, and when you are with them. What do you like best about each person (Idol, Best Friend, Crush)?
 3. You may draw the person you are writing about, and decorate your work.
 4. Pass this assignment in the next meeting.

LESSON 3: Who is... "Me"

Preparation

Activity 1: Sharing Time

- Collect the assignments of the students
- Ask 3 or 4 students to read their paper to the class

Development

Activity 2:

- Ask the class to read **Student Reader 3**. Based on the **Worksheet 1: Checklist for Adolescent**, each student goes through the list and checks yes or no or never. The teacher will likewise do the same checklist for the class as a group and for herself. Then they compare and discuss.

Activity 3: Recall and Reflect

- Ask the students why they chose their best friend, why they are attracted to their crush, and what they like about their friend, role models, and idols.

Discussion

- Give a short discussion on the influence of their families and other people, and most especially the media (TV, internet, magazines, films, and the like) on their choice of friends and other relationships, and even their manner of behaving and dressing (**Student Reader 3**). It is important for the students to know what sort of influences they are exposed to each day. They are to be made aware how easily they can be made to believe anything, whether good or bad. Give as an example the way they talk, move, and dress, which they may have followed from "High School Musicals" or some teen movies.
- Emphasize that attractions lead to significant relationships. Show that God created human beings to be in relationship with others and not for themselves. These attractions and relationships at this stage could have an impact on their future relationships.

Closure

Activity 4: Special Thoughts

- Give each student 1 red heart, 1 white heart, and 1 yellow heart.
- In the red heart, the student writes a note to herself-himself expressing appreciation for the amazing changes happening inside of her/him and the new awareness of relationships she/he is experiencing.
- In the white heart, the student writes a note to someone whom she/he has special feelings for, expressing her/his feelings, and the gratitude that comes from her/his heart.

- In the yellow heart, the student thanks God for the gift of relationships.
- While this is going on, you may play the song "Reflection" sang by Christina Aguilera or any other relevant song.
- Ask the students to paste the 3 hearts in their assignment notebooks (in the last few pages).
- Ask the students to reflect on the 3 lessons. Randomly walk around the room placing a star on each student's desk. Then ask the students with the:

Red stars: What was the most important thing you learned?

Yellow stars: What is one thing you would like to learn more about?

Green stars: What is one fact you will never forget?

Blue stars: How did you feel about the 3 lessons?

- The students are to write down their answers on the stars. Collect the stars.
- While collecting the stars tell the students that a person is created to be in relationship with others: Family and the adolescent's unique contribution to his/her family and to each member; to peers and how to influence them for good; special friends; and what adolescents as a group can contribute to the community.

ATTACHMENTS

- **SONG SHEET 1: Time to Change**

Words and music by R. Bloodworth, C. Welch, & B. Mechel

Performed by: The Brady Bunch

Sha na na na na na na na na

Sha na na na na

Sha na na na na na na na na

Sha na na na na

Autumn turns to winter,
And winter turns to spring,
It doesn't go just for seasons you know,
It goes for everything.

The same is true for voices,
When boys begin to grow.
You gotta take a lesson from Mother Nature,
And if you do you'll know.

Chorus:

When it's time to change (when it's time to change),
Don't fight the tide, go along for the ride,
Don't ya see.

When it's time to change, you've got to rearrange,
Who you are and what you're gonna be.

Sha na na na na na na na na

Sha na na na na

Sha na na na na na na na na

Sha na na na na

Day by day it's hard to see the changes you've been through,
A little bit of living, a little bit of growing all adds up to you.
Every boy's a man inside,

A girl a woman too.
And if you want to reach your destiny,
Then here's what you can do.

Repeat chorus

• **TEACHER RESOURCE 1: Definitions of Relationship Terms**

By: Jocelyn Tan

1. FRIENDSHIP

- The state of being of persons attached to each other by feelings of affection or personal regard and characterized by “mutual feelings” of goodwill.

2. MUTUAL UNDERSTANDING (MU)

- Reciprocal; having the same relation each towards the other. There is a level of exclusivity and characterized by some sexual feelings.

3. INFATUATION OR HAVING A CRUSH

- Usually a one-way intense attraction, wanting to see or know about the other person, not necessarily in close contact.

4. HERO WORSHIP

- A profound reverence for particular persons.
- An extravagant admiration for a personal hero of either sex.

Note: You may research your own definitions on the internet or use the dictionary.

• **STUDENT READER 1: Eight Characteristics of the Adolescent Period**

1. Adolescence is an age of dramatic physical change.

Can you recall any unforgettable experience with regard to your awareness of the changes going on in your bodies? Have your parents prepared you for these changes? How have these changes affected you as a person? How did you feel about the changes? How did you cope with them? Have you talked to anyone about them? Was it easy to talk about them?

2. Adolescence is an age of fluctuating emotion and personality change.

Have you ever been told you’re “sumpungin” or moody? Why? What made them say so?

3. Adolescence is an age of confusion.

Have you ever experienced questioning your own beliefs and those which your parents and teachers have taught you about life, about what is right or wrong, or what is good or bad?

4. Adolescence is an age of identity formation.

Have you ever been asked to write an essay with the theme “Who Am I?” and can’t seem to write anything more than the usual information you give when you fill out an application form for clubs? Do you think it’s important to have someone whom you can call a role model? Who has made a great influence in your life?

5. Adolescence is an age of sexual fascination and fear.

Have you ever had crushes? If you have, can you recall the first time you had crushes or infatuation? "Kinikilig ka ba" whenever you see a cute guy or girl or whenever you see your crush? "Natataranta ka ba" every time you see your crush approaching in your direction? Ever had the chance to secretly talk to your barkada or peers about sex?

6. Adolescence is an age of conformity and fear.

Have you ever been in a situation where you were forced to do something because most of your friends were doing it? Or have you heard your friends tell you "makisama ka naman" "KJ ka talaga"? How did you feel when you heard things like that? What usually happens when you can't stand their teasing? What can you conclude from these experiences? How has peer pressure affected the way you think and the way you act with your friends or even with your family? Have you ever wanted so much to be like everybody else and not be different from others?

7. Adolescence is an age of inferiority.

Do you feel inferior when you compare yourself to others in terms of your physical appearance or physical development? In what circumstances/situations do this usually happen? What's your usual reaction? Some of you may be early maturers, others may be late maturers, and since not everyone has the same time table when it comes to physical development, there's always that tendency to feel inferior.

8. Adolescence is an age of increasing independence.

Ever felt like wanting to be out of the house just doing what you want to do without being nagged or getting a sermon from your parents? Ever felt like wanting to be rid of responsibilities at home? Ever felt like wanting to leave home or "maglayas ng bahay"? Ever felt like wanting to be free and having your own privacy?

Source:

- Jaffe, M. (1997). *Adolescence*. Hoboken, NJ: John Wiley and Sons, Inc.
- Jara, L. (1998). *Temporary Mess: Making a Difference for Teens*. Quezon City: New Day Publishers.

• STUDENT READER 2: Readers on Homosexuality

A particular problem that can appear during the process of sexual maturation is homosexuality, which is also spreading more and more in urbanized societies. This phenomenon must be presented with a balanced judgment, in the light of the documents of the Church. Young people need to be helped to distinguish between the concepts of what is normal and abnormal, between subjective guilt and objective disorder, avoiding what would arouse hostility. On the other hand, the structural and complementary orientation of sexuality must be well clarified in relation to marriage, procreation and Christian chastity. "Homosexuality refers to relations between men or between women who experience an exclusive or predominant sexual attraction toward persons of the same sex. It has taken a great variety of forms through the centuries and in different cultures. Its psychological genesis remains largely unexplained. **A distinction must be made between a tendency that can be innate and acts of homosexuality that are intrinsically disordered and contrary to Natural Law.**"

Especially when the practice of homosexual acts has not become a habit, many cases can benefit from appropriate therapy. In any case, persons in this situation must be accepted with respect, dignity, and delicacy, and all forms of unjust discrimination must be avoided. If parents notice the appearance of this tendency or of related behavior in their children, during childhood or adolescence, they should seek help from expert qualified persons in order to obtain all possible assistance.

For most homosexual persons, this condition constitutes a trial. "They must be accepted with respect, compassion, and sensitivity. Every sign of unjust discrimination in their regard should be avoided. These are persons called to fulfill God's will in their lives and, if they are Christians, to unite to the sacrifice of the Lord's Cross the difficulties they may encounter from their condition. Homosexual persons are called to chastity."

Source:

- Quay, P. (1985). *Christian Meaning of Sexuality*. Illinois: Credo House Books. (emphasis added)

If rapport between parents and children, particularly on sexual matters, has deteriorated to the point where either or both are unwilling to discuss the matter openly, it becomes necessary to seek professional advice. In other cases, the maladjustment is so great that even adequately prepared and disposed parents find themselves at a loss as to what to do.

This happens, for example, when there is a lack of gender identification. The situation may arise in a family where most members are women, and there is only one boy, or the reverse where there are only men, and only one girl. It can also come about if parents have been extra-desirous of a boy and get a girl, or of a daughter and get a son instead. Gender identity begins long before adolescence..., and the earlier the failure of identity is recognized, the easier the solution will be and the greater the probability of success.

It may be necessary for the parents to seek professional help on ways and means to encourage gender-appropriate behavior. Sometimes the fault lies in the parents themselves and therapy should be directed to them. They should realize that there is behavior appropriate to a man and behavior appropriate to a woman. This consists not only in personality traits, but also in tastes, tendencies, and interest.

One of these defects can become evident as effeminacy in a male, manifested as a preference for dolls, sewing, or a desire to use make-up. In a female, masculinity can be shown as a preference for playing with toy soldiers, machine guns, knives, and rough athletics. Later in life, during adolescence,

the male and female traits become more marked in choice of clothes, mannerisms, and modes of speech.

Another difficulty which may have to be dealt with is the question of homosexuality. The sexual urges are normally directed to a member of the opposite sex. When the psychosexual development fails to reach this degree of maturity, sexual attraction is towards a person of the same sex. This may manifest in a lack of interest in members of the opposite sex, or even in outright antagonism. Shyness should not be mistaken for indifference, or lack of interest. The total personality should be considered.

Source:

- Rosales V. n.d. *Sex Education: A Basic Guide to Parents*. Manila: Institute for the Study of Human Reproduction.

• **TEACHER READER 1: Elements of Sex Education in the Context of Psycho-Sexual Development Based on Erickson's Eight Stages of Human Development**

Assumptions:

1. Unfolding process of potentialities and human qualities.
2. Each step depends upon a previous stage.
3. Greatly influenced by external circumstances, especially by the people around.
4. Love – development of the ability to relate.
5. Sex Education is education to love; therefore it also goes by stages and goes on throughout life, from womb to tomb.

Stage 1 (Birth to One year)

Critical development:	Basic Trust vs. Basic Mistrust
:	ego turned upon itself
:	uterine life – no experience of needs
:	outside the womb – the infant is reduced to a state of complete helplessness and total dependence
:	basic needs for food and comfort
:	touch – usually of mother and father

Stage II (1 to 3 years)

Critical Development:	Autonomy vs. Shame or Doubt
:	motor functioning
:	vivid awareness as separate existence from the rest of the world
:	explorations and their acceptance or rejection by surrounding persons
:	acceptance leads to guidance, rejection leads to defense, withdrawal or secretive behavior

Stage III (3 to 6 years)

- Critical development: Initiative vs. Guilt
- : play age, world of fantasy
 - : imitation of others' behavior
 - : use of instruments and objects
 - : games border on reality
 - : if activity is accepted or rejected, healthy or unhealthy self-image

Stage IV (6 to 12 years)

- Critical development: Industry vs. Inferiority
- : development of a need to prove one's personal value by what one can do
 - : success is important, healthy self-image, not center of the world, but healthy competition can lead to respect for individual and cooperation

Stage V – Adolescence (13 to 18 years)

- Critical development: Identity vs. Identity Diffusion
- : time of fast changes
 - : period of challenges
 - : time of searching and testing
 - : time of questioning one's beliefs, hard to recognize oneself

Stage VI – Young Adulthood (18 to 25 years)

- Critical development: Intimacy vs. Isolation
- : expression and confirmation of degree of identity from adolescence
 - : intimacy – tendency and ability to allow oneself to be known deeply by others
 - : personality ripens toward the ability to make an intense (and permanent) commitment to another person or ideal

Stage VII – Middle Adulthood (25 to 40 years)

- Critical development: Generativity vs. Self-Absorption/Stagnation
- : true intimacy comes to concrete expression, i.e. self-giving that contributes to the depth and meaningfulness of one or more persons
 - : conjugal relationship and parenthood
 - : includes self-expression in every constructive relationship

Stage VIII - Later Adulthood (40 to 65 years)

- Critical development: Integrity vs. Despair or Disgust
- : Integrity is the knowledge and acceptance of one's strengths and weaknesses, i.e., acceptance of wholeness
 - : realization of a life lived and the relationships formed, whether constructive or not dependable

Source:

- Jaffe, M. (1997). *Adolescence*. Hoboken, NJ: John Wiley and Sons, Inc

• **STUDENT READER 3: Influence from Parents, Peers, and Media**

Parents strongly influence a child's personality and social development by serving as models for children's behavior, by expecting certain responses and behaviors from their children, and by their methods of rewarding and punishing their children's behavior.

Parents influence adolescents if they are perceived by their children as good role models. When parents have a close relationship with their adolescent children as a product of their earlier years together, channels of communication are kept open and interests of the adolescents are entertained. If the parents are accepted or liked by their peers and friends, or find them "cool", their influence is likely to be strong.

Peer influence usually is more direct. Sexual conduct, for example, is very much influenced by best friends.

The influence of either generation depends on the situation. Adolescents perceive peers and parents as competent guides in aspects of life.

About 40% of adolescents' waking hours are spent in leisure activities. They enjoy watching television, listening to music, and hanging out with friends. Leisure time is also spent playing computer games and in sports activities.

Leisure time activities can promote healthy development or expose teenagers to excessive amounts of violence and sexual materials.

Well-adjusted adolescents are not likely to engage in anti-social or self-destructive behavior as a result of exposure to overly violent or sexual music or materials.

Analysis of popular music, TV, movies, and fashion confirm that as a society we are fascinated by sexual matters. Sexual messages pervade our entertainment media and advertising.

Media depictions of stereotypical adult relationships muddle the relationship waters even more. Relationships portrayed on television are generally superficial, and self-disclosure is minimal. For these and other reasons, teenage romances are often based on physical attraction rather than depth of emotionality.

Source:

- Jaffe, M. (1997). *Adolescence*. Hoboken, NJ: John Wiley and Sons, Inc.

Factors That May Affect Liking and Loving

Closeness (Proximity) – refers to the physical or psychological proximity between people. The closeness is the tendency for people to form friendships or romantic relationships with those whom they encounter often.

Physical appearance – people usually seek out others whom they consider their equals on the scale of physical attractiveness.

Similarity – how much we have in common with them (“birds of a feather”). Similar friends provide social validation for our beliefs, characteristics, etc. In practice, opposites seldom attract.

Reciprocity – we like people who like us and dislike those who dislike us.

Stimulating – one who is interesting or imaginative or can introduce you to new ideas or experiences.

Utility value – one who is cooperative and helpful, who seems willing to give her/his time and resources to help you achieve your goals.

Ego-support – sympathy and encouragement when things go badly, appreciation and approval when things go well.

Approval – all of us tend to like people who say nice things about us because they make us feel better about ourselves.

Source:

- Kaplan, P. (1986). *A Child's Odyssey: Child and Adolescent Development*. Greater Minneapolis-St. Paul Area: West Publishing Company.

WORKSHEET 1: Checklist for Adolescents

Put a check on the appropriate box depending on your answer.

Questions:	YES	NO	NEVER
Would you agree that adolescence is an age of dramatic physical change?			
Can you recall any unforgettable experience with regard to your awareness of the changes going on in your bodies?			
Have your parents prepared you for these changes?			
Have these changes affected you as a person?			
Have you talked to anyone about them?			
Was it easy to talk about them?			
Is adolescence an age of fluctuating emotion and personality change?			
Have you ever been told you're "sumpungin" or moody?			
Do you think that at your age you are still forming your identity?			
Is it hard to give information other than your data on name, birth, age, address, and other statistics?			
Do you think it's important to have someone whom you can call a role model? Who has made a great influence in your life?			
Is there someone who has made a great influence in your life?			
Is there someone who has made a great influence in your life other than your parents?			
Do you ever think that adolescence is an age of confusion?			
Have you ever experienced questioning your own belief?			
Have you ever experienced questioning those which your parents and teachers have taught you about life, about what is right or wrong, or what is good or bad?			
Is adolescence an age of sexual fascination?			
Have you ever had crushes?			
"Kinikilig ka ba" whenever you see a cute guy or girl or whenever you see your crush?			
"Natataranta ka ba" every time you see your crush approaching in your direction?			
Ever had the chance to secretly talk to your barkada or peers about sex?			

Questions:	YES	NO	NEVER
Would you say that adolescence is the age of both conformity and non-conformity?			
Have you ever been in a situation where you were forced to do something because most of your friends were doing it?			
Or have you heard your friends tell you "makisama ka naman" "KJ ka talaga"?			
Have you ever wanted so much to be like everybody else and not be different from others your age?			
Do you feel inferior when you compare yourself to others in terms of your physical appearance or physical development?			
Are you seeing that adolescence is an age of increasing independence?			
Ever felt like wanting to be out of the house just doing what you want to do without being nagged or getting a sermon from your parents?			
Ever felt like wanting to leave home or "maglayas ng bahay"?			
Ever felt like wanting to be rid of responsibilities at home?			

DEVELOPMENTAL CHANGES IN A YOUNG PERSON

By: Josefina Ramos

Suggested

Time Frame : 3 hours
(1 hour per lesson)
Subject : Technology & Livelihood Education
Year Level : 1st Year High School

LESSON 1: Changes in Adolescent Boys and Girls

LEARNING COMPETENCY

Deepen the understanding of developmental changes in adolescents

OBJECTIVES

The students are expected to:

1. Explain the developmental changes in adolescent boys and girls
2. Compare the developmental changes that occur between adolescent boys and girls

LEARNING CONTENT

Concepts

1. Boys and girls undergo physiological and psycho-emotional changes as they go through adolescence
2. For boys and girls, the primary developmental changes is maturation of the sex organs resulting in sperm production for adolescent boys and ovulation for adolescent girls
3. Physiological and psycho-emotional changes make adolescent boys and girls conscious of their maleness and femaleness leading to sexual attraction

Skills

1. Observing
2. Analyzing
3. Listing
4. Defining
5. Comparing
6. Inferring
7. Thinking critically
8. Gathering data
9. Collating
10. Communicating

Values

1. Appreciation
2. Sense of Responsibility
3. Cooperation
4. Listening to Others

Prerequisite knowledge

1. Boys and girls undergo physical, social, and emotional changes during puberty
2. Puberty is a period when boys and girls begin to mature sexually, physically, socially, and emotionally
3. Wellbeing during puberty is affected by hygienic practices

LEARNING RESOURCES**References**

- Catan, N., P. Giordano and M. Rivera. (2005). *Evangelizing Presence, Caring For Life*. Makati: Philippine Foundation of the Brotherhood of Christian Businessmen and Professionals.
- *The Theology of the Body Made Simple: Pope John Paul's Radical Teaching on Sex, Love and the Meaning of Life*. (2006). Pasay City: Pauline's Publishing House.
- Institute for Reproductive Health and Family Health International. (2003). *My Changing Body, Fertility Awareness for Young People*. Washington, DC: IRH.
- Institute for Reproductive Health, Philippines. (2004). *Module for Adolescent Reproductive Health*. Manila: IRH.
- <http://www.education.ucsb.edu/jemerson.adolescence>

Materials

Photo Albums/Scrap Books
 Worksheet 1: Chart on Developmental Changes
 Student Reader 1: Changes During Puberty
 Teacher Resource 1: Human Fertility
 Metacards

LEARNING ACTIVITIES

Preparation

Activity 1: Flashback

- The teacher should have already instructed the students beforehand to bring their family photo album with their pictures from childhood to the present.
- Ask 2-3 students to share the family photo album they brought to school.
- Let the students analyze the different changes they observe in the picture.

Development

Activity 2: Collaborative Learning

- Group the students into groups of five members. (Ask them to choose their moderator/facilitator, documentor, assistant to the documentor, time keeper, and reporter.) Then distribute **Worksheet 1: Chart on Developmental Changes** found in the attachments. Each one in the group gets a copy of the chart to be accomplished individually. Give them 7 minutes for this.
- The data to be written under the specific columns of the chart come from their observations of the developmental changes they observed in the pictures and from personal experiences.
- After the indicated time allotment, encourage the students to share their answers with the other members in the group. Give them 15 minutes for this. Tell the documentor to collate the answers on a separate sheet. (During the sharing, the teacher already prepares on the board the same chart used by the students.)
- After the sharing, ask each reporter in the group to report their work. (The teacher writes and collates the answers of the students on the chart prepared on the board.)
- From the chart, ask the students:

What are the common developmental changes in adolescent boys and girls?

- **Secondary sexual characteristics like pubic hair growth, voice and skin changes, muscle development**
- **Both are in puberty stage**
- **They feel awkward**
- **Both are conscious of their appearances**
- **Both begin to have sexual feelings**
- Show **Teacher Resource 1: Human Fertility** and ask the students to read **Student Reader 1**. Ask students to identify the changes during puberty from what they have read.

- With the use of metacards assign one color for the boys and another color for the girls. Ask them to write their answers to the following questions:

What are the unique changes that adolescent boys experience? What about adolescent girls?

What are the natural tendencies of these boys and girls during this stage?

- Post meta cards on the board and process the answers.
- Summarize, synthesize, and categorize the answers into physical, physiological, or emotional changes.

Closure

- Ask the following:

Give two significant differences in the physical development of boys and girls.

Give two important developmental changes that occur in boys during the onset of puberty.

Give two important developmental changes that occur in girls during the onset of puberty.

- Assignment

For the next lesson, the teacher will assign some students to prepare for a role play based on the case studies the teacher will give them. Form them into three groups and assign a narrator, a moderator, and a documentor for each group. Each group will select, from among themselves, actors to portray the characters in the case studies.

Case Studies:

- Case No. 1
Melissa, a 15 year old girl, gets accidentally pregnant by her boyfriend
- Case No. 2
Johnny - a boy who spends a lot of time and money with his barkada just to feel that he belongs and is "in"
- Case No 3
Terry - a girl confused with changes in her body and has no one to talk to about these changes

LESSON 2: Joys and Challenges in the Growth and Development of a Person

LEARNING COMPETENCIES

1. Determine common concerns related to adolescent developmental changes
2. Develop wholesome attitudes towards these developmental changes

OBJECTIVES

The students are expected to:

1. Analyze common concerns experienced by adolescents related to development at this stage
2. Adopt desirable attitudes regarding these developmental changes and concerns

LEARNING CONTENT

Concepts

1. Desirable attitudes towards these developmental changes and concerns include awareness and acceptance of oneself, respect for others, and openness to guidance
2. The timing of menstruation, wet dreams, sexual identity, relationship with parents and siblings, assertion of independence, peer pressure, and sexual experimentation are among the common concerns of adolescents undergoing developmental changes

Skills

1. Analyzing
2. Comparing
3. Listing
4. Creative thinking
5. Role playing
6. Gathering of data
7. Synthesizing

Values

1. Openness
2. Respect for parents
3. Respect for others
4. Collaboration

Prerequisite knowledge

1. Changes during puberty
2. Sudden physical changes in the boy and girl happen because of the increase of pituitary hormones.
3. Secondary sexual characteristics accompany the sudden physical changes.

LEARNING RESOURCES

References

- Ramirez, M. (Ed.). (2000). *Sex-Talk with Kids and Teens, A Manual on Training Parents as Educators on the Truth and Meaning of Human Sexuality*. Quezon City: Human Life International – Asia and Episcopal Commission on Family Life of the Catholic Bishops' Conference of the Philippines.
- Catan, N., P. Giordano, S.J. and M. Rivera. (2005). *Evangelizing Presence, Caring For Life*. Makati: Philippine Foundation of the Brotherhood of Christian Businessmen and Professionals.
- *The Theology of the Body Made Simple: Pope John Paul's Radical Teaching on Sex, Love and the Meaning of Life*. (2006). Pasay City: Pauline's Publishing House.

Material

- Teacher Reader 1: Changes During Puberty

LEARNING ACTIVITIES

Preparation

Activity 1: Recall

- Pick up on the feelings identified during the preparation and presentation in **Worksheet 1** in **Lesson 1**.
- Ask students to identify which feelings are important.
- Process the response of the students.

Development

Case Study Analysis

- Announce to the class the role play activity to be performed by the students assigned. Those who were not assigned will serve as audience and critics. They will also jot down their observations/notes about the presentations. After each presentation the moderator of each group will read the case study.

Case Studies:

(To be presented creatively through skits or pantomime by the group)

Case No. 1

Melissa, a 15 year old girl, gets accidentally pregnant by her boyfriend

Case No. 2

Johnny - a boy who spends a lot of time and money with his barkada just to feel that he belongs and is "in"

Case No 3

Terry - a girl confused with changes in her body and has no one to talk to about these changes

2. Each group will be given 10 minutes for their presentation.
3. After the presentations, ask the following:

What seems to be the problem?

Why do you think this problem came about?

What can be done to avoid or help in this situation?

- Deepen the students' answers by focusing on awareness of changes, respect for others, acceptance of oneself, and openness to guidance specially according to catholic teachings. Highlight the positive and negative traits of adolescence.

Closure

- Reflection:

Ask the student to pause and reflect on the following:

In your life, what practices would you like to start, stop, or continue in relation to developmental changes as boys and girls?

LESSON 3: God's Plan for Maleness and Femeness**LEARNING COMPETENCY**

Recognize these developmental changes as integral to God's plan for each person

OBJECTIVES

The students are expected to:

1. Reflect on one's individual position regarding being a boy or a girl at the age of puberty
2. Determine how developmental changes during puberty are part of God's plan

LEARNING CONTENT**Concept**

1. Developmental changes are part of the sexual maturation process in the context of God's plan

Skills

1. Analyzing
2. Defining
3. Gathering of data or information
4. Synthesizing
5. Reflecting

Values

1. Self-respect
2. Self-control
3. Respect for others
4. Appreciation
5. Gratitude
6. Faith in God

Prerequisite knowledge

1. Joy and Challenges in the Growth and Development of a Person

LEARNING RESOURCES**References**

- Ramirez, M. (Ed.). (2000). *Sex-Talk with Kids and Teens, A Manual on Training Parents as Educators on the Truth and Meaning of Human Sexuality*. Quezon City: Human Life International – Asia and Episcopal Commission on Family Life of the Catholic Bishops’ Conference of the Philippines.
- Rivera M. (2004). *Module for Adolescent Reproductive Health*. Manila: IRH.
- Mast, C. (1986). *Love and Life: A Christian Sexual Morality Guide for Teens*. Oregon: Ignatius Press.

Materials

Student Reader 2: Choices and Consequences If You Think Saying No is Tough
 Teacher Resource 2: Processing of Results of Agree/Disagree Statements
 Student Reader 3: Human Sexuality

LEARNING ACTIVITIES**Preparation**

- Ask students to read “A Woman’s Poem” and “A Man’s Poem” (***Student Reader 2:***).
- Ask 2 students to react to the poem on the woman and poem on the man.
- Process the reactions of the students by asking the following questions:

How do you understand lines 5 and 6 of “A Woman’s Poem?”

Kissing, petting and getting sexually involved, going “all the way” with each other.

How about lines 7 and 8?

Boy and girl broke up after getting sexually involved.

Why do you think this happened?

They became afraid of the consequences; they lost respect for each other; they became isolated from their friends; after their parents found out, they realized that they were distracted from their studies and other goals in life.

- Process the questions on "A Man's Poem"

What is your understanding of the whole poem?

The boy asked the girl to get physically intimate, but the girl said no. They got married and stayed married for life.

Is this possible? Draw out answers

Who is responsible for the boy and girl to get physically close or not?

Whose decision is it?

Development

- Play a "Disagree and Agree" game with the students.
- Read the following statements one at a time and ask the students to agree or disagree.
- A set of statements are read one at a time and students are asked to agree or disagree.
 1. It is okay for boys to engage in sex but not for girls.
 2. Sexual feelings are normal.
 3. Masturbation can cause pimples.
 4. From 13 years old onwards, a girl can get pregnant.
 5. What your friends say is more important than what your family members say.
 6. Not getting pregnant is only the girl's responsibility.
 7. Teenagers are ready to become mothers or fathers.
 8. For teenagers it is better to be "in" with a group rather than be alone.
 9. Boy-to-boy and girl-to-girl attractions at the age of puberty can be considered normal.
 10. I feel out of place because I don't have a boyfriend/girlfriend.
- The teacher processes the results of the game. (See **Teacher Resource 2**)

Closure

- Tell the students that in the natural flow of life and of love, and sexual relationships, being a boy or being a girl has its place for developing oneself as a person. Puberty is a passing stage of many changes, and it is good to recognize this, to accept this, and to go forward by making a decision to go through this stage in preparation for adult sexual responsibility.
- Ask the students to read **Student Reader 3**.

ATTACHMENTS

- WORKSHEET 1: Chart on Developmental Changes**

Physical Developmental Changes		Emotional Developmental Changes		How I Feel Towards These Changes
Boys	Girls	Boys	Girls	

• STUDENT READER 1: Changes During Puberty

Puberty is a period of life in which an individual becomes capable of reproduction. It is the time when the bodies of boys and girls change — bodies grow bigger and taller, genitals develop, and body hair appears. Puberty happens because new chemicals — hormones — are developing in the body, turning young people into adults. Usually puberty starts between ages 8 and 13 in girls and between ages 10 and 15 in boys, although some young people reach puberty earlier or later. Typically but not always, girls begin puberty about two years earlier than the boys. During puberty, a girl becomes physically able to get pregnant and a boy becomes physically able to father a child.

It is during puberty that hormonal changes occur influencing changes in boys and girls. Shown in the matrix below are some changes which boys and girl experience during puberty.

	Major Female Changes	Major Male Changes
Skin	Skin becomes oily, sometimes developing pimples or acne	Skin becomes oily, sometimes developing pimples or acne
Hair	Hair increases on the legs, underarms, and in the pubic area	Hair increases on the legs, underarms, and in the pubic area
Breasts	Breasts grow, swell, and hurt just a bit	Breasts grow, swell, and hurt just a bit
Body size	Hips broaden, breasts enlarge, weight and height increase	Shoulders and chest broaden, height and weight increase
Perspiration (sweat)	Perspiration increases and body odor may appear	Perspiration increases and body odor may appear
Voice	Voice deepens slightly	Voice deepens and may crack
Sexual organs	Period of menstruation begins and there is more wetness in the vaginal area	Wet dreams and erections occur and penis and testicles grow larger

Source:

- Institute for Reproductive Health and Family Health International. (2003). *My Changing Body, Fertility Awareness for Young People*. Washington, DC: IRH.

At puberty, which takes place around the ages of 10 or 11 up to about 14 or 15, sudden physical changes happen in boys and girls because of an increase of male and female hormones. The boys' sexual organ matures and starts producing sperm cells. The sperm cell is the man's contribution in producing a baby. The first ejaculation of sperm cells normally happens during the night when the body has his first wet dreams, usually accompanied by sexual dreams. This means he is now fertile and has the capacity to contribute to having a baby. It is nature's sign to the boy that he is now capable of getting a woman pregnant. From hereon until death, every single time he engages in sexual intercourse he can get a girl pregnant.

For the girl, her contribution in having a baby is an egg cell. When a girl is born, all her egg cells are in her ovaries. At puberty, her egg cells begin to mature one by one. This is due to the increase in hormones that are also responsible of producing mucus secretions. Nature's first sign to her that she has the capacity to get pregnant is her first menstruation, or menarche. This means that one egg cell has ripened, but there being no sperm cell in her body, therefore, she did not get pregnant. This is why menstruation takes place.

Normally, the egg cell from the girl and the sperm cell from the boy meet through sexual intercourse. When a boy is aroused, blood rushes to the penis and causes its erection. The penis is also the organ for sexual intercourse and from where sperm cells are released in the process called ejaculation. Once outside the boy's body, the sperm cells die quickly. Inside the girl's body, sperm cells can live up to 5 days.

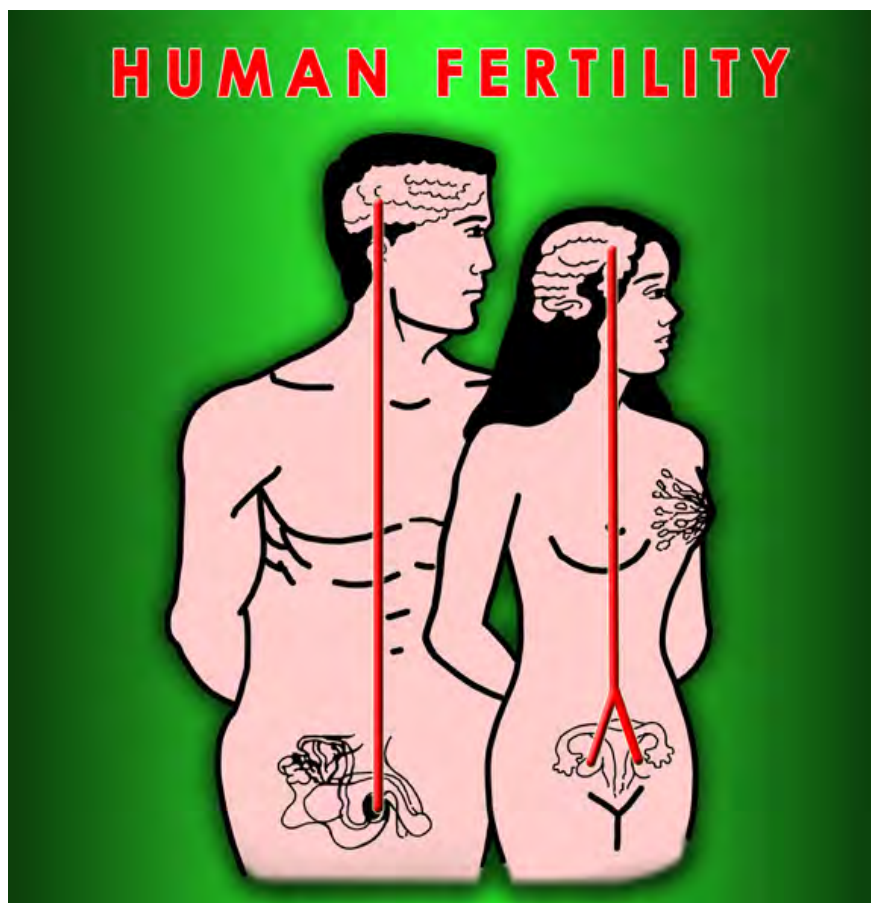
A woman, unlike the man who is fertile all the time, every time, and any time, has menstrual cycles. The cycle is the time between two menstrual periods, each cycle begins during the first day of menstruation and ends on the day before the next menstrual period begins. There are only a few days in the woman's cycle when she is fertile, meaning she can get pregnant if she engages in sexual intercourse at this time. This is the time when her egg cell matures and is released from the ovary to the fallopian tube, where it lives for 24 hours. If sperm cells are present in the body around this time, she will get pregnant. The baby will be born after nine months of pregnancy through her vagina, which is the birth canal and the place from which menstruation flows. This is also the organ where sperm cells are deposited.

Accompanying these sudden changes, are the secondary characteristics of puberty, due to the increase of male and female hormones. For boys, these include increase in size and maturation of the sexual organs, muscle development, increase in height, change of voice, growth of pubic hair, and development of Adam's apple. For girls, these include breast development, maturation of sexual organs, and oilier complexion. Changes in feelings accompany the physical changes in the adolescents. Details are found in the Teacher Reader which can also serve as the Student Reader.

Source:

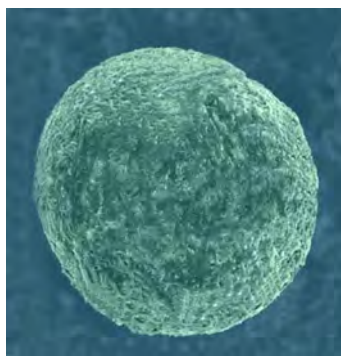
- Rivera M. (2004). *Module for Adolescent Reproductive Health*. Manila: IRH.

- **TEACHER RESOURCE 1: Human Fertility**



Source:

- Institute for Reproductive Health, Philippines. (2002). *All Natural Family Planning Manual*. Quezon City: IRH.



Egg



Sperm

• TEACHER READER 1: Changes During Puberty

By: Josefina Ramos

Changes in feelings accompany the physical changes in the adolescents. These include the way they feel about themselves, their relationships with their parents, and changes in friendships, sexual feelings and attractions.

The effects may be felt in struggling with a sense of identity and questions especially about being a boy or a girl, moodiness, anger, depression, a need for more independence, and privacy. Opinions of other boys and girls of the same age become more important. They also worry about appearance and the future. Sexual attractions occur with intensity.

It is normal to become more aware of the opposite sex and to feel more sexual than in the early years of childhood. In boys or men, the main sign of sexual feeling is the erection of the penis, and in girls, it is a romantic feeling accompanied by the wetness of the vagina. These feelings can come from romantic thoughts, reading, watching romantic scenes, or seeing or thinking about particular persons. Having sexual feelings is normal and is nothing to feel guilty about. Acting on some feelings carry responsibilities and every person should be aware of the need to make mature decisions about sexual feelings. When one gets physically intimate, it leads to heightened sexual intimacy.

Sexual feelings are not the same as loving a person in a mature way. There is a whole range of feelings related to romance such as crushes, infatuation, falling in love, eventually leading to a mutually exclusive friendship where there is acceptance, mutual respect and trust, and the element of decision-making for the good of one another, and for the relationships with each other and with God. The moral side is always considered in responsible decision-making.

Sexual maturity comes with age and time. Sexual feelings and their mutual resolution are part of mature love; however, decisions made on when to engage in sex affects the future lives of both the boy and the girl. The greatest consequence in engaging in sex without mature love is raising a family without preparation. This situation is magnified by feelings of inadequacy, loss of respect for oneself and the other partner. Mature love between a man and a woman is the best foundation for caring for one's fertility as a gift of God, building a home, and safeguarding the family.

That is why sexual intimacy between a boy and a girl can wait. He or she has the full capacity of controlling one's feelings and emotions, because the brain, which is the source of sexual understanding and conscious choices and the command center of all human activity, plays a major role in the development of human fertility and sexuality.

Coupled with the youth's devotion to his or her prayer life and spirituality, the attraction to a particular girl or boy can bloom beautifully to a mature love for each other.

• **STUDENT READER 2: Choices and Consequences If You Think Saying No Is Tough**

A Woman's Poem

*When I met him;
I liked him.
When I liked him,
I loved him.
When I loved him
I let him.
When I let him,
I lost him*

A Man's Poem

*I saw her, I liked her.
I loved her; wanted her.
I asked her; she said No
I married her.
After sixty years, I still have her.*

Source:

- Ramirez, M. C. (Ed.). (2000). *Sex-Talk with Kids and Teens, A Manual on Training Parents as Educators on the Truth and Meaning of Human Sexuality*. Quezon City: Human Life International – Asia and Episcopal Commission on Family Life of the Catholic Bishops' Conference of the Philippines.

- **TEACHER RESOURCE 2: Processing of Results of Agree/Disagree Statements**

By: Josefina Ramos

1. It is okay for boys to engage in sex but not for girls

From what we have learned, boys and girls have equal contributions in having a baby, and that men and women are created equal but different. Boys are more likely to think about sex in a physical way, while girls are more likely to think about sex in terms of romance, affection, and love. It is true that girls will be more affected by the consequence of sex especially if teenage pregnancy happens, but both the boy and the girl will be emotionally and psychologically affected for life. All the decisions they make while they are young will have consequences in their adult life. A boy will usually give love to get sex, while a girl will usually give sex to get love. This shows how they are operating on different wave lengths while they are young and immature. For a culture to accept the above statement is to have a double standard for boys and girls. To help in character building, boys and girls have to make equal sexual decisions.

2. Sexual feelings are normal

Yes, these are part of growing up and caused by the sudden upsurge of hormones. Bodily changes can make a young person very self-conscious of his or her appearance and the need for attention especially from the opposite sex is a challenge. Sexual feelings can be experienced on a physical level, and can be intense and distracting. Depending on how these feelings are viewed, the person can be comfortable or disturbed. What is important is to accept these feelings as normal to being a person. Acting on these sexual feelings carries with it a serious responsibility with possible consequences later on. From intense physical urges, sexual feelings need time to develop into loving relationships that are life-giving.

3. Masturbation can cause pimples

Masturbation does not directly cause pimples. Hormones cause skin changes making it usually oily. If a boy or a girl has pimples, they need extra care and hygiene or medical treatment. Stress experienced during puberty, sleepless nights, and comfort food like sodas and chips and chocolate and nuts aggravate pimples.

4. From 13 years onwards, a girl can get pregnant

It is not the age but the time when a girl first experiences her menstruation, or the age of menarche, which determines if a girl can get pregnant or not. The first menstruation signals that her body is now releasing a mature egg cell once in every cycle. Around this time in her monthly cycle, there are the days when she can get pregnant if she has sexual intercourse.

5. What your friends say is more important than what your family members say

During adolescence, peers and friends from the same age group are considered influential and the authority in their lives, especially in matters of appearance and social activities. However, depending on their relationship with their parents, and the role-modeling from them, values learned in childhood are usually questioned in a healthy and transient way until they form their own beliefs and convictions.

6. Not getting pregnant is the girl's responsibility

Agreeing with this statement puts the girls in an unfair and degrading situation. Usually the boy can be sexually aggressive, and then expects the girl to take precautions for not getting pregnant. If a boy has this orientation, he is not likely to become a responsible husband in sexual matters and if the girl agrees to this statement, she is taking the burden away from the boy, and therefore, agreeing to give him his freedom while she takes the responsibility. This is not a gender-fair situation. Many cultures have this thinking, which is why raising women's status in society has to be addressed.

7. Teenagers are ready to become fathers and mothers

Biologically speaking, this could be true.

At this time, the body undergoes so many changes, and hormones are fluctuating. The teenager also undergoes changing moods and likes and dislikes. Because it is the age of forming one's identity, it is a period of searching and testing, and still being absorbed in oneself, many times being confused and rebellious. Becoming a father or a mother means having to give up your own self-interests most of the time to take care of an infant. It means being responsible for the needs of the infant, and requires a mature love and commitment from the lifetime partner, until such time that the child matures. This aspect of parenting, of becoming a father and a mother, is what the teenager is not emotionally and psychologically prepared for. The consequences of becoming a teenage father or mother usually hamper his or her opportunity for a good adult life.

8. For teenagers, it is better to be "in" with a group rather than be alone

It is at this stage when friendships and significant relationships beyond family become very important for growing young persons. Social acceptance among their peers gives young persons the self-esteem that they need at this time. This is especially true if they are attractive and accepted by the opposite sex. The statement is one to agree with if there are good friends who share the values necessary to lead to maturity in all aspects. Friends can help young persons achieve their ideals. However, where there is a lack of friends with whom young persons share their values and ideals, and where the friends could be destructive rather than helpful, it would be best to avoid such groups of friends. Being isolated from friends at this stage of one's life can also be damaging in the future. It is a time for carefully selecting one's friends, and not just go along for the sake of having friends, no matter what the consequences are. Wholesome boy-girl group activities are most welcome and encouraged for teenagers such as sports, arts and cultural groups, or just wholesome fun activities are best. It is a good opportunity for young persons to know their own interests and limits, and establish friendships with both boys and girls.

9. Boy-to-boy and girl-to-girl attractions at the age of puberty can be considered normal

Sexual feelings are normally directed to the opposite sex but same sex attractions can happen at this time. These can be outgrown at some future time. Being irrationally attracted to someone of the same sex can be experienced as some kind of hero worship. This does not mean that a boy or a girl is homosexual and must not be labeled as one. Hero worship will be discussed in the next lesson.

10. I feel out of place because I don't have a boyfriend/girlfriend

Note to Teacher: Have a healthy debate on this one, and show respect for the positions taken. Be sure to show the advantages and disadvantages of both positions.

• **STUDENT READER 3: Human Sexuality**

From the point of view of God's plan, as stated by Mast (1986) in *Love and Life: A Christian Sexual Morality Program for Teens*, "Sexuality is a basic part of our personality, the way we progress toward maturity as a male or female person. In God's great love for us, He created us in his image; He did not make us like the lower animals or plants. He gave us a spiritual dimension, a soul, a gift of Himself that is shared only with human beings and angels. Because of our souls, we can think, choose, and express ourselves as either male or female."

God created persons as male and female because He saw that it was not good for man to be alone (Genesis 2:18). He created male and female to complete and complement each other (Genesis 1:27). He commanded them: "Be fruitful and multiply, fill the earth and subdue it" (Genesis 1:28).

Man delighted in the goodness of his partner. Each was a unique person, but their differences complemented one another. They shared God's love through all aspects of their being, including their sexuality.

In "The Truth and Meaning of Human Sexuality: Guidelines for Education within the Family", it is stated on the subject of Love and Sexuality: Man is called to love and to self-giving in the unity of the body and the spirit. Femininity and masculinity are complementary gifts, through which human sexuality is an integrating part of the concrete capacity for love which God has inscribed in man and woman.

Sources:

- Ramirez, M. (Ed.). (2000). *Sex-Talk with Kids and Teens, A Manual on Training Parents as Educators on the Truth and Meaning of Human Sexuality*. Quezon City: Human Life International – Asia and Episcopal Commission on Family Life of the Catholic Bishops' Conference of the Philippines.
- Mast, C. (1986). *Love and Life: A Christian Sexual Morality Guide for Teens*. Oregon: Ignatius Press.

RESPONSIBLE BOY-GIRL RELATIONSHIPS

By: Sister Maria Carmen M. Diaz, OP

Suggested

Time Frame	:	2 hours (1 hour per lesson)
Subject	:	Christian Living Education
Year Level	:	2 nd Year High School

LESSON 1: Boy Meets Girl

LEARNING COMPETENCIES

1. Understand the different types of boy-girl relationships
2. Gain insights from personal experiences of boy-girl relationship

OBJECTIVES

The students are expected to:

1. Differentiate the various types of boy-girl relationships
2. Share personal experiences of different boy-girl relationships

LEARNING CONTENT

Concepts

1. Among the various types of boy-girl relationships are physical attraction, infatuation, friendship, and love
2. Authentic love involves the willingness to sacrifice for the long term good of the beloved
3. Various types of boy-girl relationships may have positive or negative consequences, either intended or unintended. Among the negative consequences are sexual intimacies resulting in unintended pregnancies, sexually transmitted infections, and depression.

Skills

- | | |
|----------------|----------------|
| 1. Observing | 5. Collating |
| 2. Analyzing | 6. Describing |
| 3. Classifying | 7. Reporting |
| 4. Dramatizing | 8. Summarizing |

Values

1. Gratitude for one's sexuality as a gift from God
2. Sense of responsibility in any relationship
3. Cooperation in group work
4. Modesty
5. Sincerity

Prerequisite knowledge

1. Boys and girls undergo developmental changes
2. Appreciation of God's plan for femaleness and maleness

LEARNING RESOURCES

Reference

- Finley, J. and M. Pennock. (1977). *Christian Morality and You*. Notre Dame, Indiana: Ave Maria Press.

Material

Teacher Resource 1: Adolescent Relationships

LEARNING ACTIVITIES

Preparation

- Before the class, the students are asked to bring a picture of someone they have a crush on and the possibility of a teenage idol as portrayed by media. Ask some students to show and share their crushes.
- Group the boys and girls according to sex.
- Ask for two volunteers from each group to show the pictures they brought.
- Ask each or a student to explain their reasons for admiring the person in the picture.

Development

Ask the students these questions, list down the answers on the board.

What are the reasons they chose this person?

Possible answers would be mostly on the physical aspects, or proximity of the crush.

Where do boys and girls usually meet?

Possible answers are in school, extra curricular activities like sports, theater, dances, and community events.

- Introduce the picture stories. Ask 3 pairs of boys and girls to read out the lines.
 - **Andy and Marie** – Both know each other from their activities. They are not shy with each other. The boy takes the initiative to know the girl, the girl responds positively. They plan for a group date. Both are serious in their class.
 - **Bert and Susan** – They met socially in a drinking place. Both engage in drinking. They go out at night, with no permission from their parents after school, spending their allowance on each other and on fun. They are in love with each other. They want to be alone. They need each other.

- **Don and Katy** – Shy with each other, uncomfortable being teased, awkward, Katy does not know how to react to Don's initiative. Don still likes other girls, Katy does not like Don because of this. They are not even friends. They don't see eye to eye, although it is possible that there is some attraction between them.

Ask the class: *What are the differences between the 3 pairs of friends?*

- Analysis: Divide the class into 3 groups: assign one group to discuss one picture story. At the end of the discussion, the group reports on the following:

What are the good points about each story?

What can happen after this episode? See if you can continue the story as it has started.

What are the likely consequences?

What would they do if they were the characters in the story?

What would guide them in their behavior?

- Conduct a Question and Answer forum.

Separate the class into two groups by sex.

Ask them the following questions:

a) *Do boys behave differently when girls are around? Why?*

b) *Do girls behave differently when boys are around? Why?*

Ask a representative of the group to report their answers

Possible answers:

Yes, they are shy, self conscious, want to be their best, want to be accepted and liked, not want to be noticed, liked, accepted. Some do not know how to react.

Follow up with the following question:

c) *Where do girls and boys meet?*

d) *What do girls and boys do together? What do they like doing together or separately?*

Ask a representative of the group to report their answer

Possible answers:

Malls, schools, parties, neighbors, sports, interschool events, Internet, (Multiply, Yahoo Messenger Chat, listen to music, watch DVD, engage in sports).

Ask the students: *how do relationships develop?*

Possible answers:

- **Same likes**
- **Same interests**
- **Attracted to each other**
- **Same friends**
- **Friend of one's brother, sister, or family**

Show a picture story (**Teacher Resource 1**)

Ask the students: *what happens in a relationship?*

Possible answers:

- **Remain friends**
- **Be exclusive**
- **Nothing**
- **Develop to friendship, or Mutual Understanding (MU)**

Closure

- Synthesize the reports of the different groups. Emphasize that boy-girl relationships are healthy at this stage, in particular engaging in group activities. Boys usually behave differently when girls are around and vice versa. It is normal to experience physical sexual attraction at this stage. There is no reason for a boy or a girl to be disturbed when experiencing such feelings. Point out that decisions can be made at this time regarding relationships and that there are consequences for each type of relationship. Show the phases that a boy-girl relationship can go through before it matures into a relationship of commitment. From crushes (without exclusivity since a boy and girl can have many crushes) to mutual understanding (with some kind of exclusivity since a preference for one person is made), until it matures to a one-on-one committed love relationship, to serve as a foundation for building a family. When physical intimacy precedes the commitment, the consequences can limit their opportunities to mature into happy and productive individuals. As an individual matures, so do their preferences for sexual partners change until they commit themselves to a lifetime partnership.

LESSON 2: Being Male / Being Female

LEARNING COMPETENCIES

1. Appreciate the different aspects of human sexuality as basis for being male and being female
2. Determine the impact of human sexuality on the life of a person and his/her relationship with God

OBJECTIVES

The students are expected to:

1. Discuss human sexuality and its various aspects
2. Show how human sexuality can be nurtured

LEARNING CONTENT

Concepts

1. Human sexuality is the totality of an individual's maleness or femaleness. It encompasses the sexual knowledge, beliefs, attitudes, values, and behavior of individuals
2. An understanding of total human sexuality leads to a healthy wholesome attitude towards oneself and others, and a sense of well-being
3. Finding someone an individual can feel deeply close to is part of human sexuality

Skills

1. Sharing
2. Reflecting
3. Writing a prayer of gratitude
4. Evaluating
5. Discussing
6. Differentiating
7. Concluding
8. Summarizing

Values

1. Chastity
2. Modesty
3. Respect
4. Trust
5. Faith in God

Prerequisite knowledge

1. Different types of boy-girl relationships
2. Definition of human sexuality

LEARNING RESOURCES**References**

- Davies, H. (1993). *Sex Instruction in the Home Part II for Boys and Girls*. Surrey: Real Press.
- Percy, A. (2006). *The Theology of the Body Made Simple*. Manila: Paulines Publishing House.
- Rivera, M. (2009). Excerpt from the module on Human Sexuality, "*NFP as a Call to Sexual Maturity*", Institute for Reproductive Health, Philippines.

Materials

Manila paper
 Colored pentel pen
 Masking tape
 Teacher Reader 1 / Student Reader 1: Gender Concepts
 Teacher Resource 2 / Student Resource 1: Gender and Sexuality Concepts

LEARNING ACTIVITIES**Preparation****Activity 1: Learning about Sex**

- Review the insights gained from the previous lesson regarding boy-girl relationships by giving Activity 1.

- Rank the sharing of the whole class from the most common experiences to the least common.
- From these experiences, ask them to encircle those which are highly acceptable and underline which are not.

Ask: *What do you think is the hidden factor that determines the quality of each of the relationship?*

Ask: *What factor must be developed to make an unhealthy experience a healthy one?*

- Engage the class in a discussion centering on the key concepts. **Student Reader 1** is provided for enrichment.

Development

WINDOWS EXERCISE

- Ask students to draw a big window with four sections, with the numbers 1,2, 3, 4 on each section at the top. Show a prepared example on the board as shown below. Assure them that this sheet of paper is for themselves and will not be passed. Give the questions one at a time and allow 3 minutes for them to answer each question.

WINDOWS EXERCISE

1	2
3	4

In Window 1: *What is the first thing that comes to your mind with the word "sex?"*

In Window 2: *Where did you learn this?*

In Window 3: *What else do you want to know about sex?*

In Window 4: (Leave window 4 BLANK)

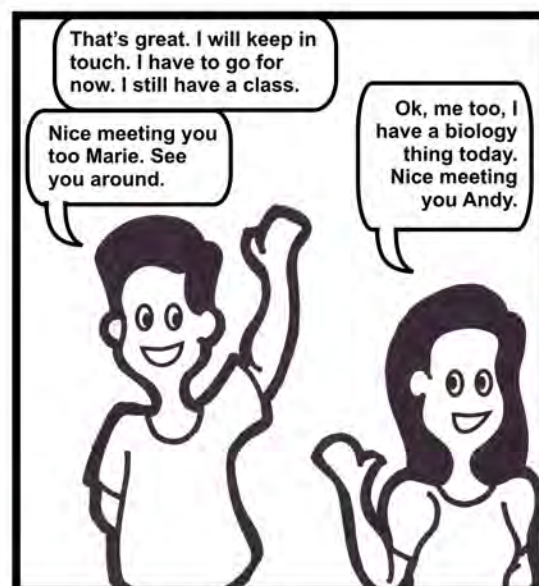
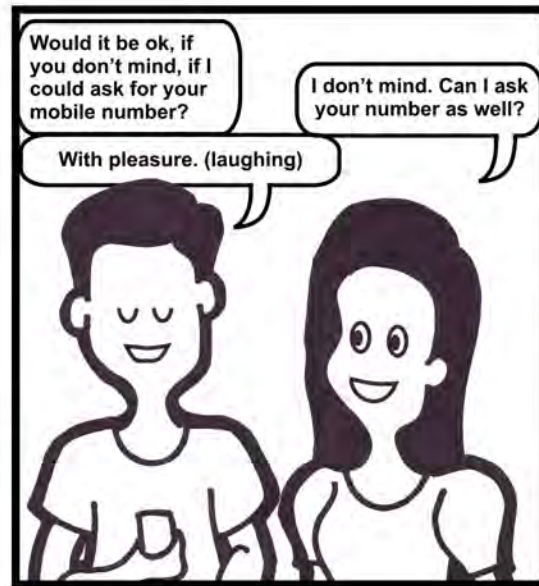
Closure

- After the students have written their responses to these questions, process their answers and correct misconceptions.
- Lead them through the concepts of sex, gender, and sexuality.

ATTACHMENTS

• TEACHER RESOURCE 1: Adolescent Relationships

ANDY and MARIE



BERT and SUSAN



DON and KATY

Don and Katy seem to find each other attractive but are too shy to even talk to each other.



They are being teased by their friends but the teasing makes them even more shy and awkward with each other.



Eventually Don finally gets the courage and gave Katy a rose



But Katy and Don are just too awkward with each other. The attraction does not even develop into friendship.



• **TEACHER READER 1 / STUDENT READER 1: Gender Concepts**

Sex is something we are born with and refers to genes and genitalia.

Gender is what you become, your expectations and roles and interests which may be dictated by social norms.

Sexuality is the quality of being male and female. It is beyond genitals and physical attributes.

There is a difference between women and men but it is meant to be complementary rather than competitive.

Sexuality is a process from infancy to adulthood.

Sexuality involves erotic and affective components.

Sexuality is beyond roles (i.e. males are macho and breadwinners while females are sexual objects and child bearers).

• **TEACHER RESOURCE 2 / STUDENT RESOURCE 1: Gender and Sexuality Concepts**

Gender

1. World Health Organization. (2009). *Gender*. Retrieved from <http://www.who.int/topics/gender/en/>

Gender refers to the socially constructed roles, behaviour, activities and attributes that a particular society considers appropriate for men and women.

The distinct roles and behaviour may give rise to gender inequalities, i.e. differences between men and women that systematically favour one group. In turn, such inequalities can lead to inequities between men and women in both health status and access to health care.

2. Population Reference Bureau for the Interagency Gender Working Group. (2003).

A Manual for Integrating Gender into Reproductive Health and HIV Programs: From Commitment to Action. Retrieved from <http://www.prb.org/pdf/ManualIntegrGendr.pdf>

- **Sex** refers to the biological differences between women and men. Sex differences are concerned with women and men's physiology.
- **Gender** refers to the economic, social, political, and cultural attributes and opportunities associated with being female and male. The social definitions of what it means to be female or male vary among cultures and change over time. Gender is a socio-cultural expression of particular characteristics and roles that are associated with certain groups of people with reference to their sex and sexuality.

- **Gender equality** permits women and men equal enjoyment of human rights, socially valued goods, opportunities, resources, and the benefits from development results. The fact that gender categories change over time means that development programming can have an impact on gender inequality, either increasing or decreasing it.
- **Gender equity** is the process of being fair to women and men. To ensure fairness, measures must be available to compensate for historical and social disadvantages that prevent women and men from operating on a level playing field. Gender equity strategies are used to eventually attain gender equality. Equity is the means; equality is the result.
- **Gender integration** means taking into account both the differences and the inequalities between women and men in program planning, implementation, and evaluation. The roles of women and men and their relative power affect who does what in carrying out an activity and who benefits. Taking into account the inequalities in designing programs to reduce them should contribute not only to more effective development programs but also to greater social equity/equality. Experience has shown that sustainable changes are not realized through activities focused on either women or men alone.

3. **Ghosh, Shuvo. (2009). *Sexuality, Gender Identity*. Retrieved June 2, 2009, from <http://emedicine.medscape.com/article/917990-overview>**

Gender Identity and Gender Role

Gender identity is defined as a personal conception of oneself as male or female (or rarely, both or neither). This concept is intimately related to the concept of gender role, which is defined as the outward manifestations of personality that reflect the gender identity. Gender identity, in nearly all instances, is self-identified, as a result of a combination of inherent and extrinsic or environmental factors; gender role, on the other hand, is manifested within society by observable factors such as behavior and appearance. For example, if a person considers himself a male and is most comfortable referring to his personal gender in masculine terms, then his gender identity is male. However, his gender role is male only if he demonstrates typically male characteristics in behavior, dress, and/or mannerisms.

Thus, gender role is often an outward expression of gender identity, but not necessarily so. In most individuals, gender identity and gender role are congruous. Assessing the acquisition of this congruity, or recognizing incongruity (resulting in gender-variant behavior), is important in the developing child. It is important also to note that cultural differences abound in the expression of one's gender role, and, in certain societies, such nuances in accepted gender norms can also play some part in the definition of gender identity.

In order to understand gender identity development and related issues, definitions must be emphasized for clarity. The topic of gender identity is often discussed merely in terms of dysfunction, and the diagnosis of gender identity disorder is a known phenomenon in both children and adults. However, physicians should remember that all individuals possess a gender identity and that the process of becoming aware of it is an important part of the psychosocial development of a child. In the realm of pediatrics, recognition of gender identity is a process rather than a particular milestone, and variance from societal norms can cause distress to both the child and the child's family. It is necessary to understand the varied pathways that lead to a mature and congruent gender role in order to fully assess a person's behavioral health.

Sex and Gender

In the English language, the terms sex and gender are often used interchangeably in the vernacular. However, in a medical and technically scientific sense, these words are not synonymous. Increasingly, the term gender is being accepted to define psychophysiologic processes involved in identity and social role. Therefore, it is not uncommon to hear references to "gender" by professionals from numerous disciplines, including medicine, psychology, anthropology, and social science. Gender comes from the Latin word *genus*, meaning kind or race. It is defined by one's own identification as male, female, or intersex; gender may also be based on legal status, social interactions, public persona, personal experiences, and psychologic setting.

Sex, from the Latin word *sexus*, is defined by the gonads, or potential gonads, either phenotypically or genotypically. It is generally assigned at birth by external genital appearance, due to the common assumption that this represents chromosomal or internal anatomic status. When an intersex condition is noted in a newborn, one sex is often chosen with the intention of simplifying social interactions and rearing.

A person's sex is a primary state of anatomic or physiologic parameters. A person's gender is a conclusion reached in a broad sense when individual gender identity and gender role are expressed. An often-used phrase to point out the difference, while an oversimplification, has some merit when dealing with these definitions: Sexual identity is in the perineum; gender identity is in the cerebrum.

Increasingly, the more subjective sense of gender identity takes precedence in evaluating patients' needs. In instances when a discrepancy exists between sex and gender, compassion and empathy are essential to foster better understanding and an appropriate relationship between the physician and the patient. Conceptually, professionals dealing with development may fairly state that sex is biologically determined, whereas gender is culturally determined.

Note that just as gender and sex are not interchangeable terms, neither are gender development and sexual development interchangeable. Physiologic sexual development progresses through distinct stages from the neonatal period through infancy, childhood, puberty and adolescence, and adulthood. Such physiologic change is distinguishable from gender-related behaviors during each of these stages. The sexual identity that emerges beyond childhood is very clearly a separate entity from gender identity. Aspects of physical sexual growth, eroticism, and eventual sexuality, although closely related to gender, should not necessarily be used to draw conclusions about a patient's gender definitions.

Sexuality

Sex is normally thought of as referring to the genitals, male or female, and to the sexual act. In this sense, sex is therefore something that human persons have or is a given. As sexual intercourse, it is also something that humans do and engage in. This is uppermost in the minds of most people. This is because sexual feelings are part of our human nature and the sex instinct so strong that it is second to the instinct for life preservation. These sexual urges are experienced at their most intense during the period of puberty since it comes with the sexual awakening due to the upsurge of hormones. But in truth, human sexuality permeates the whole of a person's being, every aspect of being human is sexed. Physical attributes other than the sexual organs are characteristically male or female such as the skin, hair, voice, bone and muscle structure, size, and weight. The processes of thinking, feeling, communicating and actions are also typically male or female.

1. Thus human sexuality is the quality of being male or female, and goes beyond having male or female organs or the act of sexual intercourse alone.

2. The psycho-sexual differences of man and woman are the very attractions that seek complementation in the other person. It is the respect that stems from the realization that men and women are created with equal dignity as persons that will help them work towards a union as sexed persons. It is sexuality that is the call to union between persons.

It is also the popularized notion that sex dominates our lives because of the highly sexualized environment around us. Sex is now a commercial commodity and part of commercial services. Business tends to capitalize on the romance and satisfaction it can bring to people. However, as a person matures normally, these physical urges get built into relationships of care and affection.

3. The process of sexual maturity begins from birth to adulthood. At every stage of human development, certain aspects of a person's sexuality are being resolved. Psycho-sexual development is the result of human interaction with both men and women especially with a person's significant others, in particular the parents and later, with partner in a love relationship leading to intimacy.

The reproductive functions of *sex* and *love* find fulfillment in the union of the man and the woman and the fruitfulness of this union, which are their children. It is then that sexual intercourse is no longer just a physical activity but is an expression of the total self-giving and receiving between the couple. Both the erotic and affective elements of human sexuality need to be integrated in the overall personal development. Thus sexual maturity is manifested in responsible sexual relationships that bring joy and satisfaction to both partners. It is this loving sexual relationship that is then the foundation for the next generation, in the context of family, as a community of persons. There is also the possibility that some persons choose to be celibate whilst channeling erotic sexual energies for an idealized greater good.

Source:

- Rivera, M. (2009). Excerpt from the module on Human Sexuality, "*NFP as a Call to Sexual Maturity*", Institute for Reproductive Health, Philippines.

MARRIAGE

By: Rosalinda Barquez

Suggested

Time Frame : 3 hours
(1 hour per lesson)
Subject Area : Makabayan
(Health 3, Religion 3 and Homeroom Guidance)
Year Level : 3rd Year High School

LEARNING COMPETENCIES

1. Learn the factors to consider in choosing a lifetime partner
2. Know the process of choosing a lifetime partner
3. Understand the teachings of the Church on marriage
4. Gain awareness of the importance of making decisions with regard to fertility

OBJECTIVES

The students are expected to:

1. Identify the factors to consider when choosing a lifetime partner
2. Explain how a lifetime partner is chosen
3. Elaborate on the teachings of the Church on marriage
4. Discuss the concept of fertility as a deliberate decision in the context of marriage

LEARNING CONTENT

Concepts

1. The determinants of choosing a lifetime partner include maturity, fidelity, commitment, and love above all
2. Choosing a lifetime partner involves the process of dating, going steady, courtship, engagement and marriage
3. Marriage is not only a contract but a covenant formed as an intimate communion of life and love
4. The two inseparable purposes of marriage are the good of the couple and the generation and education of the children
5. Fertility is the capacity to bear children
6. Having children is a joint decision of married couples who are the primary decision makers regarding the timing and number of their children

Skills

- | | |
|------------------------|----------------------------|
| 1. Analyzing | 10. Categorizing |
| 2. Comprehending | 11. Defining |
| 3. Communicating | 12. Synthesizing |
| 4. Thinking critically | 13. Making decisions |
| 5. Observing | 14. Differentiating |
| 6. Comparing | 15. Making inferences |
| 7. Organizing | 16. Expressing through art |
| 8. Expressing opinion | |
| 9. Predicting | |

Values

- | | |
|----------------------------|------------------------|
| 1. Loyalty | 7. Sacredness of Life |
| 2. Love | 8. Sacrifice |
| 3. Cooperation | 9. Respect for Others |
| 4. Sense of Responsibility | 10. Faith in God |
| 5. Patience | 11. Self-Determination |
| 6. Humility | |

Prerequisite knowledge

1. Human development and reproductive systems.
2. Similarities between male and female in terms of physical, psychological, intellectual, social, and spiritual responsibilities.
3. The different roles of male and female based on their similarities and differences.
4. Sexuality as the expression of one's maleness and femaleness. It is a gift from God to mankind for the purpose of building a family where the kingdom of God reigns.
5. Wholesome boy-girl relationship is basically rooted in kindness, respect, and love.

LEARNING RESOURCES**References**

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- <http://gicoc.com/GNFY/Going-Steady.htm>
- <http://www.familylife.com/marriage.asp>
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- <http://www.lifeandlibertyministries.com>
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Materials

Strips of Cartolina/Metacards

Worksheet 1: It's You and I

Assignment 1: Choosing a Lifetime Partner

Activity Cards: Stages of Relationships

Teacher/Student Resource 1: Rubrics for Role Playing Activity

Student Reader 1: The Meaning of Love

Assignment 2: Experiences in the Processes of Choosing a Lifetime Partner

Teacher Resource 2: Pictures of Marriage and Family

Student Reader 2: The Sacrament of Matrimony

Teacher Resource 3: Marriage Vows

Teacher Resource 4: Criteria in Grading Editorial Cartoon

Assignment 3: My Dream Family

Crayon, permanent marker, manila paper, masking tape

Overhead projector, transparencies, OHP displays, LCD/DLP, computer

LESSON 1: Wanted Lifetime Partner**LEARNING ACTIVITIES****Preparation**

- Ask the students the following:

What is your concept of marriage?

Marriage is the legal union of man and woman, as husband and wife.

Marriage is not a mere contract but an inviolable social institution. Its nature, consequences and practices are governed by law and not subject to stipulation except that the marriage settlements may to a certain extent fix the property relations during the marriage. (Civil Code of the Phil.)

Do you know persons who are married?

Yes/No

How long do you think have they been married?

5,10,15,20, etc.

- Tell the students: *Think of a married couple whom you think are good lifetime partners.*

Ask: *Why do you say they are good lifetime partners?*

Possible Answers:

- **They have been together for more than 10 years**
- **they seldom quarrel**
- **they are happy**
- **they take care of each other**
- **they have open communication lines**
- **they are faithful and supportive of each other**
- **they are healthy and look good together**
- **they have fun together**
- **their children are all professionals and happily married**
- **they have time for sports**
- **and other answers**

Development

- Ask the students:

What characteristics would you like your lifetime partner to have?

- **Activity 1 – Use of Metacards**

Tell the students:

Each one will be given a strip of cartolina where they can write at least 2-3 characteristics that they would like in their lifetime partner. Distribute strips of cartolina to each student and instruct them to finish their work in three (3) minutes.

Say:

Post the strips of cartolina with your answers on the board. Cluster your answers based on the determinants of choosing a lifetime partner: maturity, fidelity, commitment, love, economic stability, physical attributes, etc.

Ask the students:

If you do not find the characteristics in the person you like, will you still consider him/her to be your lifetime partner? Explain your answer.

- a. Yes, I really like him; take him as he is, help him improve, etc.**
- b. No, I will look for another person, etc.**

Emphasize the importance of maturity, fidelity, commitment, and love.

- **Worksheet 1 – It's You and I**

Group the students based on the number of determinants identified. Tell the groups that they are given five minutes to accomplish **Worksheet 1**. After the group discussion on the determinants assigned to them, each leader will be given 2-3 minutes to present their output. While reporting, the secretary of the group will write their answer/s on the board. Questions, comments and other answers from the students will be entertained.

After the leader's report, ask some students to summarize why such determinants should be considered in choosing a lifetime partner.

Possible answers:

- **To ensure a happy family where the couple and children live harmoniously.**
- **Being faithful and true, loving and caring for each other will make the relationship last.**
- **Mature enough to make wise decisions for the good of the family.**
- **Lifetime decisions when made at a mature age will more likely result in happy marriages rather than broken homes and families.**
- **The determinants can be known after knowing the person you are marrying for some time.**
- **Give yourself some time to choose and make a good decision by getting to know your partner well.**

Closure

- State generalizations about the characteristics and determinants necessary in choosing a lifetime partner.

Possible statements:

- **Maturity in choosing a lifetime partner leads to responsible parenthood.**
- **Everyone has to consider these determinants in choosing his/her lifetime partner.**
- **For marriage to become successful and happy, one has to be prepared for it. Hence, one should consider some determinants in choosing his/her lifetime partner.**
- **Family is very important in the development of society.**
- **Children are fruits of their parents' love. Those parents who stay together happily married have more chances of having children who are productive and well adjusted individuals.**

It is important to emphasize to the students that they too need to aim for, and acquire, these desired characteristics and that, at their age, they still have a long way to go to attain maturity and acquire the desirable characteristics of a lifetime partner. It would be detrimental for them to rush into marriage at a very young age since they have not yet adequately prepared for it.

- **Post-Instructional Assessment**

Tell the students to write an essay entitled, "The Importance of Choosing a Lifetime Partner." (To be submitted after 10 minutes).

Give the students their Take-Home Work: (**Assignment 1**)



LESSON 2: Processes in Choosing a Lifetime Partner

LEARNING ACTIVITIES

Preparation

- Ask the students to recall the determinants to be considered in choosing a lifetime partner. Call some students to explain briefly one determinant at a time.

Possible answers:

The determinants are:

- **Maturity – ability to make sound decisions and judgments, responsible for one's actions**
 - **Fidelity – the characteristic of being faithful, loyal and true to their parents and to the relationship**
 - **Commitment - the act of being bound to one's engagement or promise**
 - **Love – is the feeling and the decision to care for each other for a lifetime leading to marriage and founding a family**
 - **Economic – means the stability of one's financial capabilities to support a family**
 - **Physical – it refers to a person's appearance and capabilities**
 - **Character- refers to the disposition of a person in dealing with others either in the manner of thought, feeling, or action**
- Activity 1- Group Reporting**

Ask the leader of the group to report the results of the interview conducted by each group (**Assignment 1**). Each group will be given five minutes to present their report to the class. After the reports, call 3-5 students to summarize the results of the interview conducted. Process the answers given by the students.
 - Summary of Possible Data to be Reported by Groups:**
 - How did you meet your lifetime partner for the very first time?*
 - **We were classmates since high school.**
 - **We saw each other on the way home after a Sunday Mass.**
 - **We met at the party of a friend.**
 - **I was introduced by my friend to him/her.**
 - **He/she is a family friend**
 - What did you like in him/her?*
 - **She/he is good looking**
 - **She/he is humble**
 - **She/he is intelligent**

- **She/he was rich**
- **She/he shares the same interest**
- **She/he is open-minded**

3. *How long have you been married?*

- **We've been together for more than 10 years.**
- **We've been happily together for 15 years.**
- **etc.**

4. *What process did you undergo before you finally decided to propose marriage/accept the proposal?*

- **I went through having a number of crushes, dating, courting, going steady, and finally, got engaged with her before I proposed marriage.**
- **I just had known her for a few months without too much dating and courting, until we decided to settle down.**

5. *Did following/not following the processes involved in selecting a lifetime partner affect your present family life?*

- **By following the process, I was able to build a strong, happy and peaceful home.**
- **Settling down too fast without going through certain processes (almost) resulted in a broken family. We had lots of difficulties.**
- **Not knowing each other well resulted in conflicts during the earlier years. It took time for us to get adjusted and accept our differences.**

Development

- Tell the students: Choosing a lifetime partner involves some processes. Organize the students to come up with a role play.
- **Activity 2 – Role Play**
- Request the students to form five (5) groups. Inform them of the rubrics to be used in rating their presentation (**Teacher/Student Resource 1**). Distribute the activity cards (**Activity Cards 1-6**) containing the situations to be acted out by the members of the group. The groups will be given five (5) minutes to prepare.
- Ask each group to present their role play. Each group will be given five minutes for their presentation.
- After the presentation of the different groups, class discussion will follow. The following questions will be asked.

Crushes

1. *What are the common reactions when you see your crush? What is it like when someone has a crush on you. In the role play, do you think Nena reacted properly when she bumped her crush? Explain your answer(s).*

Blushing, feeling nervous, being self-conscious, excited, disoriented, out of focus, etc.

2. *Is it normal for a person to have many crushes? Why?*

Yes, because having crush on a person could be a consequence of liking the characteristics of person/persons; part of growing up; no commitment is required; admiring person(s) they like; etc.

Dating

1. *At what stage in one's life should one be allowed to go on dates? Do you think a third year student like Bryan should already be allowed to go on dates? Explain your answer?*

The right stage to go on dating is at late adolescence.

No, because he is still immature and not yet ready for responsibilities.

Yes, for him to improve his social life.

2. *What are the activities that are usually done during dates with someone or with a group?*

a) with someone:

- **going out for dinner**
- **hanging out with him/her or strolling around**
- **seeing movies together**
- **going on a picnic exclusively for the two partners**
- **on-line dating**
- **cell-phone dating through call or text messages**
- **virtual dating through video game playing**

b) with a group:

- **going on an excursion/a picnic**
- **hanging out at malls/parks with other groups**
- **attending parties**

Courtship

1. *At what stage should a man start to court a woman? Why?*

I think, a young man at late adolescence stage should already start courting a woman, because if he defers it to a later stage, he may no longer find time for girls especially if he puts more of his time on work.

When he is already in college because he is already mature enough to handle relationships.

3. *At what stage should a girl entertain a suitor? Why?*

A girl should entertain a suitor at late adolescence, because she is mature enough to decide for herself the kind of man she would want for a lifetime partner.

Furthermore, she is independent enough to make decisions in so far as establishing boy-girl relationship is concerned.

Early adolescence, so that she will have a chance to be exposed to several suitors.

4. *Is courtship important in a relationship? Why?*

It gives one a chance and time to get to know better the character and background of one's future lifetime partner and his/her family.

Courting gives us a time to understand one another, reveal one's interests, likes and dislikes, limitations and other aspirations in life.

Going Steady

1. *Do you think being exclusive to one another is an advantage or a disadvantage? Why?*

On one hand, going steady is advantageous, because:

- a. **you can always be together most of the time on weekends and even on week days**
- b. **you can prevent each other from risking the chance that some other 'singles' may woo your partner away from you**

On the other hand, going steady is disadvantageous because:

- a. **you limit yourself to one person and lose the chance of meeting a better person**
- b. **there may be a point when one of them may lose that warmth of love, thus, prompting him/her to begin giving up the relationship**
- c. **both man and woman withdraw themselves from the social scene, and they become too secluded**

Engagement

1. *Which do you prefer, long or short term engagement? Why?*

a. I prefer long engagement because...

- **it gives us more time to test our faithfulness and true love to one another.**
- **it gives us ample time to decide and plan for marriage.**
- **it gives us enough time to prepare ourselves emotionally, spiritually, and financially for marriage.**

- b. **I prefer a short period of engagement because...**
 - **it is less expensive**
 - **long engagements are no longer observed nowadays**

2. *What is the importance of 'engagement' in a relationship?*

Two people would be able to know each other and their families well enough to be sure that they are suited for life long companionship.

Marriage

1. *What attributes must a person possess before getting married?*

- **must be able to commit to a lasting love**
- **must be financially stable**
- **must be emotionally mature**
- **must be spiritually ready for married life**
- **must have an appreciation of parental responsibility for the children in particular, and for the whole family in general**

2. *How do you view the importance of marriage in a relationship?*

Marriage is a commitment, therefore it is an assurance that the relationship will last forever.

In marriage, deeper affection and appreciation for each other grows, thereby surpassing trials and difficulties.

Marriage is a commitment to faithfulness. It means forsaking all others and cleaving only to one's husband or wife. (Feliciano, 1975)

Marriage is also a commitment to provide for one's children; feeding, caring for them, educating and teaching them good values.

3. Post appraisal of the Role Play presented by the groups.

Tell the students:

I have to congratulate all of you for a very wonderful role-play presentation. You did your best to portray the situations assigned to your group. However, to evaluate every group's performance, we are going to use the rubrics intended for it. (***Teacher/Student Resource 1***).

4. Synthesis. The teacher will call 3-5 students to give a synthesis of the role play presented.

As presented in the role-playing activity, the groups portrayed the basic processes in choosing a lifetime partner, these processes being essential and important towards a happy married life.

Courtship is essential to a successful marriage, and dating is one of the first steps in choosing a mate. Dating is important because it offers the best opportunity for personal acquaintance. It provides opportunity to develop interpersonal skills useful before and within marriage.

The state of love exists when he/she longs for her/him when she/he is away: happy when he/she is around and lonely when he/she is not. He/she is not only concerned with the immediate good of his/her beloved but views everything in the light of her/his happiness for her/his whole life.

Understanding and devoting enough time to explore the different determinants provide the necessary preparation for an effective lifetime mate selection.

Closure

1. Ask the class to briefly recapitulate all the things they have learned about the processes involved in choosing a lifetime partner.
2. Lead the students to a discussion of **Student Reader 1** which sums up the guidelines of a lifetime partnership.

Ask the students the following questions:

- *What key messages did you find in the article?*
- *Do you agree with the messages?*
- *How do they relate to a lifetime relationship?*
- *Which part of the article do you find inspiring and enriching?*

Take-home work (**Assignment 2**).

LESSON 3: Till Death Do Us Part

LEARNING ACTIVITIES

Preparation

- Ask some students to read the results of their interviews of a married man/woman.
- Allow the students to give their insights about things they learned during the interview. Process the insights given by students.
- Summarize by saying: *The ultimate goal of love as manifested in the various processes of choosing a lifetime partner is marriage and eventually having a family with children.*

Development

- Show the students several pictures on marriage and family. (Call some students to describe the pictures one at a time.)

- Flash pictures 1 and 2 of marriage drawn from Teacher Resource 2 on the board. You may improvise and use your own pictures. Ask the following questions:

Why do people get married?

What is the importance of marriage in a relationship?

- Tell the students that in order for us to fully understand the importance of marriage, they will be asked to give their insights on the teachings of the Church on marriage. Group the students into 6 groups. Distribute **Student Reader 2**.
- Each group will be given one article, and the leader will be asked to share the group's insights with the whole class. (Give the groups 10 minutes to read, discuss and write their insights and 3 minutes to report their output to the class.) Process the answers/insights given by the students.
- Ask students to recite the marriage rites which focus on the sanctity of marriage. Flash the messages on the board or you may dramatize the presentation by asking a girl and a boy to enact the recitation of the marriage vows.
 - Get the insights of the students and emphasize that as future parents they have the responsibility of being the primary caregivers of children.
 - Show pictures of families shown in **Teacher Resource 2**. You may want to improvise by showing your own set of pictures.

Ask:

 - What do pictures 3, 4 and 5 have in common?*
 - Do you think a family is important to a married couple? Why?*
 - What makes a family happy?*
 - Ask the students to draw their dream family. Process their answers and emphasize the concepts of fertility, the capacity to have children. When people marry, having children is normally the next event. Having the children they want, when and how many, would be part of the decisions made jointly by the husband and wife, with the recognition that it is their responsibility to provide for the needs of their children particularly good health and proper education.
 - Tell the students that to achieve a happy marriage with an equally happy family having children of their own, effective decision-making on the part of the couples is important. If you were to make a decision, what do you think would be the ideal number of siblings in a family? Support your answer.

Closure

- Give the class five (5) minutes to summarize all the things discussed about marriage, fertility and family life.
- Lead the class to a final discussion about the sanctity of matrimony by asking 3-5 students to explain the paragraph: (Project this on an OHP or use of LCD/DLP.)
- A man and a woman marry by their choice, but when they do, God joins them together into one permanent union. Because marriage is God's indissoluble union of the couple, no human court or individual has the right to put it asunder.

- Post-Instructional Activity
 - a. To deepen the students' reflections on the articles discussed about marriage and family, with the same groupings, instruct them to make an editorial cartoon on this question: "What should a Filipino Family Be?" The groups will be given 15 minutes to finish their work. (Materials such as cartolina, crayon, pencil, and ruler will be given to each group.)
 - b. Instruct each group to assign one or two members of their group to explain in three minutes as to what their editorial cartoon is all about.
 - c. Tell the group that the activity will be graded as group quiz. Show criteria in grading the editorial cartoon (**Teacher Resource 4**).
 - d. Take-home work (**Assignment 3**) To be submitted next meeting.

ATTACHMENTS

• WORKSHEET 1: It's You and I

1. Give 2 to 3 reasons why you consider each determinant important in choosing your lifetime partner.
2. Your group will be given three to five minutes to accomplish the activity.
3. The leader of your group will be given one to two minutes to report.

Group No.	Determinants Considered in Choosing a Lifetime Partner	Reasons
1	MATURITY	
2	FIDELITY	
3	COMMITMENT	
4	LOVE	
5	ECONOMIC	
6	PHYSICAL	
7	CHARACTER	

Possible Answers to Worksheet 1**1. MATURITY**

- a. can make good decisions
- b. more responsible in handling relationship

2. FIDELITY

- a. can make the relationship lasting
- b. less conflicts on the part of the couple

3. COMMITMENT

- a. peaceful and lasting relationship
- b. dedicated in fulfilling his/her responsibilities

4. LOVE

- a. strengthens relationships
- b. less conflicts
- c. understands one another
- d. relationship can stand the test of time

5. ECONOMIC

- a. better future for the family
- b. less problems in terms of answering the needs of the family

6. PHYSICAL

- a. proud of having a good looking partner
- b. to have children that are good looking
- c. to have physically and mentally normal and healthy children

7. CHARACTER

- a. Responsible
- b. Hardworking, industrious
- c. God-fearing

- **ASSIGNMENT 1: Choosing a Lifetime Partner**

1. With the same grouping, interview at least three (3) married persons to find out how they chose their lifetime partners using the interview guide questions below:
 - a. How did you meet your lifetime partner for the first time?
 - b. What did you like in him/her?
 - c. How long have you been married?
 - d. What advice could you give in selecting a lifetime partner?

Each group will have to report to the class the result of the interview on the next meeting.

• **ACTIVITY CARDS: Stages of Relationships**

Directions:

1. Give each group an activity card to accomplish what is being required.
2. Each group is given ten (10) minutes to prepare and five (5) minutes to present their role play.

Activity Card 1

CRUSHES

Nena's ultimate crush is Aldred, a popularly known varsity player in the school. One day, they unexpectedly bump each other at the gate. If you were Nena, how would you react in this situation?

Activity Card 2

DATING

Bryan, now on his third year high school, wants to have his classmate named Dina as his date on his birthday. If you were Bryan, what would you do?

Activity Card 3

COURTSHIP

Andrea, at 18, would prefer for an old-fashioned but romantic way of courtship. If you were one of her suitors, how would you court her in a way she would surely like?

Activity Card 4

GOING STEADY

Tony and Gillian have been going steady for almost a month. If you were the couple, act out things/situations that you would probably do as exclusive to one another.

Activity Card 5

ENGAGEMENT

Lina and Albert have been engaged for quite sometime. Act out situation(s) that is/are being done by an engaged couple.

Activity Card 6

MARRIAGE

Jo and Joseph are planning to get married next month. If you were the couple, act out situations on the things that both of you would consider before getting married.

• **TEACHER / STUDENT RESOURCE 1: Rubrics for Role Playing Activity**

Relevance to the theme/topic	30%
Acting Performance	25%
Values Integration	25%
Originality	10%
Impact	10%
TOTAL	100%

• **STUDENT READER 1: The Meaning of Love**

By: Fr. Shay Cullen

Fewer and fewer people nowadays choose to take marriage vows preferring to live together as partners. Many feel that they are not ready to make a lifelong commitment to be husband and wife and married parents to their children. They feel happier to leave the door open so that either one can walk out at any time. That's easy for them but it leaves the children with the insecurity and uncertainty of having no mom or perhaps a dad when they wake up in the morning.

In the western world, family relationships have been under intense pressure for decades from materialism, lost values, unreasonable demands for continuous emotional and sexual gratification. It has led to an estimated divorce rate of one in every three marriages. So many couples are incapable of fidelity and pre-nuptial contracts have become common and so has the abandonment of marriage itself.

In the book of Sirach we are warned about the dangerous false friendship, fair weather friends and the true friend that money can't buy. The faithful loyal friend is the person who is at your side always when the going gets tough and when challenges lie ahead. The true friend who is there to support, help, serve, affirm and protect you from harm. That's what a loving marriage is all about... It's making a public commitment to the highest value and ideal – unselfish, self-giving to another for life. It is a commitment made in public before the whole community. The couple vow to be faithful for life to their husband or wife. They pledge to be honest, understanding, caring, kind, gentle, sensitive and loving without expecting a reward, setting conditions, seeking one's own pleasure and comfort. True love is unselfish. Above all, married love gives security, affirmation, care and affection for the children. It calls for courage, self-sacrifice and personal spiritual strength.

These values that imbue true love are vital, necessary for happy and intelligent children. They are the firm foundation for emotionally, psychologically and physically healthy children. Affirmation, admiration and encouragement are so necessary for the children to be secure, strong in mind and heart, whole and integrated, mature and wise. They will have them in abundance if the parents pass them on. The love between self-sacrificing parents brings family harmony. This is the goal and purpose of a loving, committed, married relationship.

This steadfast spiritual love that is seen in true marriage commitment and dedication is greatly helped by the mutual physical attraction we call "falling in love". This is a powerful natural force of gene compatibility, mutual recognition of goodness in the other. It is the chemistry of the emotional and romantic magnetism that creates that wonderful experience of crossing barriers and achieving intimacy. It is this and their spiritual beliefs that bind a couple to each other. It is not a fleeting experience either and with care and dedication can last a lifetime as many married couples have experienced.

Romantic love matures and is sustained by spiritual love and friendship. It can be nurtured and strengthened and will empower the couple to meet and overcome the challenges of establishing a family, caring for the children, having a secure working life and a happy respectful family.

• ASSIGNMENT 2: Experiences in the Processes of Choosing a Lifetime Partner

- Assign the students to conduct a personal interview with a married person (ages 25 – 35) to inquire from this person/couple experiences on the following processes:
 - a. Having Crushes
 - b. Dating
 - c. Courtship
 - d. Going Steady
 - e. Engagement
- Questions to be used in the interview:
 - How did you choose your husband/wife?
 - How do you think he or she chose you?
 - What advice would you give the young people about choosing a lifetime partner?
 - When you decided to get married, were you ready for it? How would a person know if he/she is ready or not?
- Tell the students that each one of them must be ready to orally report in class the result of the interviews.

• **TEACHER RESOURCE 2: Pictures of Marriage and Family**

MARRIAGE



LARGE FAMILY



SMALL FAMILY



• STUDENT READER 2: The Sacrament of Matrimony

Below are six (6) passages from Catechism of the Catholic Church (CCC) Article 1 – The Sacrament of Matrimony for each of your group to discuss. You are given 5-10 minutes to discuss it among the members of your group. After that, the leader of your group will be given 3 minutes to give his/her insights to the class.

1. *"The matrimonial covenant, by which a man and woman establish between themselves a partnership of the whole of life, is by its nature ordered toward the good of the spouses and the procreation and education of offspring; this covenant between baptized persons has been raised by Christ the Lord to the dignity of a sacrament."*

Possible Insights:

Marriage is a promise, like a covenant, to keep the partnership for life not only for the sake of staying together but more for the growth and good of each other and for the rearing of offspring.

The rearing of offspring does not simply mean giving them life and providing them food but making sure that the offsprings are reared in such a way that their basic needs and their needed education are met.

The union of man and woman is given dignity by God through the sacrament of matrimony.

2. *Sacred Scripture begins with the creation of man and woman in the image and likeness of God and concludes with a vision of "the wedding-feast of the Lamb." Scripture speaks throughout of marriage and its "mystery", its institution and the meaning God has given it, its origin and its end, its various realizations throughout the history of salvation, the difficulties arising from sin and its renewal "in the Lord" in the New Covenant of Christ and the Church.*

Possible Insights:

The sin of disobedience committed by Adam and Eve resulted in a lot of difficulties but the history of salvation shows that the original sin is vanished through the institution of the sacraments especially that of baptism and marriage. God, himself, instituted the sacraments and reminds mankind to uphold the sanctity of marriage.

3. *"The intimate community of life and love which constitutes the married state has been established by the Creator and endowed by him with its own proper laws. . . . God himself is the author of marriage." The vocation to marriage is written in the very nature of man and woman as they came from the hand of the Creator. Marriage is not a purely human institution despite the many variations it may have undergone through the centuries in different cultures, social structures, and spiritual attitudes. These differences should not cause us to forget its common and permanent characteristics. Although the dignity of this institution is not transparent everywhere with the same clarity, some sense of the greatness of the matrimonial union exists in all cultures. "The well-being of the individual person and of both human and Christian society is closely bound with the healthy state of conjugal and family life."*

Possible Insights:

Marriage, like single blessedness and religious life, is a vocation because being a wife, a husband, a mother or a father is a pledge and it requires the giving of self and the fulfillment of obligations, duties and responsibilities. Marriage may seem to be a human institution alone but in reality, it is according to the plan of God.

4. *God who created man out of love also calls him to love – the fundamental and innate vocation of every human being. For man is created in the image and likeness of God who is himself love. Since God created him man and woman, their mutual love becomes an image of the absolute and unfailing love with which God loves man. It is good, very good, in the Creator's eyes. And this love which God blesses is intended to be fruitful and to be realized in the common work of watching over creation: "And God blessed them, and God said to them: 'Be fruitful and multiply, and fill the earth and subdue it.'"*

Possible Insights:

It is good to note that God created man for a woman and vice-versa. In God's eyes, the love between man and woman for each other is a reflection of His love for man. God specifically instructed man to be fruitful and to multiply.

Therefore, for God's words to be fulfilled, man must choose to be with a woman and must agree to rear children according to God's purpose.

5. *The love of the spouses requires, of its very nature, the unity and indissolubility of the spouses' community of persons, which embraces their entire life: "so they are no longer two, but one flesh." They "are called to grow continually in their communion through day-to-day fidelity to their marriage promise of total mutual self-giving." This human communion is confirmed, purified and completed by communion in Jesus Christ, given through the sacrament of Matrimony. It is deepened by lives of the common faith and by the Eucharist received together.*

Possible Insights:

A married couple should by all means protect the sanctity of their marriage and must be true to their marriage vows, bearing in mind that it is God who united them and they must not allow anyone to separate them. They must help each other in keeping the marriage or their union intact.

6. *Toward Christians who live in this situation, and who often keep the faith and desire to bring up their children in a Christian manner, priests and the whole community must manifest an attentive solicitude, so that they do not consider themselves separated from Church, in whose life can be and must participate as baptized persons.*

They should be encouraged to listen to the Word of God, to attend the Sacrifice of the Mass, to persevere in prayer, to contribute to works of charity and to community efforts for justice, to bring up their children in the Christian faith, to cultivate the spirit and practice of penance and thus implore, day by day, God's grace.

Possible Insights:

In order to keep themselves focused and to be strongly united and dedicated not only to each other but also to their children, Christian couples must nurture their faith by religiously attending church services and doing activities that will strengthen their bond. As the saying goes: "A family that prays together, stays together."

- **TEACHER RESOURCE 3: Marriage Vows**

Guide us almighty as we strive to fulfill our marriage vows, Grant us, O Lord, to be one heart and one soul from this day forward for better or for worse, for richer or poorer, in sickness and in health, till death do us part. We put ourselves in Your hands as Man and Wife and share the meaning of this offering with all here present.

- **TEACHER REASOURCE 4: Criteria in Grading Editorial Cartoon**

(1) Poor	(2) Fair	(3) Good	(4) Very Good	(5)Excellent
Attractive				
Clear Message				
Clear Focus (not messy)				
Humor/Satire				
Simplicity of Message				
Clarity of Message				

- **ASSIGNMENT 3: My Dream Family**

My Dream Family

Make your dream family by writing your plans and then draw your dream family in the box intended for it.

MY PLANS

MY DREAM FAMILY



ON THE WAY TO PARENTHOOD

By: Arlene Aguilar

Suggested

Time Frame : 2 hours
(1 hour per lesson)
Subject : Makabayan (Social Studies)
Year Level : 4th Year High School

LEARNING COMPETENCY

Appreciate the factors to consider in deciding on the timing and number of children

OBJECTIVE

The students are expected to:

1. Discuss the factors that couples should consider in deciding the timing and the number of their children

LEARNING CONTENT

Concept

1. The physical, economic, psychological and social conditions of the couple and the developmental needs of the children are primary considerations in the timing and the number of children

Skills

1. Planning
2. Predicting
3. Analyzing
4. Evaluating
5. Communicating

Values

1. Responsible parenting
2. Caring for children
3. Temperance
4. Openness
5. Respect
6. Cooperation

Prerequisite knowledge

1. Human sexuality
2. Fertility
3. Responsible parenthood

LEARNING RESOURCES

References

- Buenviaje, P. et al. (2005). Quezon City: *MAPEH IV*, Phoenix Publishing House, Inc. pp. 144-145.
- Pope John Paul II. (2005). *Familiaris Consortio: Apostolic Exhortation of Pope John Paul II on the Role of the Christian Family in the Modern World*. Pasay City: Paulines Publishing House Daughters of St. Paul.
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- Ramirez, M. C. (Ed.) (2000). *Sex-Talk with Kids and Teens: A Manual on Training Parents as Educators on the Truth and Meaning of Human Sexuality*. Human Life International – Asia and the Episcopal Commission on Family Life of the Catholic Bishops' Conference of the Philippines (CBCP).
- Tan, E. (2000). *Your Greatest Gift for your Greatest Love*. Quezon City: Spiritus Works Publication.

Materials

Worksheet 1: The Buzz of Five

Student Reader 1: The Rights of Children

Teacher Resource 1: Wish of Mine

Teacher Resource 2: Critical Stages of Development as Basis of Parenting

Student Reader 2: Parenting, Parenthood and Responsible Parenthood

Student Reader 3: The Plan of God for Marriage and the Family and The Role of the Christian Family

LESSON 1: Primary Considerations for Responsible Parenthood

LEARNING ACTIVITIES

Preparation

Inform the class about the topic for today which is **responsible parenthood**. Tell them that as teenagers they should already know about **parenting**, so that they would not rush into marriage without the necessary preparation, nor make way for the conception of a new life without considering its consequences to themselves, the baby, and the community. Make them aware that building an ideal family takes into consideration the following factors:

1. The couples' relationship
2. The couples' understanding of the duties and responsibilities of parents
3. The couple's capabilities or readiness to raise and care for children along physical, psychological, social and economic conditions

Development

- For 15 minutes, let the class work on **Worksheet 1: the Buzz of Five**. This activity involves the students in identifying the different problems encountered by families. Instruct the class to form groups of 5 members, choose their group leader, and assign a recorder and a reporter. Provide each group with 5 to 8 pieces of metacards or pieces of 3" x 5" cartolina of different colors. Ask the class to individually answer the question, "Based on your observation, what are the problems that beset or confront the families in your community?" Then give them time to buzz or discuss their observations. Finally, they should agree what answers they should write on the meta-cards. Let the group members paste their meta-cards on the board.
- For five minutes discuss the activity result. Emphasize to the class some realities of the family status in our community. Call some students to explain why or how come a certain answer is considered a problem. Then, post the four bigger meta-cards prepared by the teacher and labeled: social, physical, psychological and economic. Let the class classify the answers under the four headings. All the answers that are economic in nature should be placed under economic. Same should be done with problems that would fall under psychological, physical and social. Reiterate to the class that people who are planning to become parents, or to have another baby in the family should consider the presented problems in making their decisions.

Guide Questions:

- Which of the four conditions of the families is most problematic?
- Whose primary responsibilities are these problems?

Closure

- Ask the students in two sentences to describe what kind of parent they would like to be. Let them give two examples of situations showing the kind of parent they wish to be in the future. For example: I will be a loving parent – I will read my child a bedtime story, I will be a strict parent – I will not allow my child to play outside the house. I will be a helpful parent – I will help my children with their school work.
- Emphasize that, just as marriage requires a lot of preparation, so does parenthood. The Catholic Church teaches that parenthood should only be considered in the context of marriage. At their age, the students are not yet ready for marriage or parenthood. They need adequate preparation for these.
- Assignment
 - Let the students read Student Reader 1. Ask the students to answer the questions at the end of the article. Tell them to prepare for an interesting and interactive discussion. Read the articles "The Rights of Children" (**Student Reader 1**).
 - Answer the question at the end of the article. Prepare for an interesting interactive discussion.

LESSON 2: Deciding the Timing and Number of Children

LEARNING ACTIVITIES

Preparation

Lead an interactive discussion based on the assigned reader on the rights of children. Ask students to identify the key messages in the reader.

Development

Tell the class that this lesson is a sequel of the previous lesson titled **"Primary Considerations for Responsible Parenthood."** Inform them that this lesson focuses on the decision-making process that couples should go through before deciding to have a baby. Encourage the class to participate in **Activity 1** called ***Wish of Mine***. See **Teacher Resource 1**.

Let the students read and reflect on **Student Reader 2** and **Student Reader 3**. These articles discuss God's plan for marriage and the family. The teacher is encouraged to read **Teacher Resource 2** and **Student Readers 2** and **3**.

Deepen the students' understanding and appreciation of the ***Wish of Mine*** activity by interpreting its results based on the concept presented in **"Parenting, Parenthood and Responsible Parenthood"** and **"The Plan of God for Marriage and the Family."**

Closure

- Ask the students to list down similarities and differences of **Student Readers 2** and **3**.
- Summarize the lessons for the day. Emphasize the key points by highlighting their importance and impact on their future decisions.

ATTACHMENTS

• **WORKSHEET 1: The Buzz of Five**

Introduction: Let's talk about the families in our community. I am sure you have good observations to share regarding your own family, your neighbors' families and the families of your friends and relatives. Let's do this activity called ***The Buzz of Five***.

Instructions:

1. First, join a group with five members.
2. Let your group sit in circle formation.
3. Answer the question that your teacher will give the class.
4. Discuss with your group your own answer. Take note of the similarities and differences in your answers with those of your groupmates.
5. Decide among yourselves, what would be the answers of the group.
6. Then write your answers on the metacards to be provided by your teacher.
7. Upon the signal of the teacher, paste those metacards on the board.
8. Be ready to say something more about your answers.
9. Find out what the whole class would conclude regarding our families.

• **STUDENT READER 1: The Rights of Children**

In the family, which is a community of persons, special attention must be devoted to the children, by developing a profound esteem for their personal dignity, and a great respect and generous concern for their rights. This is true for every child, but it becomes more urgent the smaller the child is, and the more it is in need of everything, when it is sick, suffering or handicapped.

By fostering and exercising a tender and strong concern for every child that comes into this world, the Church fulfills a fundamental mission: for she is called upon to reveal and put forward anew in history the example and the commandment of Christ the lord, who placed the child at the heart of the Kingdom of God: "Let the children come to me, and do not hinder them; for to such belongs the kingdom of heaven."

... I wish to express the joy that we all find in children, the springtime of life, and the anticipation of the future history of each of present earthly homelands. No country on earth, no political system can think of its own future otherwise than through the image of these new generations that will receive from their parents the manifold heritage of values, duties and aspirations of the nation to which they belong and of the whole human family. Concern for the child, even before birth, from the first moment of conception and then throughout the years of infancy and youth, is the primary and fundamental test of the relationship of one human being to another. And so, what better wish can I express for every nation and for the whole of mankind, and for the children of the world than a better future in which respect for human rights will become a complete reality throughout the third millennium, which is drawing near.

Acceptance, love, esteem, many-sided and united material, emotional, educational and spiritual concern for every child that comes into this world should always constitute a distinctive, essential characteristic of all Christian in particular of the Christian family: thus children, while they grow "in wisdom and in stature, and in favor with God and man" offer their own precious contribution to building up the family community and even to the sanctification of their parents.

Question: What are Pope John Paul's messages to parents about children in the above reader?

Source: Pope John Paul II. (2005). *Familiaris Consortio: Apostolic Exhortation of Pope John Paul II on the Role of the Christian Family in the Modern World*. Pasay City: Paulines Publishing House Daughters of St. Paul.

• **TEACHER RESOURCE 1: Wish of Mine**

- Prepare 3 colored bowls.
- Prepare 3 tally sheets for posting on the board.
- Provide each student with 3 pieces of star-shaped paper of different colors. Let them answer the questions on the color-coded stars: "What is a good age to become a parent?". The second bowl is for: "How many children would you like to have?" And the third bowl is for the question "How many years should there be in between children?"
- Instruct the students to drop their wishes in the corresponding bowls.
- Assign a pair of volunteers (six in all) for each bowl – one will read aloud the wishes inside the bowl while the other will tally the answers on the prepared sheets.
- Ask the class the following questions:
 - Which of the three wishes has the most number of wishers? What's next and so on?
 - What does the result imply?

• **TEACHER RESOURCE 2: Critical Stages of Development as Basis of Parenting**

Pre-natal, infancy and early childhood (birth to 6 years) – providing basic care: food and nutrition, learning to eat, talk, walk, elimination, learning to relate, forming simple concept of physical and social reality.

Middle childhood (6 to 12 years) – learning physical and mental skills, building wholesome attitudes towards self, learning appropriate sex roles, developing concepts for everyday living within bounds, developing conscience, developing attitudes towards social groups.

Adolescence (12 to 18 years) – accepting one's physique, and a masculine or feminine role, new relations with peers of both sexes, emotional independence from parents and other adults, acquiring advance education and achieving assurance of economic independence, desiring and achieving socially responsible behavior, preparing for marriage and family life, building conscious values in harmony with an adequate scientific world-picture.

Early adulthood (18 to 35 years) – selecting a mate, learning to live with a marriage partner, starting a family, rearing of children, managing a home, getting started in a job or career, taking on civic responsibility, finding a congenial social group, committing to a relationship or to an ideal.

Middle age (35 to 60 years) – achieving adult civic and social responsibility.

Later Maturity – adjusting to decreasing physical strength and health.

• **STUDENT READER 2: Parenting, Parenthood and Responsible Parenthood**

Parenthood is the state of being a parent. Traditionally, it means being a father or mother of the biological child. When adoption is involved, the parents are the legal father or mother (couple) of the child.

Parenting is defined as the skills, experiences, abilities, and responsibilities involved in rearing and educating a child.

Responsible parenthood is the will and ability to respond to the needs and aspirations of the family and children. It is a shared responsibility between husband and wife to determine and achieve the desired number and spacing of their children according to their own family, life aspirations, taking into account psychological preparedness, health status, socio-cultural, and economic concerns (PPMP DP 2005-2010).

Responsible parenting (RP) is defined as the series of decisions couples make to ensure the best possible life for the family and for the community to which the family belongs. RP is a commitment to ensure the well-being of the family and to enable each member to fully develop his/her capabilities and potentials.

In the context of any religion, Responsible Parenting is defined as the ability of the parents to raise children in the Filipino way and to satisfy the social, economic and religious responsibilities of the family.

It is also the parent's accountability to provide a good quality of life, both material and spiritual to their family, children, and community. Responsible parenting also includes the process of deciding how many children to have and when to have them.

Parenting involves the abilities, skills, responsibilities, duties and life experiences in attending to and providing for the physical, emotional, intellectual, financial, and spiritual needs of the children.

Parenting also includes the inculcation of values and the instilling of discipline. It entails a lot of hard work and great responsibilities; no time-out, no vacation or sick leave. It takes 24/7 in fulfilling parenting roles. Thus, parents face a lot of challenges. Once a parent, always a parent.

Duties and Responsibilities of Parents

• **Provision of Physical Care and Love**

- The physical, emotional and mental health of children depends on the quality of prenatal care they receive.
- The duty and responsibility starts during the prenatal stage.

• **Inculcating Discipline**

- Parents should be role models in inculcating discipline in their children.
- Children should be trained to think and reason out for themselves and be able to distinguish between right and wrong.
- They should learn to accept limitations, to appreciate the value of freedom with responsibility and understand the requirements of living happily and peacefully with other people.

• **Developing Social Competence**

- Socially competent children are described as friendly, happy, self-confident, responsible, imaginative, alert, and energetic. These children have good communication skills and a high emotional quotient (EQ).
- Social competence can only be achieved if children have a high self-esteem. This is developed by allowing them to do things on their own, to think for themselves and to make age-appropriate decisions.

- Self-confidence is an important component of social competence. This is developed by praising children for their efforts and congratulating them for their successes. If they fail, encourage them to try again.

- **Education**

- Parents are the children's first teachers and the home, their first school.
- Suitable learning experiences must be provided in the home to hasten their mental development as early as infancy.
- Parents are duty-bound to discover and help develop their children's innate talents and abilities to the fullest extent possible.
- Remember, every child has the right to education. Parents are obliged to send and provide for their children's schooling until they finish their chosen vocational or college course.

- **Citizenship Training**

It is necessary to teach children:

- A sense of nationhood and commitment to the development of the country.
- Citizenship training to acquire a perspective larger than the family.

It is important for children to have:

- A sense of nationhood
- Pride in own culture
- Appreciation and love for the beauty and bounty of the country
- Determination to advance the collective interests of countrymen

- **Teaching the Wise Use of Money**

Children should be taught the value of money, of thrift, and of self-reliance

- When they start schooling, they may be given a reasonable allowance which they, themselves, will budget according to their needs.
- They may also be provided the opportunity to buy things which they choose for themselves such as school materials and supplies.
- As much as possible, they should be made conscious of their share in the family budget.

- **Financial Aspect of Responsibility**

Aside from education, parents have the responsibility of providing their children with other minimum basic needs such as:

- A happy home and a good family environment
- Clothing that is appropriate for every occasion
- Nutritious food
- Health care

Parents should work hard to support the family sufficiently, without sacrificing quality time with their children.

- **Spiritual Formation**

- Parents are also responsible for the spiritual formation of their children, involvement in church activities, and family prayer
- Parents should be role models in loving, obeying, and worshipping God

Source: Excerpts from Responsible Parenting and Natural Family Planning Facilitator's Guide, PopCom, nd-

• **Student Reader 3: The Plan of God for Marriage and the Family and The Role of the Christian Family**

Christian revelation recognizes two specific ways of realizing the vocation of the human person, in its entirety, to love: marriage and virginity or celibacy. Either one is, in its own proper form, an actuation of the most profound truth of man, of his being "created in the image of God."

Consequently, sexuality, by means of which man and woman give themselves to one another through the acts which are proper and exclusive to spouses, is by no means something purely biological, but concerns the innermost being of the human person as such. It is realized in a truly human way only if it is an integral part of the love by which a man and a woman commit themselves to one another till death. The total physical self-giving would be a lie if it were not the sign and fruit of a total personal self-giving, in which the whole person, including the temporal dimension, is present: if the person were to withhold something or reserve the possibility of deciding otherwise in the future, by this very fact he or she would not be giving totally.

Man, the image of God who is love

This totality which is required by conjugal love corresponds to the demands of responsible fertility. This fertility is directed to the generation of a human being, and so by its nature it surpasses the purely biological order and involves a whole series of personal values. For the harmonious growth of these values a persevering and unified contribution by both parents is necessary.

The only "place" in which this self-giving in its whole truth is made possible is marriage, the covenant of conjugal love freely and consciously chosen, whereby man and woman accept the intimate community of life and love willed by God himself, which only in this light manifests its true meaning.

Children, the precious gift of marriage

In its most profound reality, love is essentially a gift; and conjugal love, while leading the spouses to the reciprocal "knowledge" which makes them "one flesh", does not end with the couple, because it makes them capable of the greatest possible gift, the gift by which they become cooperators with God for giving life to a new human person. Thus the couple, while giving themselves to one another, give not just themselves but also the reality of children, who are a living reflection of their love, a permanent sign of conjugal unity and a living and inseparable synthesis of their being a father and a mother.

When they become parents, spouses receive from God the gift of a new responsibility. Their parental love is called to become for the children the visible sign of the very love of God, "from whom every family in heaven and on earth is named".

That God's design may be ever completely fulfilled

- The Church is certainly aware of the many complex problems which couples in many countries face today in their task of transmitting life in a responsible way. She also recognizes the serious problems of population growth in the form it has taken in many parts of the world and its moral implications.

In an integral vision of the human person of his/her vocation

- By means of recourse to periods of infertility, the couple respects the inseparable connection between the unitive and procreative meanings of human sexuality.

- But the necessary conditions also include knowledge of the bodily aspect and the body's rhythms of fertility. Accordingly, every effort must be made to render such knowledge accessible to all married people and also to young adults before marriage, through clear, timely and serious instruction and education given by married couples, doctors and experts. Knowledge must then lead to education in self-control: hence the absolute necessity for the virtue of chastity and for permanent education in it.

Source:

- Pope John Paul II. (2005). *Familiaris Consortio: Apostolic Exhortation of Pope John Paul II on the Role of the Christian Family in the Modern World*. Pasay City: Paulines Publishing House Daughters of St. Paul.

FAMILY PLANNING: WHAT TEENS NEED TO KNOW

By: Arlene Aguilar

Suggested

Time Frame	: 2 hours (1 hour per lesson)
Subject	: Makabayan (Social Studies)
Year Level	: 4 th Year High School

LEARNING COMPETENCIES

1. Demonstrate familiarity with the different methods of family planning
2. Understand the teachings of the Church on family planning

OBJECTIVES

The students are expected to:

1. Describe the different methods of family planning
2. Explain the teachings of the Church on family planning

LEARNING CONTENT

Concepts

1. There are different methods of family planning
2. For legitimate reasons, the Church allows couples to delay births
3. The Church allows the use of natural family planning and prohibits abortion and the use of artificial contraception
4. The couple's informed conscience, guided by moral norms, is the ultimate arbiter for decisions on planning their family

Skills

1. Classification Skills
2. Presentation Skills
3. Decision-making Skills
4. Communication Skills

Values

1. Appreciation of knowledge about family planning
2. Understanding the moral aspect of family building

Prerequisite knowledge

1. Marriage
2. Responsible Parenthood
3. Human Fertility
4. Couple's Fertility Goals

LEARNING RESOURCES

References

- Balsam, C. and E. Balsam. (1996). *Family Planning: A Guide for Exploring Issues, Third Edition*. USA: Ligouri Publications.
- Catan, N., P. Giordano, S.J. and, M. Rivera. (2005). *Evangelizing Presence Caring for Life*. Makati, Metro Manila: The Philippine Foundation of the Brotherhood of Christian Businessmen and Professionals.
- Department of Health. (2007). *The Philippine Clinical Standards, Manual on Family Planning*. Manila: DOH.
- Fernandez, T. (2008). *Module on Gender Sensitive and Responsible Personhood, Parenthood and Nationhood Workshop*. TABF / Lihok Pilipina Foundation.
- Jarapa, S., R. Perez, and T. Segarra. (1997). *Current Social Issues*, Manila, Philippines: Rex Book Store, Inc., pp. 26-61.
- Ledesma, A. (2009) "Pastoral Guidelines and Core Values in NFP Promotions" in *Natural Family Planning: Values, Issues, and Practices*, co-edited by Chona Echavez and Estrella Taco-Borja, Manila: Philippine Center for Population Development, pp. 3-29.
- Rivera, M. (2005). "Co-Creators according to God's Plan: A Look at Natural Family Planning (NFP)" in *Evangelizing Presence: Caring for Life*, co-edited by Catan, N. and P. Giordano, S.J. et al., Makati: The Philippine Foundation of the Brotherhood of Christian Businessmen and Professionals. pp. 72-73.
- Sahu, B. (2004). *Aids and Population Education*, New Delhi: Sterling Publishers Private Limited, Inc., pp i-ii.
- Sy, M. and A. Wei. (1987). *Family Planning (Planned Parenthood)*. Manila, Philippines: Merriam Webster, Bookstore, Inc., pp. 1- 13.
- http://www.netdoctor.co.uk/health_advice/facts/naturalfamilyplanning.htm
- <http://en.wikipedia.org/wiki/Familyplanning>

Materials

Teacher Resource 1: Fertility and Family
 Teacher Reader 1: Family Planning Methods
 Worksheet 1: Oh Yeah! Oh No!
 Assignment 1: Survey of FP Use
 Student Reader 1: Different Natural Family Planning Methods
 Teacher Reader 2: Pastoral Guidelines and Core Values in NFP Promotion
 Assignment 2: Media Production
 Cartolina and marking pens

LESSON 1: Family Planning Methods

LEARNING ACTIVITIES

Preparation

- Start the session by telling the class about the topic for the day which is family planning, particularly, the different methods of family planning. Make the students realize the importance of the topic to teenagers like them by citing the advantages and disadvantages of being informed about family planning as among the top social issues, not just in the Philippines but all over the world.
- Ask the class to share their knowledge of family planning based on what they have read, heard from TV shows, or from their friends, parents and elder relatives. Guide the sharing by posing the following questions:
 1. What methods of family planning have you heard of? Name some methods.
 2. Are there conflicting ideas about family planning? Give examples.
 3. In your own opinion, what groups should be responsible in promoting family planning?
- Guided by the above questions, lead the class into a lively discussion by processing their given answers. Take note of the conflicting ideas about family planning cited by the students.

Development

- Lead the discussion using **Teacher Resource 1**. You may use the Powerpoint instead of the pictures in discussing the topic. Let the class react to the definitions, especially about the idea that family planning is not just for couples who wish to limit the size of the family, but also for those who would like to have children or to know the causes of not having children.
- Let the class answer **Worksheet 1** dubbed as **Oh Yeah! Oh No!** This exercise assesses the understanding of the students of some important concepts of family planning. The students' understanding plus a degree of emotion are required in doing the activity. Rather than having the students express the answers, colored cards are distributed and students are supposed to use certain color and to express their opinion. For example, red for no, green for yes and yellow for don't know. (In this manner the teacher will have a feel of the knowledge of the students).

Closure

- Wrap up the lesson on the methods of family planning. Clarify questions and emphasize the main points. Give the students **Assignment 1**.
- Assign the class to read **Student Reader 1**. Tell the class that the different NFP methods will be covered in the next lesson.

LESSON 2: Family Planning and The Church

LEARNING ACTIVITIES

Preparation

Activity 1

Psych up the class by reviewing the previous lesson on family planning and its methods. Process the data generated through the assigned survey given during the previous meeting. Before collecting the survey forms, ask each student to report the data gathered, by raising their hands. Example, ask the question: "Who among you had a female respondent?" Ask the question: "Who among you had a male respondent?" Count the number of raised hands, then write on the board the frequency. Continue till the last item has been reported.

Summarize the data. How many are users of artificial methods and how many are users of NFP, and how many used both.

Activity 2

Ask the class who they think are responsible in disseminating the information about family planning? Let the class discuss briefly their own opinion about the role of parents, schools, and government agencies, in the proper dissemination of family planning information. Process the sharing and lead the class to realize the following:

1. Sex education is a primary duty of the parents. Sex education includes sexuality, fertility, chastity and procreation.
2. The schools and parents are responsible in forming the students' conscience with regard to family planning practices.
3. The government is responsible for the education of citizens towards decision-making based on informed choices.

Development

Activity 1

To know about the Church's stance about family planning, lead the class in a discussion based on **Teacher Reader 2**: Facilitate the deepening of the students' understanding by discussing the probing questions and the exercise at the end of the article.

Activity 2

After the deepening activity, form quartets and let each quartet come up with at least one slogan about family planning. Make sure that the slogans are reflective of the Church teaching about family planning. Provide the students with half-size cartolina and a marking pen.

Closure

Wrap up the lesson and give **Assignment 2**.

ATTACHMENTS

- **TEACHER RESOURCE 1: Fertility and Family**
By: Arlene Aguilar

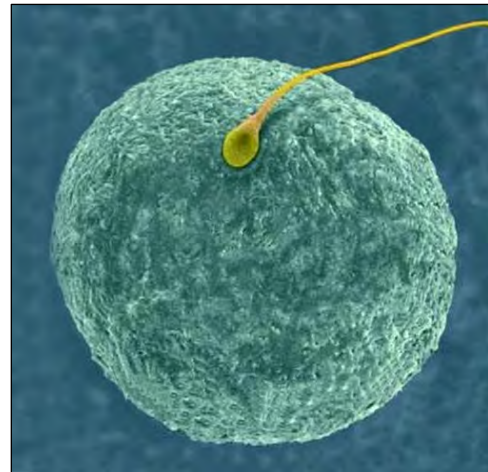
Lecture-Discussion

Show Powerpoint/picture of the fertilized egg cell

The physiological bases of family planning is based on the facts of human fertility.

This is every person's first baby picture. It shows the union of an egg cell and a sperm cell. At this point of union, nothing else will be added or subtracted for the human person, it will not grow into anything else but a human person, and all it needs is time and the proper environment.

Fertilization



Show picture of the sperm cell and egg cell



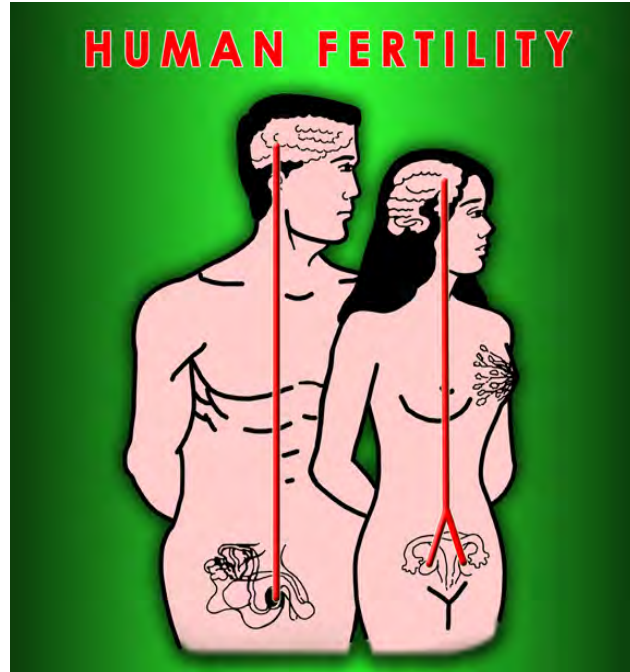
Egg Cell

Sperm Cell

Show the picture of the male and female reproductive systems

Show the picture of the male reproductive system

Trace the passageway of the sperm cell from the time it is produced until it is released from the man's body to the female reproductive tract



- At around puberty, **sperm cells** begin to be produced in the **testes**.
- The male hormone, **testosterone**, directly influences the production of the sperms called spermatogenesis. Testosterone is also responsible for the development of secondary male characteristics. A skin covering called the **scrotum** protects the testes.
- The sperm cells are stored and become mature in the **epididymis**. The sperm cells are then transported through the **vas deferens**.
- They are combined with fluids from the **seminal vesicles** and the **prostate gland**.
- Together they form a milky white fluid called **semen**. The **fluids** nourish and assist the movement of sperms until they are released by the millions from the man's body in the process of ejaculation.
- Fluids secreted by the Cowper's gland neutralize the acidic environment in the urethra due to the passage of urine. The sperms are released through the **penis**, which is the man's organ for sexual intercourse.
- Within minutes after ejaculation, sperms can reach a woman's Fallopian tube and can live from **3-5 days** in a woman's body at a time when she is fertile.

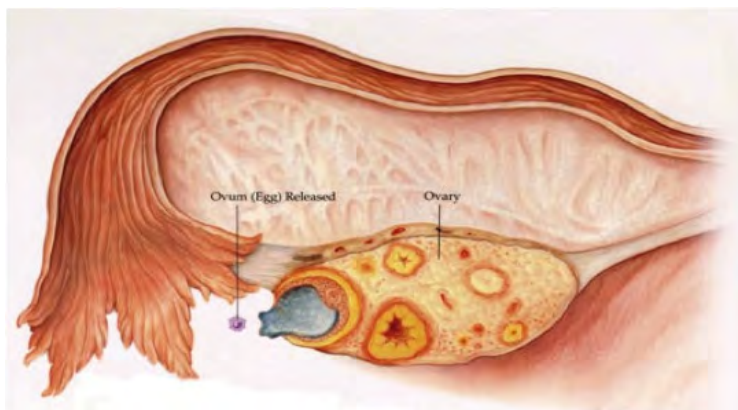
Show a picture of the female reproductive system

Trace the passageway of the egg cell from the ovaries to the fallopian tubes until it deteriorates and is reabsorbed in the body



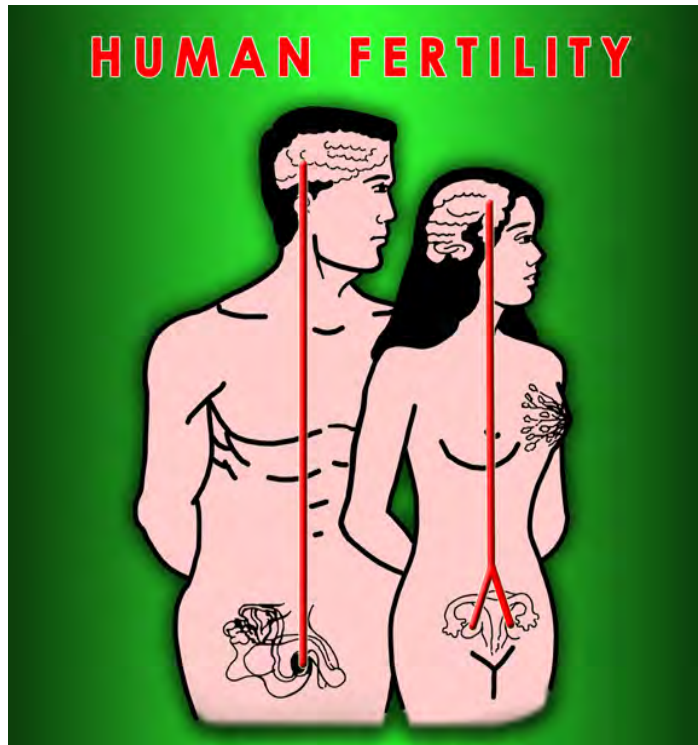
- The **egg cell**, on the other hand, grows and develops in the **ovaries**.
- When a baby girl is born, her **ovaries** already contain egg cells. At puberty, the eggs begin to mature. Once in every cycle, an egg cell fully matures and is released from the ovary into the **fallopian tube**. This process is called **ovulation**.

Show the picture/Powerpoint of fertilization shown at the start of the session



Ovulation

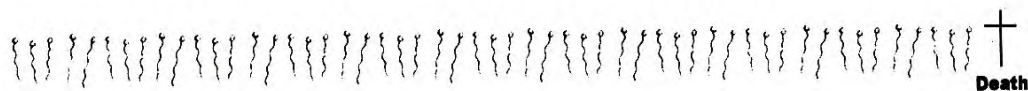
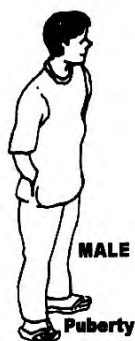
- The egg cell survives for about **24 hours** in the Fallopian tube. If a sperm cell is present, fertilization is likely to occur. **Fertilization** is the union of the egg cell and the sperm cell.
- The fertilized egg journeys for around 6 days towards the uterus where it is implanted in the endometrium or uterine lining. Pregnancy takes place for a period of 9 months and culminates with childbirth. The cervix, which is the neck of the uterus, dilates at childbirth to allow the emergence of the baby from the uterus through the vagina.
- If unfertilized, the egg cell deteriorates and is reabsorbed in the body. In about **10-16 days**, the uterine lining is shed off in the form of menstruation.



The Brain and Human Fertility

Human Fertility:

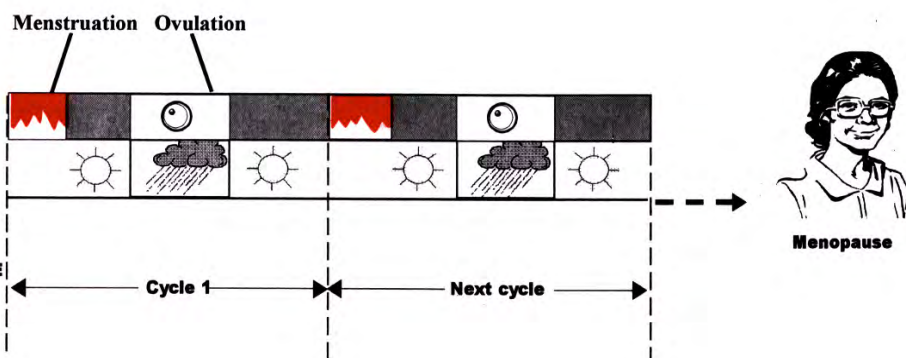
- Fertility is the capability of the woman to conceive or get pregnant and the ability of the man to impregnate a woman. As previously discussed, it involves certain parts of the body – the male and female reproductive organs. It **also involves the brain** as the command center of all human function.
- The onset of puberty signals the start of human fertility. This is a unique and distinctive period and is characterized by certain developmental and physical changes that occur at no other time in the life span. This occurs during the teen-years.
- Human fertility is characterized by either male or female fertility. In Natural Family Planning, the concept of fertility is seen from a joint perspective of the man and the woman. Without either one, the capacity is not activated.



Male Fertility from puberty to death

Show the Powerpoint/picture of male fertility

- The man's fertility is signaled by his first ejaculation during sleep, known as **nocturnal emission** (wet dreams).
- A man is fertile everyday of his life starting from puberty and ends at death. This means he has the ability to father a child (impregnate a woman) for every sexual intercourse that he engages in from puberty until he dies.
- In the conception of a child, the man contributes the sperm
- The sperm can live up to five days inside the woman's

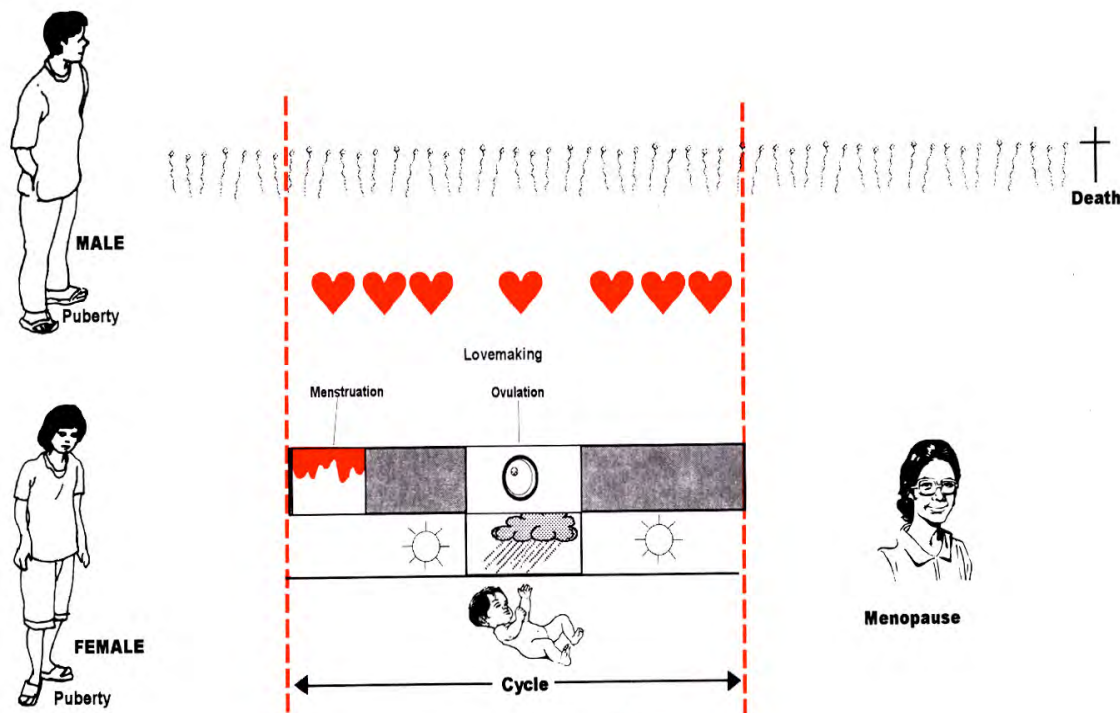


Female Fertility from puberty to menopause

Show the picture of female fertility

- A woman is fertile when she has the ability to become pregnant. This is signaled by the **menarche**, her first menstruation at 8-12 years of age.
- A woman is fertile only on certain days of each menstrual cycle. These are the days when she can become pregnant.
- In the conception of a child, the woman contributes the egg cell.

- The egg cell is released at ovulation, which occurs once during each menstrual cycle
- A woman's fertility ends at **menopause**, when menstrual periods stop.



Joint Fertility Diagram of Male and Female

Show the picture of joint fertility

- **Joint Fertility** involves the united and equal contribution of the male and female in the decision and ability to have a child, although it is the woman who becomes pregnant and goes through childbirth, fertility involves **contributions** from both the **male and female**.
- The sperm and the egg meet through lovemaking or sexual intercourse.
- Lovemaking can occur anytime throughout the menstrual cycle of the woman.
- However, a baby results from lovemaking **only during** the woman's fertile days, when she releases an egg. A sperm from the man unites with the egg to produce a baby.
- At other times, lovemaking will not result in pregnancy.
- It is also crucial to understand that aside from the male and female reproductive body parts, the **brain** is involved in the process of **reproduction**, not only physically but more so on the decision-making process. A couple can make decisions when to have children based on their values and financial capabilities.

Comparison of Seasons and Woman's Fertile and Infertile Time



Show the picture of comparison of planting season and woman's fertile and infertile time.

Draw out from the students how the planting season may be similar to the woman's fertile and infertile days

- As a classic example, let us compare the woman's fertility with planting rice.
- Planting during the **dry season** will not result in growth of the crop. Similarly, lovemaking during woman's dry period or infertile time **will not result in a pregnancy.**
- On the other hand, planting during **wet season**, when followed by the sun, will produce growth. Similarly, love-making during the woman's wet period or fertile time **will result in a pregnancy.**

Knowledge on fertility will make us better understand how pregnancies can be planned. Couples make decisions with regard to their fertility intentions. This is an important factor to consider when helping individuals choose the family planning options and make decisions about their fertility intentions, an important factor in helping couples choose their family planning options.

Ask the students if they have questions and make the necessary clarifications

Illustrated Discussion

Focus on the time they had their menarche: What were the beliefs/practices you remember when you had your first menstruation?

Ask: Do you think there are scientific bases for the beliefs/practices our elders taught us?

Note their answers on the board and summarize.

Ask how many girls in the room experience menstruation on a monthly basis

Illustrated Discussion

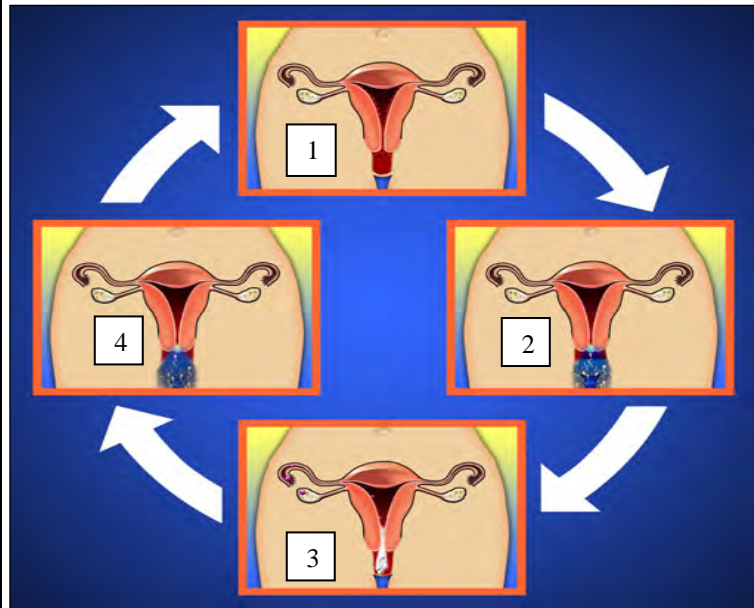
Show pictures/illustrations of the different phases of the menstrual cycle

THE MENSTRUAL CYCLE

- Menstruation and the menstrual cycle are part of being a woman.
- Menstrual cycle is a cyclic process of the reproductive system, which happens to every woman who has reached puberty.
- It starts from the first day of the woman's menstrual period until the day before she begins her next menstrual period. Since this happens regularly, it is called a cycle.
- The cycle involves the release of a mature ovum from the ovaries up to the shedding off of the endometrium.

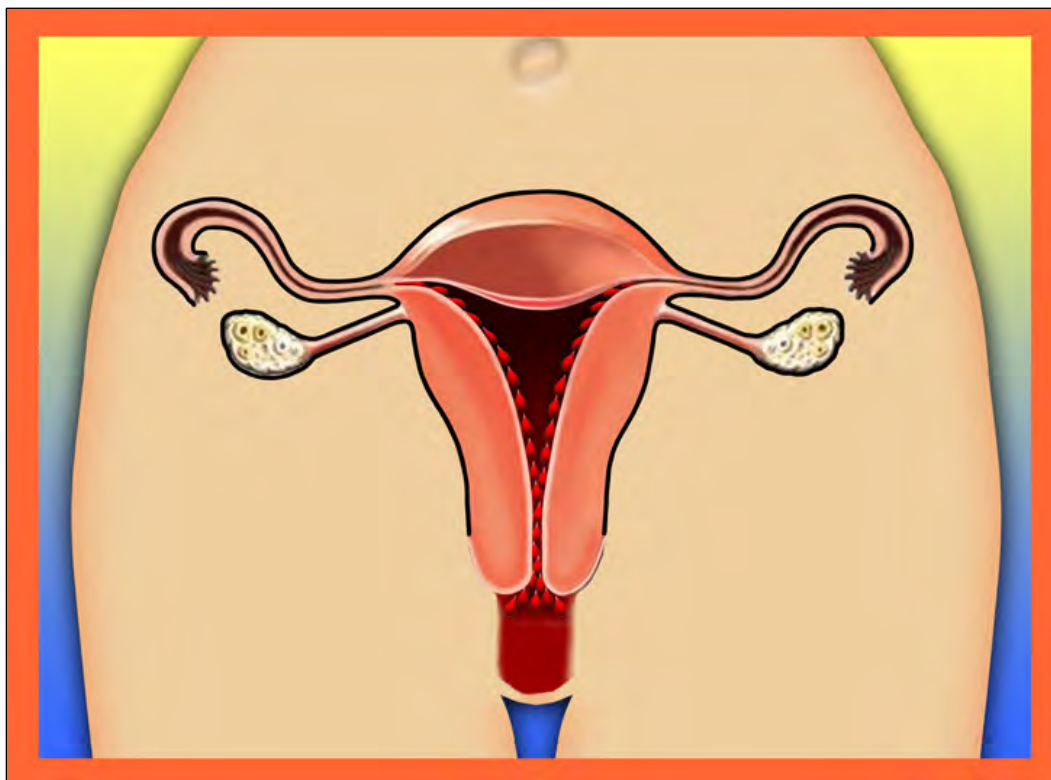
Length of the Menstrual Cycle:

- The length of the menstrual cycle varies for each woman.
- For some, the cycle is as short as 21 (or even fewer) days. For others, it is as long as 35 days or more. On the average, a menstrual cycle usually lasts 28 days.
- Irregular periods are common in girls who are just beginning to menstruate. It may take the body a while to adjust to all the changes taking place.

Phases of the Menstrual Cycle

The Menstrual Cycle has four phases. These are:

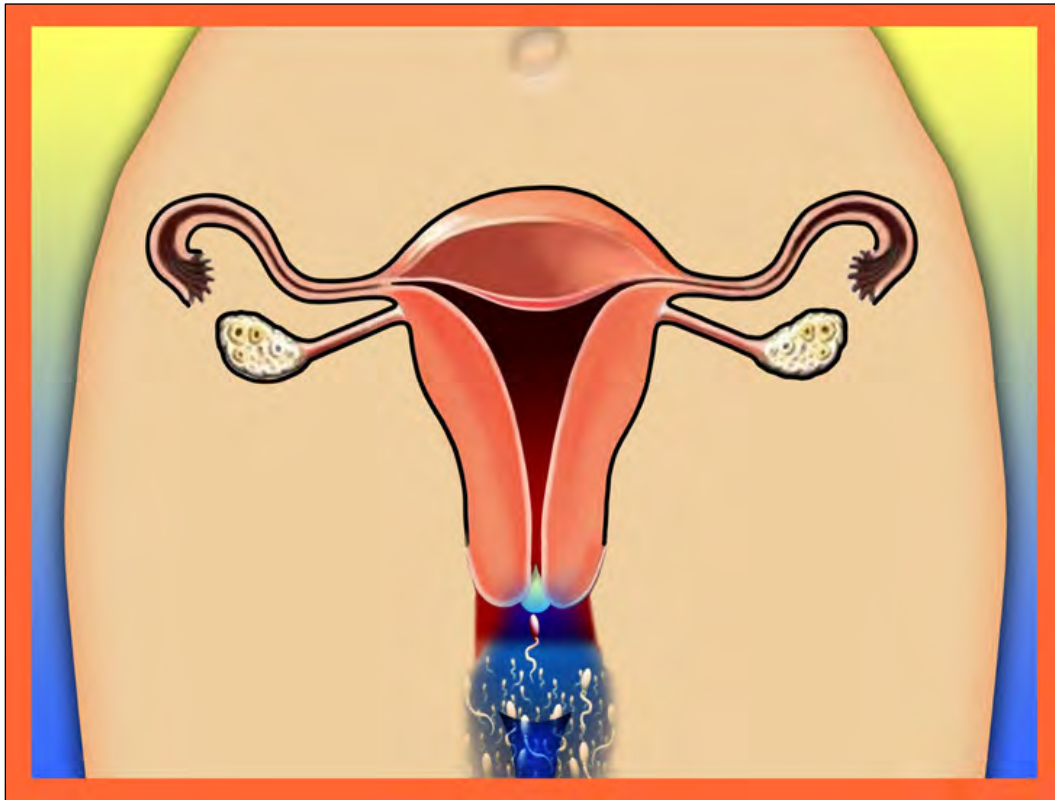
1. Menstrual Phase
2. Pre-ovulatory Phase
3. Ovulatory phase
4. Post-ovulatory phase



Point to the picture of the menstrual phase

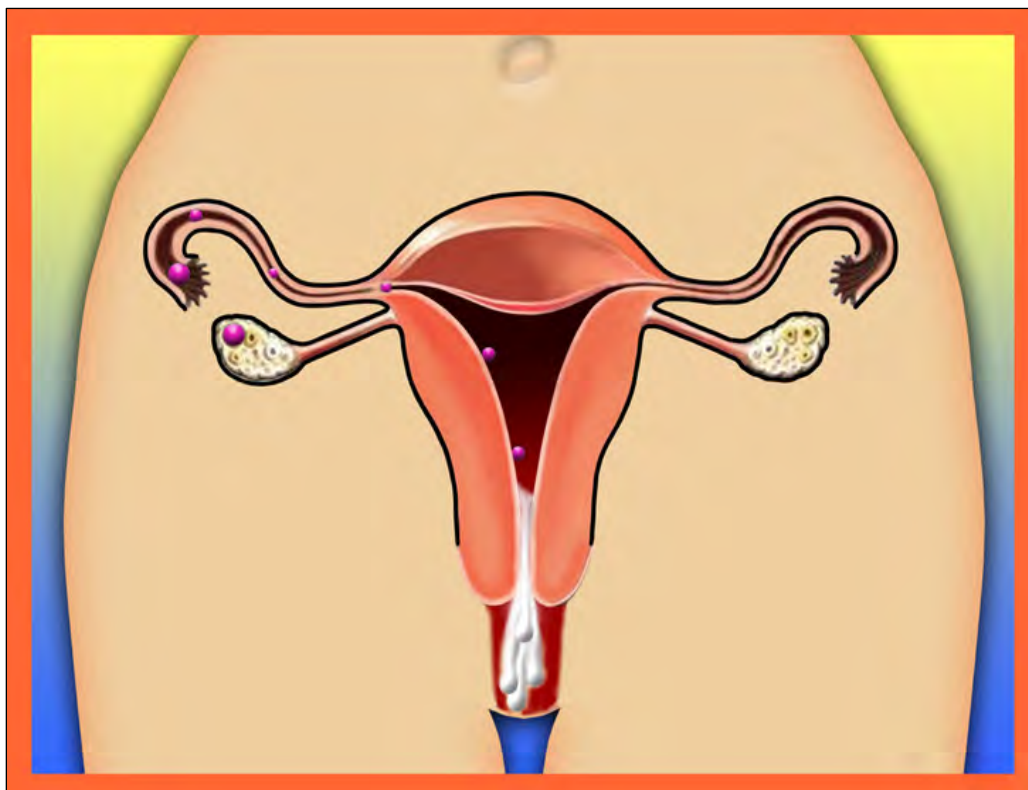
The menstrual phase:

1. Starts on the first day of menses during which the woman observes bleeding.
2. Bleeding comes from the shedding of the lining of uterus. It indicates that there is no pregnancy.
3. Includes all days of menstrual bleeding, usually 4-6 days.
4. Menstrual bleeding is normal and healthy. Bleeding does not mean the woman is sick.



Pre-ovulatory Phase:

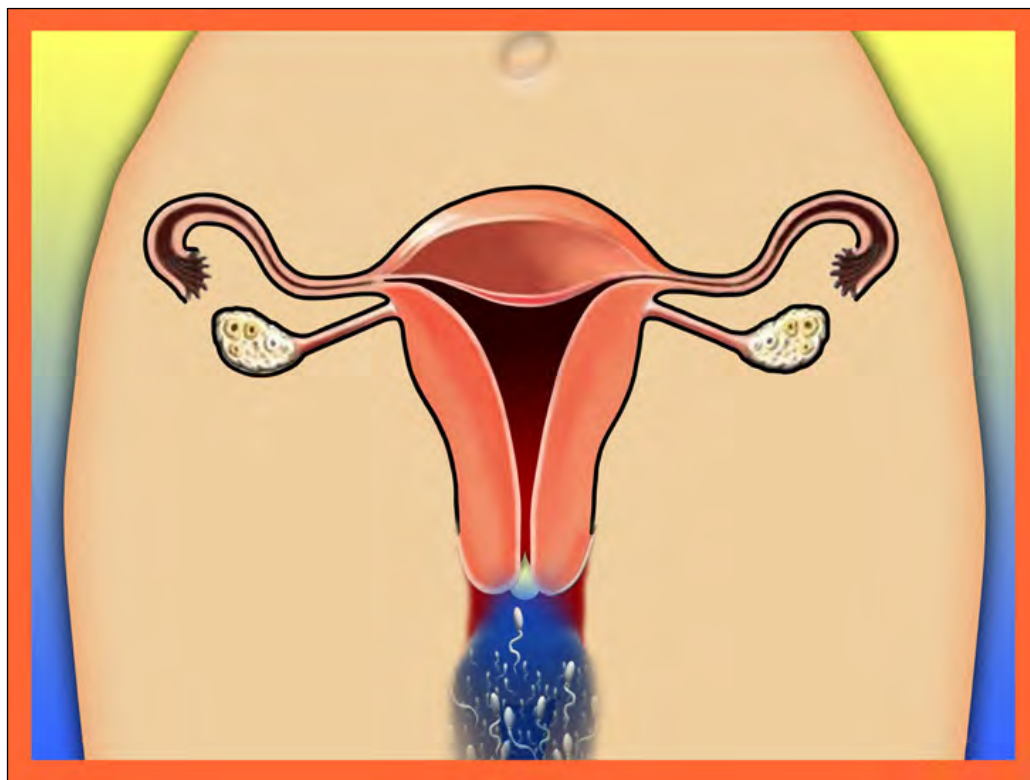
1. Bleeding has stopped.
2. Egg cells begin to develop.
3. Lining of the uterus starts to thicken.
4. Mucus forms a plug. This mucus prevents entry of sperms.
5. Includes all dry days after menstrual bleeding stops.
6. A woman experiences dry feeling and no mucus.
7. The pre-ovulatory phase is a **relatively infertile phase**.



Show the picture/Powerpoint of the ovulatory phase

Ovulatory Phase:

1. The third phase of the cycle, called ovulatory phase is the highlight of a woman's fertility.
2. One mature egg is released and stays in the fallopian tube for about 24 hours.
3. The uterine lining continues to thicken.
4. The mucus plug is gone.
5. The mucus becomes watery, stretchy, slippery and clear. It nourishes and provides channels that help the sperm to be transported to the egg.
6. The mucus also filters abnormal sperms.
7. If sperms are present at this time, the woman can get pregnant.



Show the picture/Powerpoint of the post-ovulatory phase

Post-ovulatory phase:

1. No egg is present. Since it was not fertilized, the egg cell deteriorates and is reabsorbed by the body.
2. Lining of the uterus thickens.
3. The mucus forms a plug again to prevent entry of sperms.
4. Women experience a dry feeling with no mucus at all. If there is any mucus, it appears to be sticky, cloudy, crumbly or pasty.
5. The post-ovulatory phase is called the **absolute infertile phase** because there is no egg present.
6. Because there is no pregnancy, the woman will experience menstruation again and another cycle will begin.
7. However, if the woman is fertile and lovemaking took place, there will be no menstruation, so that fertilization and pregnancy can happen.

Ask: What happens if sperms are present in the female reproductive tract during ovulation?

If sperms are present during ovulation, then fertilization occurs.

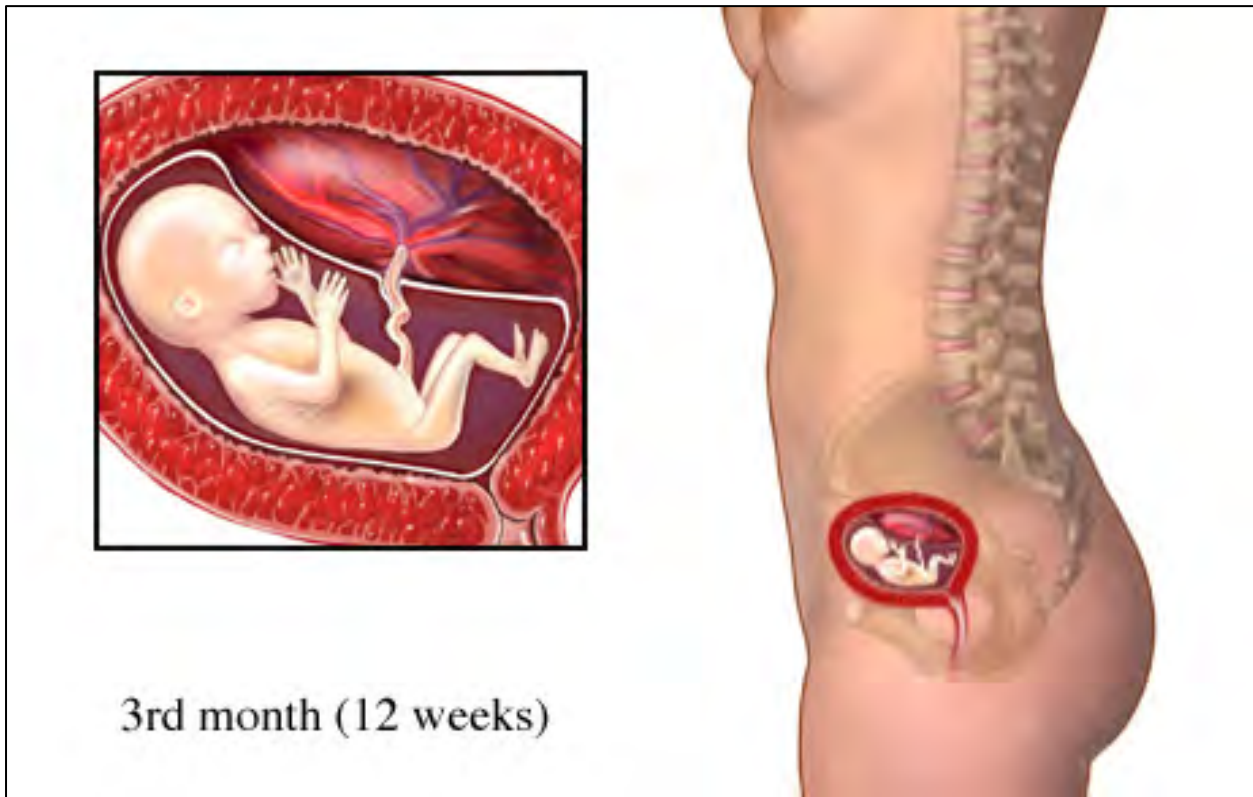
FERTILIZATION is the union of the sperm and mature ovum in the outer portion of the fallopian tube.

FETAL DEVELOPMENT

- Immediately after fertilization, the fertilized zygote stays in the fallopian tube for 3-4 days.
- During which rapid cell division (mitosis) occurs.
- The fertilized ovum journeys for around 6 days towards the **uterus** where it is implanted in the **endometrium** or **uterine lining**.
- Pregnancy takes place for a period of 9 months and culminates with childbirth. The **cervix** which is the neck of the uterus dilates at childbirth to allow the emergence of the baby from the uterus through the **vagina**.

FETAL GROWTH AND DEVELOPMENT

Fetal growth and development is divided into trimesters that is, the whole period of 9 months is divided into 3 parts, and with each part having 3 months.

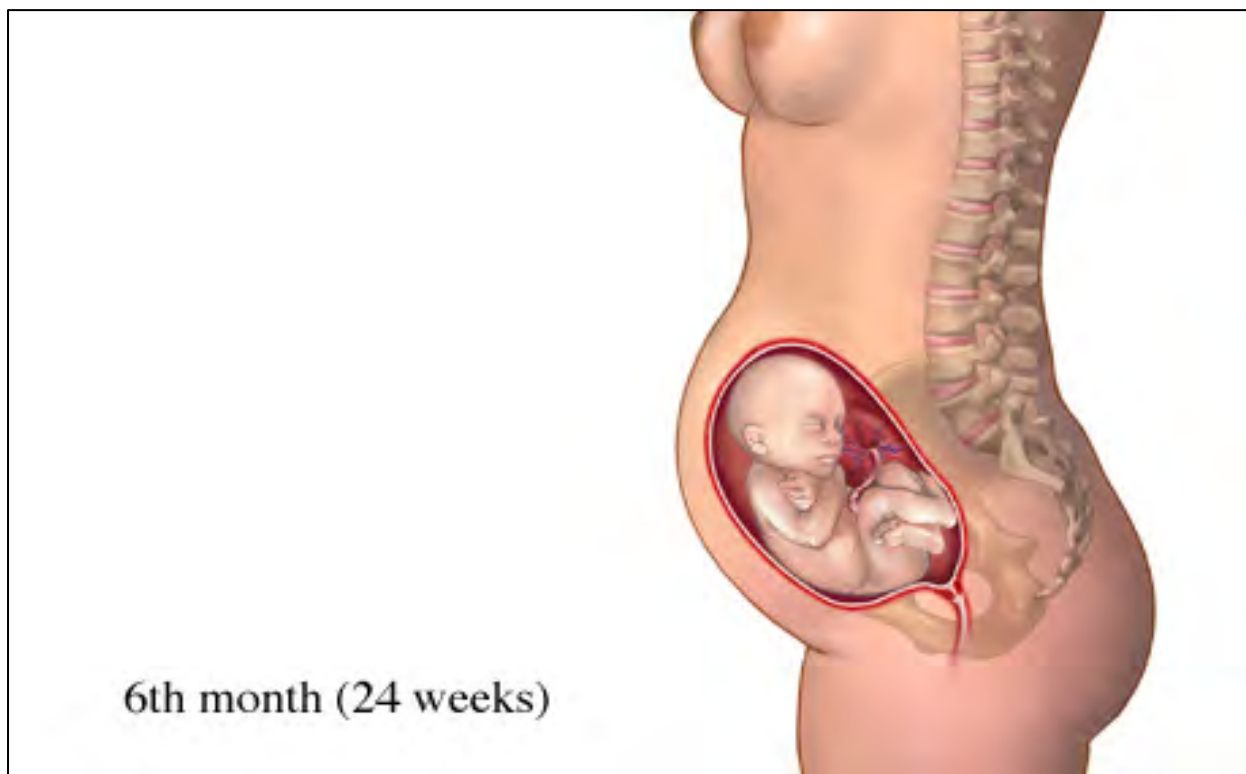


Show the picture/Powerpoint of the development of the fertilized ovum

First Trimester

At the end of 12 weeks:

- Weight is about 1/2 to 1 ounce.
- Baby develops recognizable form.
- Nails start to develop and earlobes are formed.
- Arms, hands, fingers, legs, feet and toes are fully formed.
- Eyes are almost fully developed.
- Baby has developed most of his/her organs and tissues.
- Baby's heart rate can be heard at 10 weeks with a special instrument.
- Placenta is fully developed.
- Sex of baby can be identified.

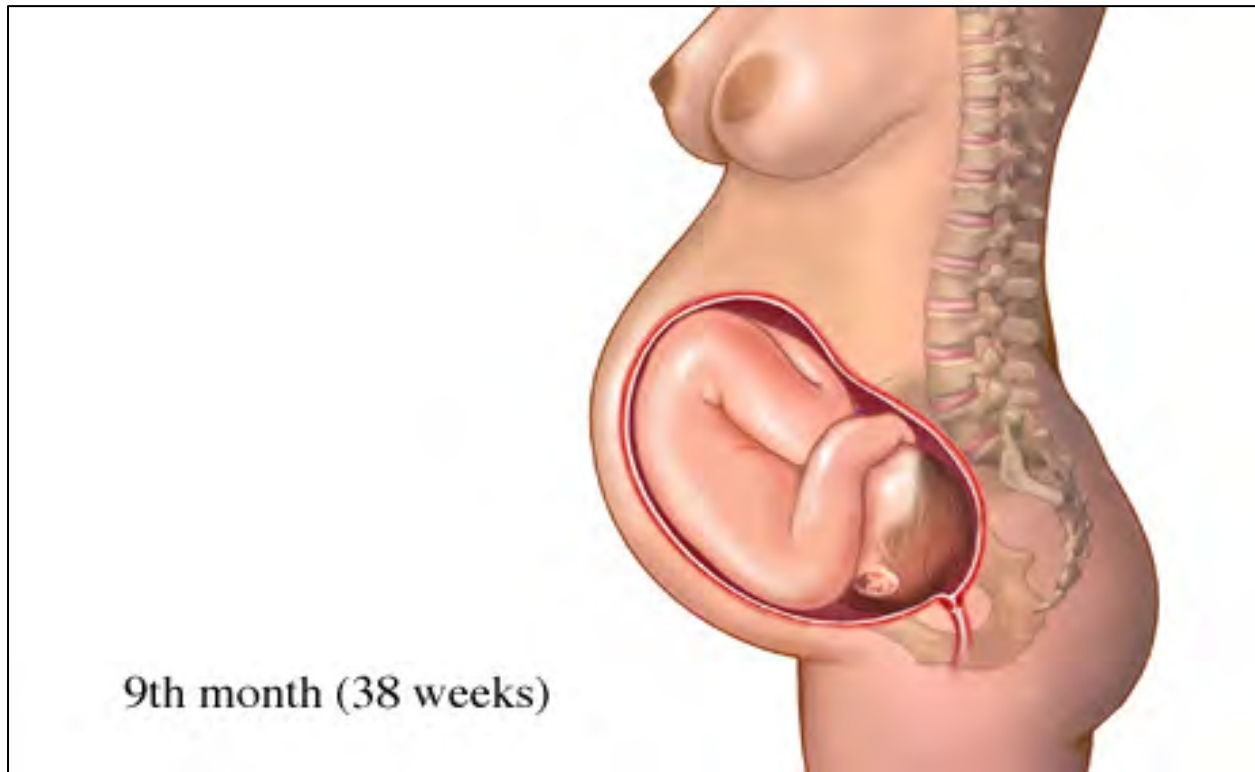


Ask: After another 3 months in utero, what developments have happened to the baby?

Second Trimester

At the end of 6 months:

- Internal organs are maturing and the fetus begins to grow and prepares for life outside the womb.
- Eyelids begin to part and eyes open sometimes for short periods of time.
- Skin is covered with protective coating of thick, cheesy white grease.
- Soft woolly hair will cover its body.
- Some may remain until a week after birth, when it is shed.
- Mother begins to feel fetal movement called quickening.



Third Trimester

At the end of 9 months:

- The baby's weight is about 7 to 7 1/2 pounds.
- The lungs are mature.
- Baby is now fully developed and can survive outside the mother's body.
- Skin is pink and smooth.
- From 36 weeks onwards, baby settles down into the mother's pelvis and lower in the abdomen in preparation for birth and may seem less active.
- Baby is just about ready for birth.

Say: By the end of the 2nd trimester

CARE OF THE PREGNANT MOTHER

- Pregnant women are encouraged to have monthly pre-natal check-ups to ensure healthy pregnancy and safe delivery.
- A pregnant woman should be prepared physically, psychologically, emotionally and financially. Special care is needed before and during pregnancy and after the birth of the baby.
- As soon as the woman suspects that she is pregnant, she should consult a doctor. If pregnancy is confirmed, regular check-ups are required to monitor the progress of pregnancy and detect any possible complications.

A woman is encouraged to be responsible for her own health and the well-being of her baby. She should avoid substances (alcohol, caffeine, and smoking) that may cause harm to the fetus.

Say: By the end of the 2nd trimester

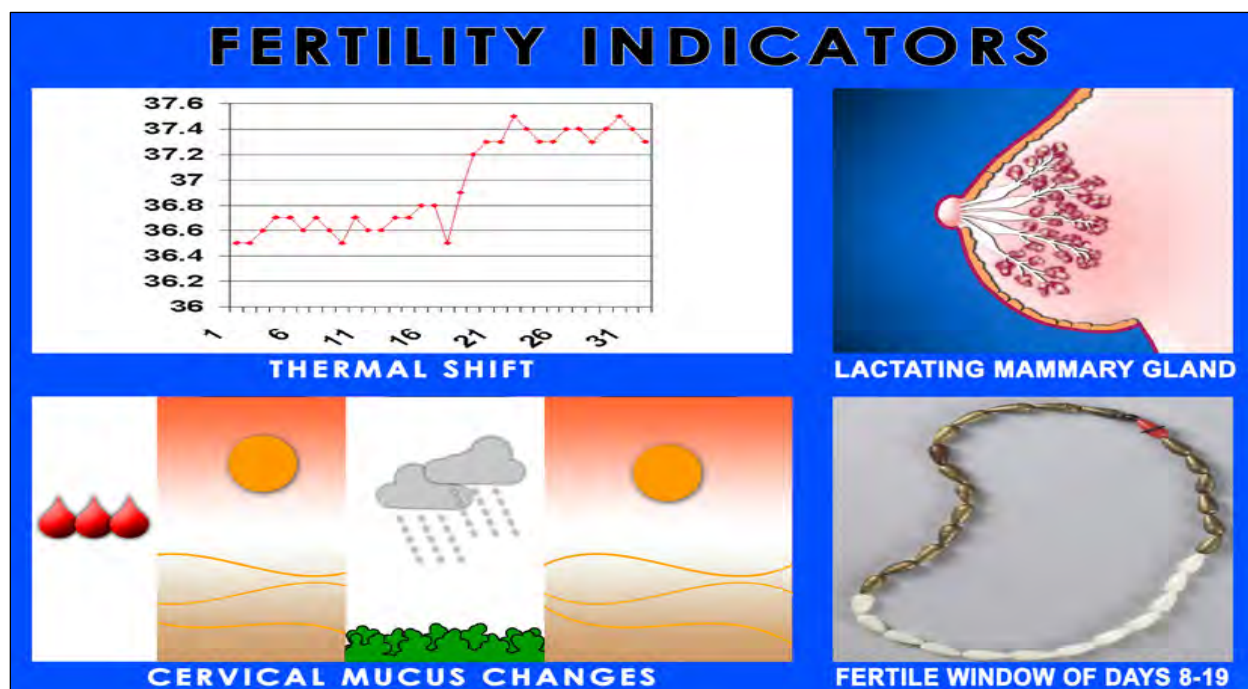
Say: Before we leave the topic of Menstrual Cycle and Pregnancy, let us summarize. Let us recall the changes that happen during the menstrual cycle.

The Menstrual Cycle and Pregnancy: A Summary

The menstrual cycle has four (4) phases: The menstrual phase is characterized by bleeding. The pre-ovulatory phase is considered as relatively infertile days. The ovulatory phase is considered as the fertile phase. The post-ovulatory is considered as absolutely infertile days. If there is no pregnancy, the woman will experience menstruation again and another cycle will begin. However, if fertilization happens, pregnancy can result and the woman is encouraged to visit the health center to monitor maternal and child well-being.

FERTILITY INDICATORS

Based on available knowledge of the phases of the menstrual cycle, which are actually evidence-based, we can determine the fertility indicators of the woman.

**Illustrated Discussion**

Ask, "How does a woman know when she is fertile or infertile?"

Note their answers on the board. Acknowledge the correct answers as you discuss the topic.

Show the picture of the Basic Fertility Signs

There are various signs, which will tell a woman when she is fertile and not fertile. These are called **fertility indicators** and include the following:

1. Changes in her cervical mucus.
2. Changes in a woman's body temperature at rest.
3. Full breast and the accompanying conditions.
4. Tracking the first day of menstruation and a woman's cycle lengths to determine the fertile window period.
5. Other signs, such as "moodiness" and feeling of heaviness at pelvic area.

These scientific indicators have been developed through the years into natural methods of family planning or fertility awareness-based methods.

Through the knowledge of the basic facts about fertility and fertility awareness, these technologies can be relied on for the practice of natural family planning.

Show how each modern family planning method works by tracing the mechanics based on the diagrams of the male and female reproductive systems.

• **TEACHER READER 1: Family Planning Methods**

There are two broad types of family planning methods: the natural family planning methods and the artificial family planning methods.

Our brains control the hormones that regulate the reproductive systems of our bodies, and also affect our sexual activities. Hormones are substances produced by special organs or glands in the body which are carried by the bloodstream to targeted parts of the body where certain actions are needed. The pituitary gland releases the hormones that control the release of other hormones from other glands in the body, and actions of the reproductive structures in the bodies of both males and females. Most of these actions are involuntary. However, they can be controlled or modified by the person through various interventions such as the timing of sexual intercourse or through the use of contraceptive drugs and devices. **The Catholic Church does not espouse the artificial method of contraception.** The sites of action of the different FP methods, both natural and artificial are as follows:

1. Hormonal contraceptives: Combined Oral Contraceptives (COC), Progestin-Only Pill (POP), Progestin-Only Injectable (POI), Combined Injectable Contraceptive (CIC)

- In the brain (Hypothalamus and anterior pituitary gland): Suppression of ovulation
- In the fallopian tubes: reduction of sperm transport
- In the uterus: changes in the lining
- In the cervix: Thickening of the mucus, which prevents sperm penetration

2. Intrauterine devices: Copper T 380 A, IUS — levonorgestel

Uterus: Interference with the ability of the sperm to pass through the uterine cavity.
Change in the lining

Fallopian tubes: Interference with the reproductive process before ova reach uterine cavity.

3. Barrier methods: male condoms

- Prevent a sperm from gaining access to the female reproductive tract.
- Prevent microorganisms (STDs) from passing from one partner to another.

4. Fertility awareness-based method (Natural Family Planning)

- For contraception, sexual intercourse should be avoided during the fertile phase of the menstrual cycle when conception is most likely.
 - For conception, sexual intercourse could be near midcycle (usually days 10-15 when conception is most likely).
-

Natural Family Planning is an educational process of planning and postponing pregnancy using natural signs and symptoms which occur during the fertile and infertile phases of the women's menstrual cycle. The process can be based entirely on observations and interpretation by the couple. Therefore, couples should have knowledge of fertility and infertility signs.

Artificial Family Planning Methods

It is important that the teacher introduces these methods with a caveat that these methods are not consistent with the Catholic Church's moral teachings and should not be used by Catholics. They are presented here only for educational purposes.

1. Low Dose Combined Oral Contraceptives Effectiveness – Perfect use: 99.7 per cent – Typical use: 92.0 per cent	Combined oral contraceptives are pill preparations that contain hormones similar to the woman's natural hormones – estrogen and progesterone – taken daily to prevent conception. They are also known as pills or oral contraceptives (OCs).
2. Progestin-Only Pills Effectiveness – Perfect use: 99.5 per cent – Typical use: 99 per cent	The progestin-only-pill (POPs) is an oral hormonal contraceptive that contains progestin only in lower doses. There are only two kinds of POPs available in the Philippines; these are the 0.5-mg lynestrenol (Exluton) and the 75-ug desogestrel (Cerazette). Both are available in 28-tablet packets.
3. Progestin-Only Injectables Effectiveness – Perfect use: 99.7 per cent – Typical use: 97.0 per cent	Progestin-only injectable contraceptives contain the synthetic hormone, progestin, administered by deep intramuscular (IM) injection. The available progestin-only injectable preparations in the Philippines are: <ul style="list-style-type: none"> • 1 ml 150 mg Depot-Medroxyprogesterone Acetate (DMPA) or Depo-Provera • 3 ml 150 mg DMPA or Depo Trust • 1 ml ampule 200 mg Norethisterone enanthate (NET-EN) or Noristerat DMPA is given every 3 months, whereas NET-EN Noristerat is administered every 2 months.
4. Subdermal Implants – Perfect use: 99.9 per cent – Typical use: 99.5 per cent	Subdermal implants are progestin-only implants inserted under the skin in the woman's upper arm or forearm through a minor surgical procedure under local anesthesia, which releases progestin at controlled rate, thus providing very small doses to achieve the desired contraceptive effect.
5. Intrauterine Devices – Perfect use: 99.4 per cent – Typical use: 99.2 per cent	An intrauterine device (IUD) is usually a small plastic or metal device inserted into the woman's uterus to prevent pregnancy. It releases copper or a hormone. Almost all IUDs have one or two strings, or nylon threads tied to the plastic frame. The strings hang through the cervical opening into the vagina.

6. The Barrier Methods

Effectiveness

- Perfect use: 99 per cent
- Typical use: 85 per cent

Barrier methods are devices that mechanically or chemically hinder or prevent the union of the egg cell and the sperm cell (fertilization). In the Philippines, male condom is the only one available under the barrier methods.

7. Male Voluntary Surgical Contraception (Vasectomy)

Effectiveness

- Perfect use: 99.9 per cent
- Typical use: 99.8 per cent

Male voluntary surgical contraception is a permanent method for men, wherein the vas deferens (the tube which serves as the passageway of sperm) is cut and tied or blocked through a small opening on the scrotal skin. It is also known as vasectomy.

8. Female Voluntary Surgical Contraception (Bilateral Tubal Ligation)

Effectiveness

- Perfect use: 99.5 per cent
- Typical use: 99.5 per cent

Female sterilization is a safe and simple surgical procedure, which provides permanent contraception for women who do not want more children. The procedure, also known as bilateral tubal ligation (BTL), involves cutting or blocking the two fallopian tubes. The acceptable standard procedure is minilaparotomy under local anesthesia and light sedation.

Source:

- Department of Health (DOH). (2007). *The Philippine Clinical Standards Manual on Family Planning*. Sta. Cruz, Manila, Philippines: DOH.

• **WORKSHEET 1: Oh Yeah! Oh No!**

Oh Yeah! Oh No!

Read carefully the statements below. Which do you think are correct or acceptable statements and which are not acceptable? If, based on your judgment, the statement is correct, right the phrase **Oh Yeah!** on the space provided for, if unacceptable, write **Oh No!** Be ready to justify your answer.

- _____ 1. Family planning should begin when the couple has had so many children already.
- _____ 2. The crime rate will decrease if couples practice family planning.
- _____ 3. One objective of family planning is to help childless couples identify the cause of their not being able to have children.
- _____ 4. An example of good effects of family planning is ensuring the good health of the mother.
- _____ 5. Family planning is one of the major solutions to the problems that beset the world.
- _____ 6. The primary goal of the couples for practicing family planning is to have two children only.
- _____ 7. The Catholic Church approves of male vasectomy.
- _____ 8. Fertility goal refers to the number of children the couple wants to raise considering their capacity to provide for the children's needs.
- _____ 9. Children's needs include food, shelter and clothing only.
- _____ 10. Natural Family Planning methods are approved by the Church because these methods are based on the couple's morals, values, good judgment, and respect for the unborn life.

Answers

- 1) no 2) no 3) yes 4) yes 5) yes 6) no 7) no 8) yes 9) no 10) yes

• ASSIGNMENT 1: Survey of FP Use

Using the survey form below, ask one married person whether he and his wife, or she and her husband are using or practicing family planning method. This person may be a neighbor, parent, relative or elder friend.

Note: Do not go into the details. Just ask for the data required by the survey form.

Survey Form

Respondent's Profile

Gender : ☐ Male ☐ Female

Age Bracket : ☐ below 20 ☐ 20 – 25 ☐ 26 - 30
☐ 31 – 35 ☐ 36 – 40 ☐ 41 and above

Educational Attainment:

☐ Elem. Graduate
☐ High School Undergraduate
☐ High School Graduate
☐ College Level
☐ College Graduate
☐ No education

Practicing Family Planning Method/s: ☐ Yes ☐ No

Method/s Used : ☐ Artificial Method ☐ NFP ☐ Both

Are you aware of the simplified modern natural methods of family planning?

☐ Yes (PROCEED) ☐ No (END OF SURVEY)

Are you aware of Basal Body Temperature (BBT)? ☐ Yes ☐ No

Are you aware of the Mucus Billing Method (MBM)? ☐ Yes ☐ No

Are you aware of the Standard Days Method (SDM)? ☐ Yes ☐ No

Are you aware of the Lactational Amenorrhea Methods (LAM)? ☐ Yes ☐ No

Are you aware of the Two-Day Method (TDM)? ☐ Yes ☐ No

• Student Reader 1: Different Natural Family Planning Methods

By: Arlene Aguilar

Interactive Discussion

Ask, "What is NFP?"

Write responses on the board. Refer to the correct answers as you proceed with the discussion.

Small Group Activity

Divide participants in 2 groups.

Provide blue metacards to group A and assign them to list advantages of NFP.

Provide yellow metacards to group B and assign them to list the disadvantages of NFP.

Post the metacards on the board. Refer to the correct answers as you proceed with the discussion.

THE DIFFERENT NATURAL FAMILY PLANNING METHODS

Natural Family Planning or NFP is an educational process of determining the fertile and infertile periods of a woman:

- By observing and recording the naturally occurring signs and symptoms of fertility
- So that love making can be timed
- In order to achieve or avoid pregnancy
- NFP is also known as **Fertility Awareness Based (FAB) methods** since it utilizes principles involved in human fertility awareness.

Advantages of NFP or FAB Methods:

- Can be used either to avoid or achieve pregnancy;
- No health related side effects associated with their use;
- Very little or no cost
- Immediately reversible
- Increases self awareness and knowledge of human reproduction and can lead to a diagnosis of some gynecologic problems;
- Enhances self-discipline, mutual respect, cooperation, communication, and shared responsibility of the couple for family planning;
- Acceptable to couples regardless of culture, religion, socio-economic status, & education;
- Not dependent on medically-qualified personnel, the technology can be transferred by a trained autonomous user;
- Once learned, may require no further help from health care providers;
- NFP can be provided as a separate service or as one of the services of an established health and family planning community agency.

Disadvantages of Fertility Awareness Based Methods:

- May inhibit sexual spontaneity;
- Except for Standard Days Method (SDM), need extensive training — takes about two to three cycles to accurately identify the fertile period and how to effectively use it;
- Require a high level of diligence from both partners;
- Require consistent and accurate record keeping and paying close attention to body changes;
- Require periods of abstinence from sexual intercourse, which may be difficult for some couples;
- Require rigid adherence to daily routine of a fixed time, without enduring any disturbance before taking the temperature (Specific to BBT and Sympto-Thermal);
- May be difficult to practice for women with multiple partners (Specific to Mucus Method);
- Can be used only by women whose cycles are within 26-32 days (Specific to Standard Days Method);
- Offer no protection against STI/HIV/AIDS.

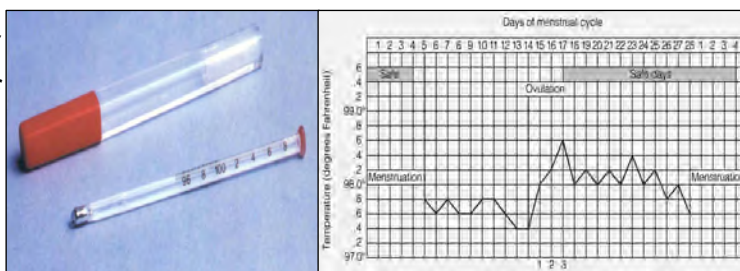
Classification of the Different Natural Family Planning Methods:

- All NFP methods are Fertility Awareness Based (FAB) methods, and these are methods that utilize the physiological changes within the menstrual cycle to determine the period when a woman is fertile or infertile.
- The different NFP methods are as follows:
 - Basal Body Temperature Method
 - Mucus Method
 - Symptothermal Method
 - Lactational Amenorrhea Method (LAM)
 - Standard Days Method (SDM)
 - Two-Day Method

Ask participants : "What NFP Methods do you remember?"

Show Powerpoint/picture of Classification of NFP

Show the picture/Powerpoint of the different FAB Methods as you discuss each.



1. BASAL BODY TEMPERATURE (BBT)

is based on a woman's resting body temperature, which is lower before ovulation and rises to a higher level around the time of ovulation. The infertile days begin from the fourth day of the high temperature reading to the last day of the cycle. All days from the first day of the menstrual period up to the third high temperature reading are considered fertile days.

Effectiveness:

99 per cent

What you see

Nothing
Blood
Mucus

- sticky, pasty, crumbly
- stretchy, slippery, clear, watery



What you feel



2. MUCUS METHOD (MM)

is based on the daily observation of what a woman sees and feels at the vaginal area throughout the day. Cervical mucus changes indicate whether days are fertile or infertile and can be used to avoid or achieve pregnancy.

Effectiveness:

97 per cent

3. SYMPTOTHERMAL METHOD (Sympto-T)

is based on the combined technology of the Basal Body Temperature and the Mucus Method i.e. the resting body temperature and on the observations of mucus changes at the vaginal area throughout the day together with other signs (e.g. breast enlargement unilateral lower abdominal pain) which indicate that the woman is fertile or infertile.

Effectiveness:

99 per cent



4. LACTATIONAL AMENORRHEA METHOD (LAM)

is the use of exclusive breastfeeding as a temporary family planning method, as long as the mother meets the criteria given below.

Lactational means breastfeeding

Amenorrhea means not having menstrual bleeding after giving birth

Method is used when her baby is less than 6 months or

A woman uses LAM when:

- Her baby is fully or nearly fully breastfed and she breastfeeds at an interval of at least 4 hours during the day and at least 6 hours at night;
- Her menstrual period has not yet returned;
- Her baby is less than 6 months old.
- She is willing to shift to another family planning method once one of the criteria is lost.

Effectiveness:

99.5 per cent

LAM is effective within the first 6 months after the woman delivers.



5. STANDARD DAYS METHOD (SDM)

- The Standard Days Method is based on the woman's menstrual cycle.
- It identifies cycle days 8-19 as the woman's fertile period. It works for women with menstrual cycles of 26-32 days.
- SDM makes use of Cycle Beads™. These are colored beads used to help the woman keep track of her fertility.
- With the Standard Days Method, there is no counting, no charting, no calculation. Beads are used for tracking fertile and infertile days.
- Can be used by all women whose cycles are within 26-32 days.

Effectiveness:

95.25 per cent

6. TWO-DAY METHOD

- It is called the Two-Day Method because the woman needs to be aware if she had secretions TODAY or YESTERDAY.
- Today she can get pregnant if she had secretions today or yesterday.
- Today she can have sexual intercourse without fear of getting pregnant if she did NOT have secretions today or yesterday.
- Can be used by women of any menstrual cycle length.

Effectiveness:

96 per cent

Point to the illustration and ask what they think the picture portrays. Tie up fertility, the gift of being able to have children with mature love and sexuality, parenting, home, and building a family.



• **Teacher Reader 2: Pastoral Guidelines and Core Values in NFP Promotion***

By: Archbishop Antonio J. Ledesma, S.J.

[Prepared as the introductory chapter on values formation for a trainor's manual, this article elaborates on four pastoral guidelines for an All-NFP program. The guidelines constitute four core values articulated in recent Church documents – i.e., Pro-Life as a first principle; Responsible Parenthood as the goal; Natural Family Planning as the means; and an Informed and Morally Responsible Choice as the pastoral approach. Ten reasons for adopting NFP are cited.]

Natural Family Planning has paradoxically been described as the “second best kept secret” of the Catholic Church (after its Social Teachings). In contrast to government programs that offer a value-neutral approach to all methods of family planning, the Catholic Church has consistently articulated its moral principles in advocating for Responsible Parenthood and Natural Family Planning. Based on actual results, however, NFP has remained the untried option. According to the latest surveys, less than one percent of Filipino couples are adopting modern NFP methods!

On the other hand, the pastoral experience of many priests and family life workers indicate that a growing number of couples today have three felt needs: (1) *They want to plan their families* in terms of family size and spacing of births; (2) *They prefer natural family planning*, if they are given adequate information on fertility awareness and NFP methods; and (3) *They want to choose among NFP methods* according to their own circumstances and preference. It is in this light that church communities, as well as government entities, are challenged to promote all recognized natural family planning methods today.

Before discussing the various NFP methods, however, it would be good to examine the core values that underpin the Church's advocacy for natural family planning – values that touch on the sacredness of human life, marriage, and the family. Four pastoral guidelines for All-NFP provide the framework for the local church's values formation and the parameters for critical engagement with government and other groups. (Fig. 1)

I . We are Pro-Life.

We uphold the dignity of human life from the moment of conception. We condemn abortion which is also proscribed by the Philippine Constitution. All-NFP is a proactive program that helps prevent the tragedy of unwanted pregnancies and recourse to abortion. It also provides an alternative to contraceptive methods that are considered as abortifacients.

The dignity of human life is directly linked to the dignity of the human person.

- 1) *The human person is created in the image of God.* “God created man in His image, in the divine image He created him; male and female He created them” (Gen 1:27). The biblical perspective states that man and woman have the same dignity and are of equal value.

God's creative act takes place from the moment of conception: “You created every part of me; You put me together in my mother's womb. When my bones were being formed, when I was growing there in secret, You knew that I was there – You saw me before I was born” (Psalm 139: 13,15,16).

- 2) *The human person is created by God in unity of body and soul.* The spiritual faculties of reason and free will are linked with all the bodily and sense faculties. The spiritual and immortal soul is the principle of unity of the human being, whereby it exists as a person.

The person is an embodied spirit. “It is because of its spiritual soul that the body made of matter becomes a living, human body; spirit and matter, in man, are not two natures united, but rather their union forms a single nature” (CCC, 365).

* Included as the first module in a trainor's manual on All-NFP, published by Catholic Relief Services, Manila, June 2009. Also in Impact, Vol. 43, No.5, May 2009, pp. 4 - 8.

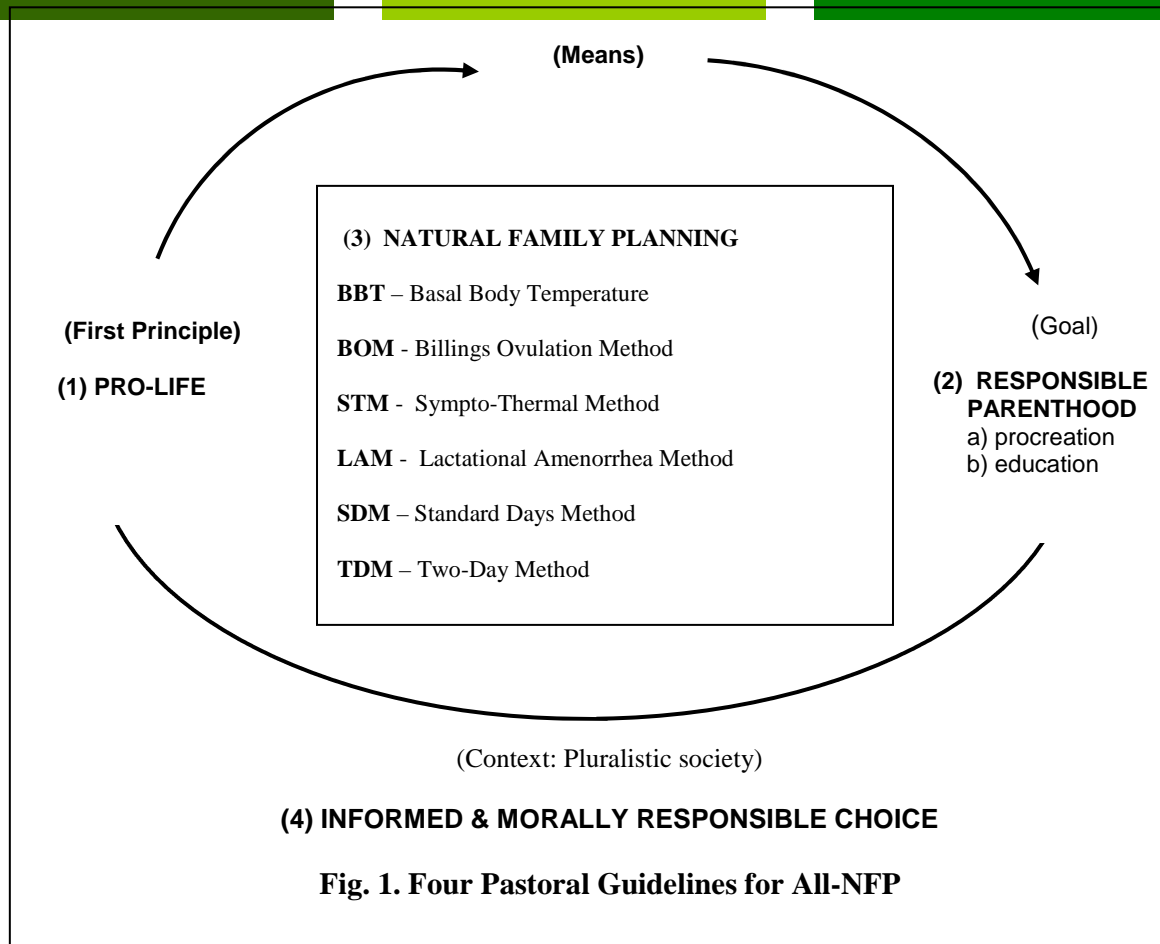


Fig. 1. Four Pastoral Guidelines for All-NFP

3. *The human person is open to transcendence: he is open to the infinite and to all created beings. Through his spiritual faculties of intellect and will, the human person reaches out to know the truth and to love and choose the good and the beautiful. (Fig.2)*

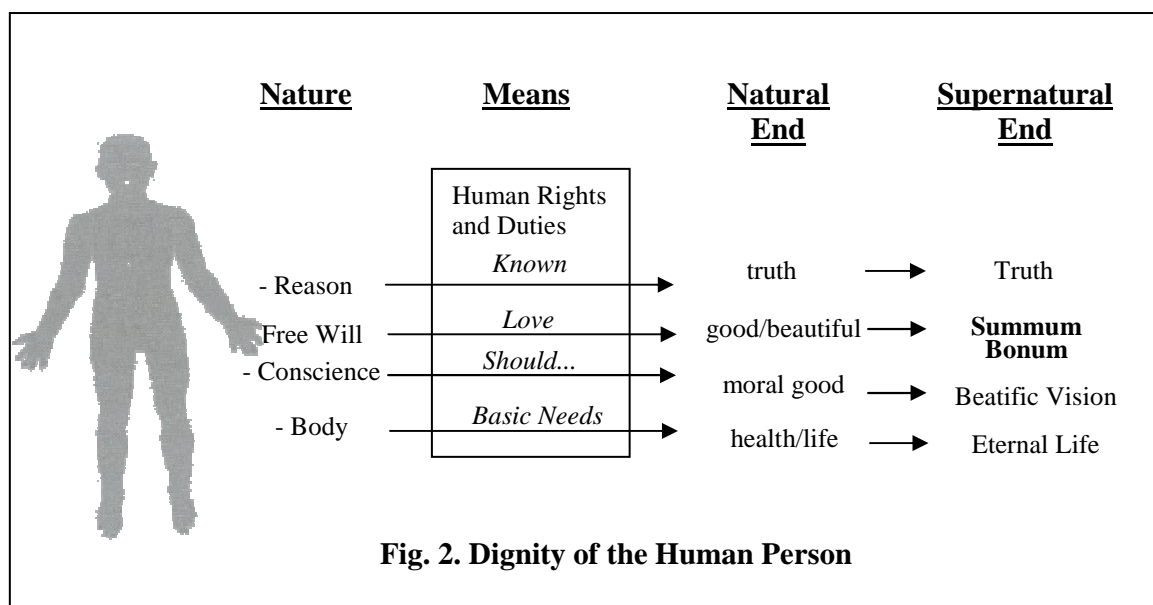


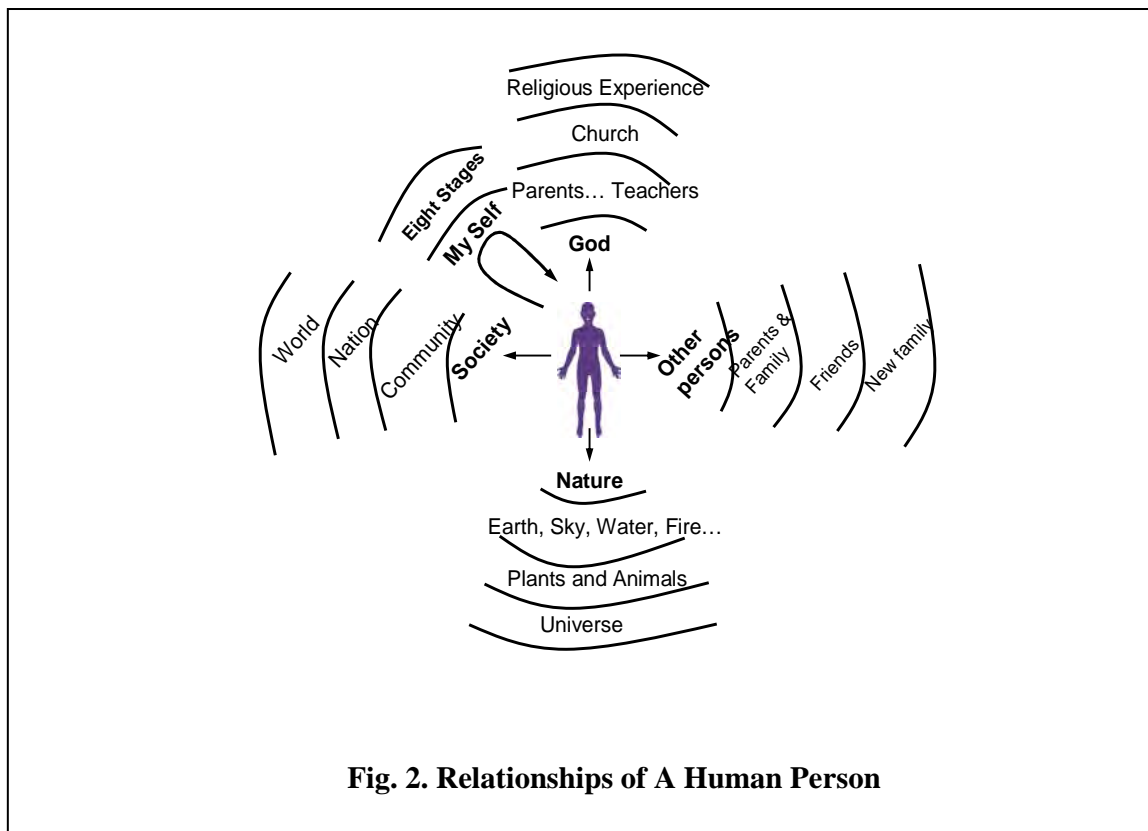
Fig. 2. Dignity of the Human Person

Despite his limitation in attaining his finite ends in this life, the person tends towards total truth and the absolute good – i.e., union with God, or the revelation of Jesus Christ as the Way, the Truth, and the Life. What Christian philosophers call the *Summum Bonum* or the Beatific Vision is premised on the promise of the resurrection and eternal life. Pope John Paul II sums this up: “Human life is precious because it is a gift of God – and when God gives life, it is forever.”

- 4) *The human person is endowed with a moral conscience that enables him to recognize the truth concerning good and evil.* The person’s exercise of freedom and responsibility implies a reference to the natural moral law, of an objective and universal character, which is the foundation for all rights and duties. “Living a moral life bears witness to the dignity of the person” (CCC, 1706).

The dignity of the moral conscience as man’s “most secret core and sanctuary” enables the person to acknowledge that inner law which is fulfilled in the love of God and of one’s neighbor (GS, 16). Love of neighbor, in the language of the modern world, can be interpreted in terms of promoting and defending human rights. Fig. 2 locates the context of human rights and duties, understood as access to the means that enable a person to attain his natural and supernatural ends. In this light, human rights can be understood as moral claims, and duties as moral responsibilities.

- 5) *The human person is essentially a social and relational being.* (Fig. 2)



He/she is a being-with-others in the world. He is a person among other persons, among equals – in the family, in the small community or in the larger society.

He is also a being-through-others in the world. He is born from the union of parents and grows up within the widening circle of relatives, teachers, and friends. He too is a being-for-others in the world, available in service to others, capable of loving others and being loved in return. He is called to enter into communion with others, and to forge bonds of solidarity for the common good.¹

In the web of relationships that surround him, the person learns to interact “horizontally” with other persons and society at large. He also deepens his “vertical” relationships with God as his Creator and Father as well as with the world of nature.

In the process, he also relates to himself as a self-project with an immensity of possibilities. He remains a subject, an “I” capable of self-understanding and self-determination. In this sense, as a center of consciousness and freedom, he exists as a unique and unrepeatable being (CSDC, 131).

- 6) *The Christian view of the human person balances the mystery of sin with the universality of salvation in Jesus Christ.* The tragedy of original sin as well as personal and social sin has brought about the consequences of alienation of the person from God, from his true self, from other persons, and from the world around him.

Indeed, “Christian realism sees the abysses of sin, but in the light of hope, greater than any evil, given by Jesus Christ’s act of redemption, in which sin and death are destroyed” (CSDC, 121). In this light, the person is a being-unto-death-and-beyond, ultimately a being-unto-God. Life becomes a pilgrimage and death a graduation to eternal life.

II. We are for Responsible Parenthood.

This is our goal: to enable parents to be aware of their rights as well as their duties in the procreation and education of their children. Planning one’s family in order to adequately care for every child that comes into the world is a responsibility that should not be taken lightly by parents.

Pope Paul VI’s encyclical letter on the regulation of birth, *Humanae Vitae* (Of Human Life), describes responsible parenthood in terms of the parents’ deliberate decision in planning the size of their family:

In relation to physical, economic, psychological and social conditions, responsible parenthood is exercised, either by the deliberate and generous decision to raise a numerous family, or by the decision, made for grave motives and with due respect for the moral law, to avoid for the time being, or even for an indeterminate period, a new birth (HV, 10).

The Second Plenary Council of the Catholic Bishops of the Philippines explicates further this meaning of responsible parenthood:

Christian parents must exercise responsible parenthood. While nurturing a generous attitude towards bringing new human life into the world, they should strive to beget only those children whom they can raise up in a truly human and Christian way. Towards this end, they need to plan their families according to the moral norms taught by the Church (PCP II, 583).

Planning one’s family highlights the central value of the family in human society. In particular, we can reflect on the role of the Christian family in the modern world, in terms of four tasks elaborated in *Familiaris Consortio*, Pope John Paul II’s apostolic exhortation:

- 1) *Forming a community of persons.* As an “intimate community of life and love” (GS, 48), the family reflects and is “a real sharing in God’s love for humanity” (FC, 17).

It is based on the indissolubility of marriage and conjugal communion. It fosters the dignity and vocation of all the persons in the family – husband and wife, children, relatives. It underlines the equal dignity of women with men, the rights of children, as well as care for the elderly. Indeed, this communion of persons makes the family “a school of deeper humanity” (GS, 52).

- 2) *Serving life.* The fundamental task of the family is to serve life – i.e., “transmitting by procreation the divine image from person to person” (FC, 28). Fecundity is seen as the fruit and the sign of conjugal love. The Church stands for life and stresses that “love between husband and wife must be fully human, exclusive and open to new life” (HV, 11).

Educating children in the essential values of human life is an integral part of serving life. These values include a sense of true justice, of true love, and of service to others. Parents are “the first and foremost educators of their children,” while the family itself is “the first and fundamental school of social living” (FC, 36-37). Education for chastity as well as education in the religious faith of the parents are other essential values that must be respected and supported by the state.

- 3) *Participating in the development of society.* As the “first and vital cell of society,” and the “first school of the social virtues,” the family is “by nature and vocation open to other families and to society” (FC, 42). Hence, the family also plays a social and political role. Its members in their various capacities are called to contribute to the development of the wider community. Christian families should strive to live out the values of truth, freedom, justice and love – the pillars for building peace on earth, envisioned in Pope John XXIII’s *Pacem in Terris*.
- 4) *Sharing in the life and mission of the Church.* The family is seen as the “domestic church” (FC, 49). In this light, it partakes in the threefold role of Jesus Christ as Prophet, Priest and King. The family is seen as (a) a believing and evangelizing community, (b) a community in dialogue with God, and (c) a community at the service of mankind (FC, 50).

Christian marriage itself is seen as a “profession of faith” and it is this journey of faith that continues throughout the life cycle of the family. The Christian family educates the children for life that enables them to discover the image of God in every brother and sister.

In sum, responsible parenthood gives birth to a Christian family that is a community of love and is at the threefold service of nurturing life, developing society, and continuing the mission of the Church.

III. We are for Natural Family Planning.

If responsible parenthood is the goal for married couples, natural family planning is the means deemed morally acceptable by the Church. Pope John Paul II underlines “*the difference, both anthropological and moral, between contraception and recourse to the rhythm of the cycle*” (FC, 32). It is in this light that we can discuss the nature of natural family planning and ten reasons for its adoption.

- a) What is Natural Family Planning?²

Natural family planning is an approach for regulating births by identifying the fertile and infertile periods of a woman’s cycle. As an educational process and a way of life, there are four elements:

It involves the observation of a naturally occurring body sign or signs

- in order to identify the woman's fertile and infertile periods.
- It involves the timing of intercourse
- to avoid or achieve pregnancy.

In contrast to artificial contraceptives, NFP means No DIDO – i.e., no Dugs, Injections, Devices, or Operations at any time. It also means no withdrawal.

b) Why Natural Family Planning?

1. *Normal intercourse is preserved.* Couples can plan the size of their families and space births the natural way. They do not resort to artificial means.
2. *NFP is morally acceptable to people of all religions and cultures.* It does not separate the love-giving and life-giving dimensions of the marriage act. The unitive and procreative ends of marriage are kept whole.
3. *There are no inherent health risks in NFP methods.* No pills, drugs, injections, devices or operations are used. A healthy body does not need this kind of "medical" treatment.
4. *Modern NFP methods are effective and reliable.* They are based on scientific studies and are time-tested. Simplified methods are easy to learn. Some NFP methods may be combined to reinforce each other.
5. *There is no cost involved* once the method has been learned. Couples are empowered not to rely on health centers, donor agencies, or drugstores. NFP is pro-poor, and not for profit of outside companies.
6. *NFP becomes sustainable from generation to generation.* Mothers can readily pass on the practice of NFP to their daughters.
7. *NFP involves a joint decision by the couple.* Neither partner feels being used by the other. It is an ideal way of exercising shared parenthood. A "contraceptive mentality" is avoided.
8. *NFP engenders sexual discipline for the spouses* through periodic abstinence. The practice of NFP manifests a conscious familiarity with the natural rhythm of the human body, mutual caring between the spouses, and the development of self-control that is carried over in the upbringing of the children.
9. *Couples who use NFP seldom or never resort to abortion.* They manifest an innate respect for human life. They welcome every child as a gift from God – even in the eventuality of an unexpected pregnancy.
10. *Couples who use NFP seldom or never end up in separation or divorce.* NFP enhances communication between spouses and promotes a wholesome family life.

The Catechism of the Catholic Church summarizes the nature and rationale of NFP:

Periodic continence, that is, the methods of birth regulation based on self-observation and the use of infertile periods, is in conformity with the objective criteria of morality. These methods respect the bodies of the spouses, encourage tenderness between them, and favor the education of an authentic freedom (CCC, 2370).

IV. We are for enabling couples to make an Informed and Morally Responsible Choice, according to the dictates of a Right Conscience.

"The education of an authentic freedom" constitutes our fourth pastoral guideline. Within the context of a pluralistic society, the government's focus is to refrain from coercion and to provide information on all family planning methods that it deems necessary for couples to make an informed choice. On the other hand, the Church's focus should be to provide information on all NFP methods and to help couples form a right conscience so that they are able to make not only an informed but also a morally responsible choice.

Three kinds of freedom are implied in this pastoral guideline. There is first the *ontological* freedom of every human person, endowed with reason and free will. Innate in his human dignity is the person's freedom to choose good or evil – even to say "no" to his Creator, or to go against his very nature by doing what would be considered inhuman acts.

From the societal perspective, governments promote the *civic* and *political* freedoms of their citizens by safeguarding the exercise of their rights and duties within the bounds of public order. Thus the freedoms of speech, of assembly, of religion, of economic enterprise, of responsible parenthood itself, etc., are hallmarks of a democratic society. A dictatorial government, on the other hand, suppresses by superior force the basic freedoms of its citizens.

A third kind of freedom is what we call *authentic* freedom – i.e., the freedom to do what ought to be done. "Man's dignity," according to the Vatican II Council Fathers, "demands that he act according to a knowing and free choice that is personally motivated and prompted from within..." This inner prompting is what we mean by conscience which calls the person to acknowledge the natural moral law given by God.

"For man has in his heart a law inscribed by God," cite the Council Fathers. "His dignity lies in observing this law, and by it he will be judged... By conscience in a wonderful way, that law is made known..." (GS, 16). Thus the individual assumes personal responsibility for all his human acts that are knowingly and willingly done, heeding the dictates of his conscience.

However, conscience itself needs to be formed and guided by the objective norms of moral conduct. Ignorance or sinful habits pose as obstacles to the formation of a right conscience. It is in this light that values formation is an integral part of our All-NFP program – to enable parents as well as their children to acquire "a truly responsible freedom" (FC, 21).

This includes providing information on all scientifically-based NFP methods as a pastoral imperative. Corollary to this would be presenting the positive motivations for NFP and its integral attractiveness, instead of simply attacking the agencies promoting contraceptives. "*Proclamation* is always more important than *denunciation*," notes Pope John Paul II, "and the latter cannot ignore the former, which gives it true solidity and the force of higher motivation" (SRS, 41).

In summary, these four pastoral guidelines provide the core values for our All-NFP ministry. Couples, indeed, have to consider several crucial factors: the good of their children already born or yet to come, their own situation at the material and spiritual level, and the over-all good of their family, of society, and of the Church. "It is the married couple themselves," note the Council Fathers, "who must in the last analysis arrive at these judgments before God" (GS, 50).

For its part, the local church can carry out its servant role by reaching out to as many couples as possible with the good news of various natural family planning methods today that are proven to be safe, reliable, practicable and adaptable to the various circumstances of family life. Instead of resorting to condemnation or confrontation, we find that for concerned couples, authentic values can best be formed with charity, compassion, and the formation of conscience.

Abbreviations

CCC	Catechism of the Catholic Church, Pope John Paul II, 1994.
CSDC	Compendium of the Social Doctrine of the Church, Pontifical Council for Justice and Peace, 2004.
FC	<i>Familiaris Consortio</i> (The Role of the Christian Family in the Modern World), Pope John Paul II, 1981.
GS	<i>Gaudium et Spes</i> (Pastoral Constitution on the Church in the Modern World), Second Vatican Ecumenical Council, 1965.
HV	<i>Humanae Vitae</i> (Of Human Life), Pope Paul VI, 1968.
PCP II	Second Plenary Council of the Philippines, Catholic Bishops' Conference of the Philippines, 1991.
SRS	<i>Sollicitudo Rei Socialis</i> (The Social Concern of the Church), Pope John Paul II, 1987.

Endnotes

1. Fernandez, T. (2008). *Module on Gender Sensitive and Responsible Personhood, Parenthood and Nationhood Workshop*. TABF / Lihok Pilipina Foundation.
2. Rivera, M. (2005). "Co-Creators according to God's Plan: A Look at Natural Family Planning (NFP)" in *Evangelizing Presence: Caring for Life*, co-edited by N. Catan, P. Giordano, S.J., et al., Makati, The Philippine Foundation of the Brotherhood of Christian Businessmen and Professionals. pp. 72-73.

Source

Ledesma, A. (2009) "Pastoral Guidelines and Core Values in NFP Promotions" in *Natural Family Planning: Values, Issues, and Practices*, co-edited by Chona Echavez and Estrella Taco-Borja, Manila: Philippine Center for Population Development, pp. 3-29.

• **ASSIGNMENT 2: Media Production**

Now that you have enough background knowledge about family planning, you are certainly capable of coming up with a meaningful production than can further your theoretical knowledge of the topic. After a week of preparation, be ready to present a panel discussion or a talk show on a date we shall agree on. Follow the following steps:

1. Each student should have a role to play.
2. Form groups or committees, namely, program committee, research committee, production committee. Assign a leader and assistant leader for each committee.

Functions of the Program Committee

- a. Conceptualize the general presentation of the talk show;
- b. Coordinate with the other committees regarding the concept;
- c. Make adjustments based on the suggestions/recommendations of the other committees;
- d. Prepare the program and invitation;
- e. Document the presentation.

Research Committee

- a. Write the rationale or objectives of the show;
- b. Look for data and relevant information needed in the discussion;
- c. Prepare the script of the talk show (Bilingual script may be allowed);
- d. Prepare intermission numbers, songs, dances and trivia.

Production Committee

- a. Identify moderators, speakers or panelists based on the prepared Script;
- b. Supervise the rehearsal of the panelists;
- c. Decide on the costumes of the casts/panelists;
- d. Design the physical arrangement of the venue.

Suggested Panel Members

- Moderator to traffic the show
- A priest/nun
- Mother of a big family
- Father of a big family
- Mother of a small family
- Father of a small family
- Childless Couple
- Doctor
- Psychologist
- A child from a small family
- A Child from a big family

Note: Take the Challenge!

If the presentation is superb, it will be run again for the entire school.

DIFFERENTIATING SEX AND GENDER

By: Arlyn Floreta

Suggested

Time Frame : 2 hours
(1 hour per lesson)
Subject : Sociology
Year Level : College

LESSON 1: Man and Woman: Equal in Dignity

LEARNING COMPETENCIES

1. Understand the nature of gender
2. Relate expectations for men and women with regards to gender
3. Affirm teachings of the Catholic Church regarding the equality of man and woman with reference to their dignity

OBJECTIVES

The students are expected to:

1. Differentiate sex and gender
2. Determine roles and expectations for men and women
3. Illustrate the equality of man and woman in reference to their dignity

LEARNING CONTENT

Concepts

1. Sex is based on the physical and biological differences between man and woman while gender is a social construct on how women and men should think, feel and act
2. Society defines gender roles and expectations for men and women
3. Men and women, created in God's image, are equal in dignity

Skills

1. Classifying
2. Reporting
3. Comparing and contrasting
4. Outlining

Values

1. Gender equality
2. Acceptance
3. Open-mindedness
4. Respect for people
5. Partnership of man and woman in childbearing and childrearing

LEARNING RESOURCE

References

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- "Taking Sex Differences Seriously." <http://www.catholic.org>

Materials

Student Reader 1: Sex vs. Gender

Student Reader 2: For Every Woman

Teacher Resource 1: Excerpts from the Article: How We Raise Our Sons and Daughters: Child Rearing and Gender Socialization in the Philippines

Teacher Resource 2: Courtship and Marriage

Metacards

Manila paper and Pentel pens

LEARNING ACTIVITIES

Preparation

Brainstorming Activity

- Post a picture of a man and a woman on the board.
- Give each student a metacard. Tell the students to write something that they associate with a man or with a woman; be it a thing, a behavior, a role or a physical attribute.

Father, mother, aggressive, meek, ball, doll, vagina, and penis

- Tell the students to put their metacard either on the side of the man's or the woman's picture posted on the board. Some of possible answers are illustrated below.

Note: The teacher should ensure that biological differences as well as some of social expectations of man and woman are depicted in the given characteristics.

penis
aggressive
father



vagina
emotional
mother



- The teacher may also use pictures other than the pictures shown above.

Development

- Help students categorize the attributes according to sex and gender. The following questions may be asked:

What attributes are only true to a woman?

Vagina, menstruation, mother, child-bearer

- Let students put all the attributes that are identified to belong to the woman under the woman's picture posted on the board.

What attributes are only true to a man?

Penis, father, contributor of sperm in procreation

- Let students put all the attributes that are identified to belong to the man under the the man's picture posted on the board.

What attributes are true to both man and woman?

Some expected answers: emotional, leader, practical, etc.

- Let students put all attributes common to both woman and man in between man's and woman's pictures posted on the board. These attributes refer to 'gender'

Illustration may look like the following:



Sex	Gender	Sex
Father	Leader	Mother
Penis	Home-maker	Vagina
Contributor of sperm on procreation	Bread-earner	Contributor of egg in procreation
	Submissive	
	Emotional	

- Based on the students' answers, lead them to realize that these attributes are due to either sex or gender differences of man and woman. The following questions may be asked:

Is it possible to interchange the attributes of sex (the ones identified to a man be interchanged with those of the woman)?

No. Attributes of sex are peculiar to a man and to a woman.

What about the roles and characteristics falling under the gender column, can they be shared by both man and woman?

Yes, because gender roles and expectations are not based on sex.

They are based on the expectations of the society.

Sex is based on the physical and biological differences between man and woman while gender is a social construct on how women and men should think, feel and act.

- Lead students to realize that gender is a social construction. The following questions may be asked:

Who determines that a woman is emotional and that a man is aggressive?

Peers, society

Who assigns the roles of a man as a bread earner and a woman as a home maker?

Society in general dictates the acceptable roles of women and men. The said roles are commonly played by a man and woman: Society in general sees it as acceptable roles of both man and woman.

Do these roles and characteristics have something to do with a person's sex?

No. The roles and characteristics are just part of what the society expects of a man and a woman. Society defines gender roles and expectations for men and women.

- To elaborate the concept of sex and gender, distribute **Student Reader 1**. Let the students read silently for five minutes.
- Ensure that the students understand the concepts of sex and gender. The following question may be asked:

What have we learned about the concepts of sex, gender and gender roles?

Sex	<ul style="list-style-type: none"> - A person can either be male or female - Biologically determined - Sex categories are reflective of the reproductive functions
Gender	<ul style="list-style-type: none"> - Refers to femininity or masculinity of a person in terms of behavior and roles - Socially and culturally-determined - Gender categories are reflective of masculine and feminine characteristics of a person
Gender Roles	<ul style="list-style-type: none"> - Set of roles, characteristics and expectations of how man and woman should feel, think, and act as influenced by parents, peers, and society

- Present the physical and biological differences of man and woman.

Man	Woman
Biological Differences Sex Hormones <ul style="list-style-type: none"> • X,Y chromosomes • testosterone & androgen Reproductive Organs <ul style="list-style-type: none"> • testes, penis, vas deferens, seminal vesicles Contribution to Conception <ul style="list-style-type: none"> • sperm cell • fertile all the time and capable of getting a woman pregnant in every act of intercourse he engages from puberty until his death Physical Differences <ul style="list-style-type: none"> • Broader shoulders • Night time ejaculation (nocturnal emission) • Engorged nipples • More muscular body structure 	Biological Differences Sex Hormones <ul style="list-style-type: none"> • X,X chromosomes • estrogen & progesterone Reproductive Organs <ul style="list-style-type: none"> • Vagina, ovary, fallopian tubes, uterus Contribution to Conception <ul style="list-style-type: none"> • egg cell • has monthly cycles of fertile days (when she can get pregnant) and infertile days (when she cannot get pregnant) from her first menstruation until menopause Physical Differences <ul style="list-style-type: none"> • Wider hip size • Vaginal Secretions/Menstruation • Enlarged breasts

- Process these differences to surface complementarity of man and woman. The following questions may be asked.

What significance is brought about by the differences of man and woman in terms of physical and biological characteristics?

The physical and biological differences of man and woman has led to their complementarity. e.g. In procreation the man contributes the sperm and the woman contributes the egg.

- Help the class to realize that although **man** and **woman** are created different, God created them **equal in dignity** as supported by the teachings of the Catholic Church below.

In creating race "male and female", God gives man and woman an equal personal dignity, endowing them with the inalienable rights and responsibilities proper to the human person.

Source:

- John Paul II. (2005). *Familiaris Consortio, Apostolic Exhortation of Pope John Paul II on the Role of the Christian Family in the Modern World* (10th printing). Pasay City, Philippines: Paulines Publishing House.

- Share the citation from Catechism of the Catholic Church. Let them reflect on it for five minutes then bring them to the closure activity.

Man and woman have been created in perfect equality as human persons in their respective beings as man and woman. "Being man" or "being woman" is a reality which is good and willed by God. Man and woman are both with one and the same dignity "in the image of God". In their "being man and being woman," they reflect the Creator's wisdom and goodness.

Source:

- "Catechism of the Catholic Church," October 1992 <http://www.vatican.va/archive/catechism/p1s2cl1p6.html#III>

Closure

- After letting the students read the citations of Catholic teachings, present a copy of the poem "For Every Woman" by Nancy Smith. Let the students read silently ***Student Reader 2***.
- With the students' knowledge on sex and gender differences ask the students to choose a stanza or two which they like best. Ask them to write a short paragraph to promote equality of man and woman in reference to their opportunities and dignity.
- Give the students an assignment.
- Group the class into three and assign each group to prepare for a role play to be enacted by each group and to be presented next meeting.

Group 1 - Role play a typical lovers' date beginning from planning the date up to ending it.

Group 2 – Role play a married couple conversing about a matter that requires decision-making; for example, buying an appliance, choosing the color of the paint in the house or laying out a home as to where to place the kitchen, living room, dining room, bed room, and the like.

Group 3 – Role play a family scene portraying different members doing their respective roles in the home as brother, as sister, as mother, and as a father.

LESSON 2: Analyzing Roles and Going Beyond Stereotypes

LEARNING COMPETENCY

Relate gender issues to courtship, marriage, and family

OBJECTIVE

The students are expected to:

1. Analyze gender constructs in the Philippine setting with regard to courtship, marriage and family

LEARNING CONTENT

Concept

1. Gender constructs influence the behavior of men and women in relation to courtship, marriage, and family.

Skills

1. Brainstorming
2. Slogan writing
3. Drawing
4. Role playing

Values

1. Respect
2. Loyalty
3. Love
4. Fidelity
5. Unity

Prerequisite knowledge

1. Gender roles

LEARNING RESOURCE

References

- Harris, M. and O. Johnson. (2000). *Cultural Anthropology*. Massachusetts: Allyn & Bacon.
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- "Gender Bias" http://www.indiaparenting.com/articles/dataart09_027.shtml
- "Courtship and Marriage", <http://www.teenfad.ph/library/nonfad/nasa.htm>

Materials

- props for role playing activity
- pens, crayons, and cartolina for poster or slogan making

LEARNING ACTIVITIES

Preparation

Flashback

- Let students recall what gender roles are.

Gender roles are set of behavioral expectations and norms for female and male as influenced by parents, culture and society.

- Define gender constructs and give examples.

Introduction

- Introduce the role playing activity. The following questions may be asked:

*How many of you have experienced courtship?
How many of you are already married?*

- Tell the class that the role playing activity that they will undertake is centered on some gender constructs on courtship, marriage and family.

- Give the following guide questions:

*What gender constructs are being portrayed?
Are there changes happening in these constructs?
Are these constructs still relevant? Why? Why not?*

Development

Role Playing

- With the students understanding on gender roles, bring them to a role-playing activity.

Processing the Experience

- Bring back the guide questions

Question	Possible Answers
<p><i>What gender constructs are being portrayed?</i></p> <p><i>What gender stereotypes do you observe?</i></p>	<p>Group 1</p> <ul style="list-style-type: none"> • The man arranges for a date. • The man pays for the bills in the theater, the meal (dinner) and most likely pays for the transportation expense. • The man buys flowers, balloons or a stuffed toy. • The man takes the woman back home. <p>Group 2</p> <ul style="list-style-type: none"> • The woman decides the appliance to be bought but the man pays for it. • The woman decides the color of the paint for the house, room, kitchen but the man makes arrangement for the painting service. • The man decides the placement of bedroom and living room but the woman decides for the layout of the kitchen. <p>Group 3</p> <ul style="list-style-type: none"> • The mother takes charge of domestic tasks like cooking, washing, cleaning and nurturing the other family members. • The father takes charge of minor repairs like mending the fence, replacing electric bulb or faucet or tending the garden if there is any. • The girl child (sister) in the family helps the mother in the domestic tasks practically learning the role of the mother. • The boy child (brother) in the family helps the father in his home tasks practically learning the role of a father.

<p><i>Are there already changes happening along these constructs?</i></p>	<p>Group 1 – Although some of the conventions of courtship are still evident, there are already changes that happen along the areas of dating like there are times when a woman is the one who proposes the date and shares in the payment of the bills. At times, some women care to visit their respective boyfriends rather than wait to be the ones being visited all the time.</p> <p>Group 2 – Decision-making among couples is usually shared rather than assigned. For couples who are both working and share the expenses in the home, they usually discuss before coming up with a decision. Decision-making is not left to the husband alone.</p> <p>Group 3 – Domestic tasks are usually shared by all members of the family. There is no strict assignment of tasks in the home. While the father continues to perform his usual roles, he tries to help his wife in her domestic and nurturant tasks in the home and vice versa. Brothers and sisters help each other in their tasks. Boys learn to cook and wash while girls learn to hold the hammer and the nail.</p>
<p><i>Are these constructs still relevant? Why?</i></p>	<p>Group 1 - Apart from being a gentleman, some constructs are no longer relevant in the sense that these constructs and expectations for man and woman limit their capacities in the genuine expression of love. A woman, for example, may not always wait for a man to invite her. She has the right to ask where their relationship is heading.</p> <p>Group 2 – To leave all decision-making to the husband and all things regarded as “<i>manly</i>” is not fair. In the same manner that to leave all things regarded as “<i>womanly</i>” to the wife such as color and style is biased. Decision-making in the home in all aspects should be shared by both husband and wife and should not be strictly assigned as either a man's task or a woman's task.</p> <p>Group 3 – All tasks in the home must be learned by all members of the family even if some tasks are assigned. After all, it is to everyone's advantage to learn household tasks.</p>

- The teacher can also ask for other courtship, marriage, and family practices that are gender-based. The following questions may be asked:

What other gender constructs do you know aside from what have been shown in the role play activity?

What would you like to do about them?

- Synthesize by saying that **gender constructs influence the behavior of men and women in relation to courtship, marriage and family.**
- Help students realize that unless these gender constructs are changed, stereotyping behavior with regard to courtship, marriage, and family will continue.

Closure

The Challenge

- Considering the role of the family in societal development, challenge the students to identify some practices they may want to preserve or change with regard to courtship, marriage, and family roles either through writing a slogan or making a mini poster.

(Expected output: a lady who shares in paying the bill in the restaurant during a date, a father bathing the baby, a brother doing laundry, etc.)

Note to the teacher: Teacher Resource materials are appended in the following pages to enrich readings on gender-based practices in courtship, marriage and family.

ATTACHMENTS

- **STUDENT READER 1: Sex vs. Gender**

Why do sociologists differentiate between gender and sex? Differentiating gender from sex allows social scientists to study influences on sexuality without confusing the social and psychological aspects with the biological and genetic aspects.

A. Sex

Many species of living things are divided into two or more categories called sexes. These refer to complementary groups that combine genetic material in order to reproduce, a process called sexual reproduction. Typically, a species will have two sexes: *male* and *female*. The female sex is **defined as** the one that produces the larger gamete (i.e., reproductive cell) and which bears the offspring. The categories of sex are, therefore, reflective of the reproductive functions that an individual is capable of performing at some point during the life cycle.

Sex is determined by the sex chromosomes, called X and Y. For mammals, males typically have one of each (X,Y), while females typically have two X chromosomes (XX). All individuals have at least one X chromosome, the Y chromosome is generally shorter than the X chromosome with which it is paired, and is absent in some species. In humans, sex is conventionally perceived as a dichotomous state or identity for most biological purposes, such that a person can only be female or male.

B. Gender

Gender is the socially projected component of human sexuality. Perhaps the best way to understand gender is to understand it as a process of social presentation. Because gender roles are delineated by behavioral expectations and norms, once individuals know those expectations and norms, the individual can adopt behaviors that project the gender they wish to portray. One can think of gender like a role in a theatrical play - there are specific behaviors and norms associated with genders just like there are lines and movements associated with each character in a play. Adopting the behaviors and norms of a gender leads to the perception that someone belongs in that gender category. Gender roles are, unlike sex, mutable, meaning they can change. Gender is not, however, as simple as just choosing a role to play but is also influenced by parents, peers, culture, and society...

Source:

- "Sex vs. Gender". <http://www.en.wikipedia.org>

- **STUDENT READER 2: For Every Woman**

For Every Woman

by Nancy R. Smith

For every woman who is tired of acting weak
when she is strong

There is a man who is tired
of appearing strong when he feels
vulnerable

For every woman who is tired of acting dumb

There is a man who is burdened
with the constant expectation of
"knowing everything."

For every woman who is tired of being
called "an emotional female"

There is a man who is denied the right
to weep and be gentle

For every woman who is called unfeminine
when she competes,
there is a man for whom competition is the only way
to prove his masculinity.

For every woman
who is tired of being a sex object,
there is a man
who must worry about his potency.

For every woman who feels
"tied down by her children"
There is a man who is denied the full
pleasure of shared parenthood.

For every woman who is denied meaningful
employment and equal pay
There is a man who must bear financial responsibility
for another human being.

For every woman who was not taught
the intricacies of an automobile
there is a man who is not taught the satisfaction
of cooking.

For every woman who takes
a step toward her own liberation
There is a man who finds that the way
to freedom has been made a little easier.

Source:

- Smith, N. R. (1973). *For Every Woman*. Retrieved from <http://www.workplacespirituality.info/ForEveryWoman.html>

• **TEACHER RESOURCE 1: Excerpts from the article: How We Raise our Sons and Daughters: Child Rearing and Gender Socialization in the Philippines**

Socialization is the complex process of learning those behaviors that are considered appropriate within a given culture. Gender socialization is one of its most pervasive manifestations.

A. The Girl—Child and the Filipina Woman She Is Expected to Be

There are clear-cut gender role expectations in Philippine society. The literature points to two main ideas: patriarchy brings about separate sexual standards (femininity is associated with being **mahinhin** (modest), **pino ang kilos** (refined) and **mabini** (demure), while being **malakas** (strong), **matipuno** (brawny) and **malusog** (healthy) are associated with masculinity); and second, the family is the primary socialization agent that perpetuates the disparity.

Filipino mothers and fathers hold themselves up rigidly to societal prescriptions of what is proper maternal (“feminine”) and paternal (“masculine”) roles and behaviors. Consequently, the children they raise internalize and perpetuate these self-same expectations.

With the bias that women are essentially perceived as wives, mothers and homemakers (Baylon, 1975; Asprer, 1980; Gonzalez, 1977; Makil, 1981; Sobritchea, 1990), the Filipino girl-child is expected to learn to manage a household and fulfill domestic obligations and responsibilities in the future.

B. The Girl-Child and How She is Raised in the Filipino Family

Filipino children are socialized to their gender identities in a variety of ways. The studies under review dealt with the subject extensively, but six (6) topics became very prominent:

Parental Preferences for Daughters and Sons

Several studies have shown that Filipino families prefer sons over daughters (Bulatao, 1975; Jurilla, 1986), especially for the firstborn (Mendez and Jocano, 1979a; Estrada, 1983). This is expressed strongly by fathers (Mendez & Jocano, 1979a; Estrada, 1983).

On the other hand, female children are highly desired by parents, especially mothers (Licuanan, 1979; Estrada, 1983). They are preferred “so that they can help in housework and family chores” (Bulatao, 1975, 1978), and assist the mother in fulfilling the work of nurturance. She is viewed as an ever-dependable source of support (Castillo, 1993) or **tagasalo** (rescuer) (Carandang, 1987).

Gender-Related Expectations that Parents have for their Children

By and large, studies suggest no salient sex differences in parents’ character expectations for children. Sobritchea (1990) found that parents expected their children, both girls and boys, to develop traits of industry, respect, perseverance in studies and kindness. Licuanan (1979) reported that parents wanted their children to have a college education—a goal set for both male and female children. However, Minoza, Tablante and Botor (1984) observed that mothers had higher aspirations for their male pre-school children than for females.

Gender-Differentiated Child-Rearing Beliefs and Practices

a) Parental and Infancy Stages

During the prenatal and infancy stages, the expectant mother's looks are associated with the gender of the unborn child. The unborn girl-child is associated with the mother's looks – pretty and not so heavy (Sobritchea, 1990); the unborn boy-child is believed to be strong, to eat more and to grow faster.

b) Childhood

It has been reported that boys and girls are treated alike until 5 or 6 years of age (Guthrie and Jacobs, 1966) and that gender socialization begins at about age 10 (Stoodley, 1957).

Gender segregation. Gender segregation begins when children reach school age. Prior to this brothers and sisters are allowed to sleep, bathe and swim together (Jocano, 1970; Mendez and Jocano, 1979a). Rigid separation of the sexes is enforced in Maranao families when the children reach 6 years of age.

Play. It is during play time that sex differentiation is observed among Filipino children. **Bahay-bahayan** (playing house; Estrada, 1983), and **lutu-lutuan** (cooking, Jocano, 1988) are some games where girls enact mother-and-baby scenarios and performing home-related activities (Jocano, 1988). Sobritchea (1990) reported that girls are still cautioned against playing boy's games like **larong bola** (ball games) and **paggala-gala** (wandering about). Lim-Yuzon (1982) observed pre-school girls favoring quiet games (e.g., writing, work, puzzles and on-looker activities) while their male counterparts portrayed superheroes from television. Gender-neutral play activities like **luksong tinik**, **patintero** and **taguan** were noted as well (Mendez and Jocano, 1979a). When parents joined in, children reported that mothers played more "word games" while fathers preferred "strategy games" like chess and checkers (Bernardo, 1994).

Freedom versus Restrictions. There is a clear difference in the amount of freedom granted to boys and the degree of restrictions that girls have to cope with (Quiambao, 1965; Mendez and Jocano, 1979a; Razon, 1981) when it comes to child-rearing. Girls are kept closer to hearth and home for obvious gender-stereotypical reasons: a girl's place is the home (De La Cruz et al., 1971), she is needed to manage the household (Mendez and Jocano, 1979a), needs protection. Porio (1994) questions why the same should not apply to boys when male streetchildren are just as vulnerable to brutality from the police, pimps, pedophiles, drug-pushers and even bystanders.

Aggression. Parents are reportedly more permissive towards male children when it comes to handling aggression (Razon, 1981) but sons are constantly warned by mothers not to get into fights and avoid company who are prone to violence. Nevertheless, the boy-child has to learn to defend himself and his family honor (Macalandong, et al., 1977; Mangawit, 1981). No research was found that looked into how parents handled aggression among girls.

Discipline. Studies of disciplinary practices rarely mention any analysis of gender differences in the frequency, severity and types of punishment administered to children. But Sobritchea (1990) found differences in the normative form of punishment for boys (beatings with a wooden stick) and girls (pinching, slapping and scolding) in two rural villages.

c) Adolescence

The adolescent years mark a period when the differential treatment of sons and daughters become more pronounced. At the onset of menarche, the girl-child is subjected to restrictions like not carrying

heavy loads (Jocano, 1970), not taking a bath (Jocano, 1970, Lagmay, 1983), wash her hair (Jocano, 1988) or wetting her feet (Lagmay, 1983). Themes of constraint and control carry over in her department and relations with the opposite sex. Although she may be courted (Jocano, 1988), she may not flirt (Mendez and Jocano, 1979a) or go out unchaperoned (Baylon, 1975). She is urged to be careful and circumspect in dealing with boys, often without explanation from parents. It is in her adolescent years that the daughter experiences more severe restraints on her behavior when compared to her brothers (see Mendez and Jocano, 1979a; Asprer, 1980; Porio, 1994).

Differential Family Investment in Daughters and Sons

There is disparity in the distribution of family resources in the rearing of male and female children. Cabanero (1977) noted that girls were found to require less food expenditures than males. The incidence of malnutrition in the country has been found to be higher for girls than boys (Food and Nutrition Research Institute 1989-1990 National Nutrition Survey, cited in IBON Facts and Figures, 1993). Cabanero's rural families also spent more on clothing for male than female children. But Gomez (1988) observed that parents in Cotabato City allocated more of the family's clothing budget to their daughters. Cabanero and Gomez both noted that female children received greater schooling outlays than their male counterparts. Both concluded that female children were more expensive to raise but males enjoy greater outlay in terms of family human capital.

Differences in the Responsibility Training of Daughters and Sons

Responsibility training is a hallmark of Filipino child-rearing practices, it begins early and proceeds quite systematically. A child's responsibilities at home (sent out on errands; Jocano, 1988; caring for younger siblings) increases as he or she gets older. As a result of this training, children become critical contributors of unpaid household work and child care (Boulier, 1976). Boulier (1976) noted that the work of older children of both sexes increased substantially their mothers' leisure time opportunities. The training continues through adolescence to prepare the adolescent girls and boys for their future adult roles.

a) Tasks Assigned to Girls

The diverse tasks assigned to daughters are stereotypically feminine: domestic, indoor, and nurturant (Licuanan and Gonzalez, 1976; Rojas-Aleta, Silva and Eleazar, 1977; Pineda, 1981; Shimizu, 1984; Dionisio, 1994). Daughters assist in meal preparation (Baylon, 1975; Jocano, 1976; Mendez and Jocano, 1979a; Estrada, 1983; Lagmay, 1983; Illo, 1988; Illo and Veneracion, 1988; Jocano, 1988; Sobritchea, 1990), wash and iron clothes (Baylon, 1975; Lagmay, 1983; Jocano, 1976, 1988; Sobritchea, 1990) and clean the house inside and outside (Jocano, 1976; Mendez and Jocano, 1979a, Illo, 1988; Jocano, 1988). Gomez (1988) noted that female children contribute more housework time than males and become independent at an earlier age in terms of self-care.

Caring for younger siblings is a task expected of daughters. This includes minding, feeding, rocking infants to sleep and watching over or playing with toddlers and other children (Baylon, 1975; Boulier, 1976; Popkin, 1976; Jocano, 1976; Mendez and Jocano, 1979a; Estrada, 1983; Lagmay, 1983; Illo, 1988; Illo and Veneracion, 1988; Jocano, 1988; Sobritchea, 1990; Ocampo-Go, 1994). Popkin (1976) confirmed that by ages 7 to 15, daughters act as mother substitutes. Older daughters appear to substitute as well for their father's childcare time by relatively large amounts (Boulier, 1976).

Cabanero (1977) noted that Filipino children cease being "welfare recipients" early on their lives. Girls, as well as boys, actively participate in their families' means of earning a living: planting, harvesting, vending, preparing foodstuffs to sell (Jocano, 1988). Cabanero (1977) found female children of low-wage mothers contributing to family income as early as 9 to 11 years of age, while daughters of middle wage mothers became net producers by ages 15 to 17 years. The National Statistics Office (IBON Facts and Figures, 1996) reported that nearly 1.3 million girl-children are now working.

b) Tasks Assigned to Boys

The tasks assigned to boys are predominantly those requiring physical strength and endurance, farther distance from the home and hardly any socio-emotional skills.

Domestic chores revolve around fetching water (Baylon, 1975; Rojas-Aleta and Eleazar, 1977; Licuanan, 1979; Lagmay, 1983; Illo, 1988; Jocano, 1988; Sobritchea, 1990), going to the corner sari-sari store (Mendez and Jocano, 1979a; Estrada, 1983), sweeping the yard, lifting the furniture and carrying heavy objects.

Generally, "household chores are not assigned to them unless there are no girls in the family." (Mendez and Jocano, 1979a). Furthermore, "...boys are generally excluded from participating in tasks attributed to as feminine." (Estrada, 1983), and "...no male is expected to do household chores which are considered to be female undertaking." (Ramirez, 1988). But they also provide some relief to their mothers as boys are required to put in child care hours when the girls' services are not available (Lagmay, 1983).

In rural communities, boys assist in the economic activities of their parents in a variety of ways: guarding against foraging domestic animals, plowing the fields (Mangawit, 1981; Estrada, 1983; Jocano, 1988; Sobritchea, 1990), herding and pasturing cows and carabaos (Baylon, 1975; Illo, 1999; Illo and Veneracion, 1988; Jocano, 1988), and caring for livestock and other domestic animals (Rojas-Aleta et.al., 1977; Mangawit, 1981; Shimizu, 1984).

Sons of fishermen assist by running the motor, paddling (Jocano, 1988; Sobritchea, 1990), repairing agricultural implements or mending fishing gear.

Among urban streetchildren in Metro Manila and Cebu they watch cars, shine shoes, peddle cigarettes, newspapers and candies.

Cabanero (1977) found that sons of low-wage and middle-wage mothers represent net financial gains to their families by ages 12 to 14 years, while high-wage mothers realize positive returns from their sons at the age of 15 to 17.

c) Rationale for Gender-Biased Task Assignments

The responsibility training of sons and daughters is seen as preparatory to their assumption of the conventional masculine role of "head of the family" and feminine role of "housewife", thereby safeguarding the status quo and perpetuating society's patriarchal standards. However, an alternative view suggests that sons as well as daughters must concern themselves with the various aspects of household management. Estrada (1983) observed some mothers in the Tarlac area instructed and encouraged their sons on the proper attitude and skills in doing household chores regardless of the supposed gender-labeling of these tasks. Bulatao (1978) found that mothers expected household help equally from daughter and sons. While both Licuanan (1979) and Illo (1988) concede that there are still differences in the primary ranked tasks for sons and daughters (as well as for mothers and fathers), they argue that rarely are the boundaries firm between what men and women can and in fact do. More contemporary studies like the Mc Cann Erikson survey (1995) have determined that men (especially those in the middle class) are gradually yielding to the pressure of getting more involved in domestic chores which used to be only reserved for their wives.

Parents as Models: Differences in Child-Rearing Responsibilities of Mothers and Fathers

A review of the studies shows how Filipino mothers and fathers act differently even when both are exercising their child-rearing responsibilities. The mother is still ranked as the primary caretaker of her children (Mendez and Jocano, 1979a; Licuanan, 1979; Lagmay, 1983; Minoza et al., 1984; UP-CHE,

1985). Hollnsteiner (1979) noted that "...In the rural areas, the roles of family members are clearly prescribed ... in the urban or urbanized families, the roles and privileges are less clearly delineated, especially since the mother's role has become multifaceted and less structured." Middle Socio-Economic Status (SES) working mothers (Sycip, 1982) still carried the greater bulk of the responsibility for the home and the children. Thus, a majority of the respondents experienced difficulty in combining and balancing their multiple roles of wife, mother, and worker. Child care time significantly affected the mother's leisure time. Gomez (1988) found that children of all ages experience longer child care hours from mothers and fathers. It was observed that over-protection was the most pervasive attitude that mothers exhibit towards their children (Espina, 1996).

The Filipino father's main role is that of family provider. His role as a child caretaker is considered only secondary. Fathers' affection towards their children is limited to carrying them, talking, and playing with them (Licuanan, 1979). Lapuz (1987) described the Filipino father as a "...remote person...feeling awkward in getting close (to his sons)". Discipline is one aspect of child-rearing where fathers figure prominently; either on their own parental capacity or in concert with their wives (Porio, Lynch and Hollnsteiner, 1978; Licuanan, 1979; Lagmay, 1983; Minoza et.al. , 1984; UP-CHE, 1985; David, 1994). Fathers also tend to be more involved in disciplining older children (David, 1994) and sons rather than daughters (Porio et al., 1978). With his role in his domain of discipline, the father-child relationship is characterized by authority, restriction, obedience and control.

Source:

- Liwag, M., A. de la Cruz, and M. Macapagal. (1997). *How We Raise Our Daughters and Sons: Child-Rearing and Gender Socialization in the Philippines*. Manila: United Nations Children's Fund and Ateneo Wellness Center.

• **TEACHER RESOURCE 2: Courtship and Marriage**

Venues for socialization among young adults vary according to socio-economic status, ranging from parties, community dances (*baile*) to shopping malls. Across classes, the barkada plays an important role for allowing people to make new friends and for courtship to proceed and develop.

Relationships are seen as being extremely important for emotional support. “American” notions of romantic love characterize these relationships, e.g. spending time together, remembering anniversaries and Valentine’s Day.

The process of courtship builds around notions of reaching “mutual understanding, (m.u.), including trust and respect. The process of developing m.u. is described as *pakiramdaman*. There is role-playing here, described as *diskarte* on the part of the male, the ways in which he presents himself as a person who is sincere. Both males and females have to prove themselves *decente*, which on the part of the males means someone who is honest and trustworthy while for the female, *decente* revolves around being of marriage material (*pangpakasa*). In both cases, expectations revolve around stereotyped gender attributes.

Arriving at m.u. revolves around *loob*, the self: *gagaan ang loob*; *lumalapit ang loob* and finally, *nahuhulog ang loob* (lightening of the self; the selves becoming close; the “falling of the self.” The acceptability of sexual activities—petting, necking and penetrative sex—is closely tied to the level of m.u. that has been achieved. Relationships are viewed as private, sometimes hidden from families and friends.

The need to develop love and trust means being together as frequently as possible, which also creates or generates desire. We find a constant “struggle” between love and desire. There are elaborate “rules” on what needs to be done to control desire: parts of the body that can be touched; number of minutes for kissing, etc. The struggle is to bring this love and desire together, mainly toward love justifying desire.

Gender roles emerge as important determinants of sexual activities. While men “bring” (*dala*) the relationship, women are expected to control male sexuality and set the limits. Female virginity is the norm, tied to notions of male ownership of that virginity, which theoretically must be “saved” until marriage.

There is a reproductive imperative, the notion that people must reproduce. This reproductive imperative ties-in closely with marriage. Marriage and reproduction set the horizon for young adult relationships as a goal.

Source:

- “Courtship and Marriage” <http://www/teenfad.ph/library/nonfad/nasa.html>

MARRIAGE: A COMMITMENT TO LOVE AND LIFE

By: Maristela Gales and Adelfa Yumo

Suggested

Time Frame : 1 hour and 30 minutes
Subject : Sociology
Year Level : College

LEARNING COMPETENCIES

1. Appreciate the value of marriage in the light of the Catholic perspective
2. Realize that how parents value children affects their fertility preferences

OBJECTIVES

The students are expected to:

1. Explain the Catholic perspective on the value of marriage.
2. Discuss how parents value children.

LEARNING CONTENT

Concepts

1. Marriage requires responsibility towards the well-being of self, spouse and children.
2. Children, as fruits of the love between parents, are to be valued not as means but as ends in themselves.

Skills

1. Communicating
2. Reasoning
3. Listening
4. Brainstorming

Values

1. Respecting one's self and others
2. Appreciation of the value of marriage and family
3. Friendship/well-being/fostering dignity

Prerequisite knowledge

1. Differentiating Sex and Gender
2. Responsible Parenthood

LEARNING RESOURCES

References

- n.a. (1991). *Family, Be What You Are*. Quezon City: Mother of Life Research and Publication.
- John Paul II. (2005). *Familiaris Consortio, Apostolic Exhortation of Pope John Paul II on the Role of the Christian Family in the Modern World*. Pasay City, Philippines: Paulines Publishing House.
- Panopio, I. and R. Rolda. (2000). *Society and Culture*. Quezon: JMC Press Inc.

Website

- Marriage, Preparation and Improvement II, The Purpose of Marriage <http://www.gospelway.com/family/marriage-purpose.php>

Materials

Worksheet 1: Interview
 Answer Sheet 1: Table of Responsibilities (some examples)
 Student Reader 1: Roles and Responsibilities of Family Members
 Teacher Resource 1: Marriage
 Teacher Reader 1: Other Perspectives on the Value of Marriage
 Student Reader 2: The Catholic Church Says...The Purpose and Value of Marriage
 Activity 2: Group Sharing
 Student Reader 3: Value of Children
 Teacher Resource 2: Children — The Precious Gift of Marriage
 Metacard
 Pentel pens
 Masking tape

LEARNING ACTIVITIES

Activity 1: Pre-Class Activity (Students will be assigned to conduct the pre-class activity before the scheduled class. Please refer to **Worksheet 1: Interview**)

Preparation

- Review with the students the past lesson with the key concept: Gender constructs influence the behavior of men & women in relation to courtship, marriage and family.
- Ask the students to reflect on the following questions:

What influence the behavior of men and women?

What practices do you want to preserve or change with regards to courtship and marriage?

Development

- Ask the students: *Why do people marry?*

Possible answers:

They are in love, they want to live together.

To attain wealth, influence, popularity, or social status.

To escape serious problems in their previous home life.

One's friends are getting married.

Some people have felt unloved and rejected or inferior all their lives, so they want someone to want them.

On the rebound from a broken relationship.

To have someone provide a house, etc.

Family or friends think they make a good couple.

- Ask the students: *In relation to this, what did I assign you to do?*

You asked us to interview our parents and neighbors about their family responsibilities.

Ask the students to present the table of responsibilities as shown in **Answer Sheet 1** for possible answers of the responsibilities of the people identified in the table.

Self	Spouse	Parent	Children

- Ask the students: *Are these the only responsibilities of these people?*

Let us try to explore from other sources. Let the students read **Student Reader 1**.

Each member of the family occupies a position. Each position has accompanying roles and responsibilities.

- Ask the following questions:

How do couples demonstrate maturity?

The maturity of the couples is demonstrated when they are able to perform their responsibilities for themselves and for their children.

- Lead the students to a deeper understanding about marriage from the social encyclical *Familiaris Consortio*. (Please refer to **Teacher Resource 1**)
- Emphasize the following point to the class:

According to the plan of God, marriage is the foundation of the wider community of the family, since the very institution of marriage and conjugal love are ordained to the procreation and education of children, in whom they find their crowning. (*Familiaris Consortio* 34)

Ask the students: *What then does marriage require?*

Marriage requires responsibility towards the well-being of self, spouse, and children.

- Discuss with the students other perspectives on the value of marriage (See **Teacher Reader 1**)
- After discussing the topic on marriage, please proceed to the second part of the lesson, on the value of children. Ask the students to refer to **Activity 2**.
- Present the Table on "Preferences and Considerations on the Number of Children in the Family."
- Process Activity 2 by asking the students the following questions:

Why do people have children?

Why do you want to have children?

- Give out **Student Reader 2**.
- Get the students' insights on the statement: Children are fruits of the love between parents.
- Emphasize that there is a need to be prepared for marriage and children, and to be mature enough to meet the responsibilities attached to marriage and having a family.
- Tell the students: "The preference in considering the number of children in the family will show how parents value their children." Explain further by referring to **Teacher Resource 2**.

When child labor makes considerable contribution to the family income and when parents are dependent on the children for protection and security in old age, there will be few incentives to reduce fertility no matter what the social cost of rapid population growth.

But the Bible portrays the blessings of children to be so much greater than the burden of their care and upbringing. God's word tells that children are blessings.

"Behold, children are a heritage from the Lord, the fruit of the womb a reward.
Like arrows in the hand of a warrior are the children of one's youth.
Blessed is the man who fills his quiver with them!
He shall not be put to shame when he speaks with his enemies in the gate."

Psalm 127:3-5

Closure

- Ask the students to do the following on a piece of paper to check if they understood the lesson:
 1. On a piece of paper ask them to write at least two values of marriage.
 2. Ask the students to present a role play/advertisement/song/poem that portrays the value of marriage and children.
- The teacher will stress the following:

According to the plan of God, marriage is the foundation of the wider community of the family, since the very institution of marriage and conjugal love are ordained to the procreation and education of children. (John Paul II, 2005)

Children, as fruits of the love between parents, are to be valued not as means but as ends in themselves. (See **Teacher Resource 3**)

ATTACHMENTS

• **WORKSHEET 1: Interview**

The students interview their parents and neighbors guided by the following questions:

1. *What are their responsibilities?*

- a. *toward self*
- b. *toward spouse*
- c. *toward children*
- d. *toward parents*

2. *As parents:*

- a. *What is their preferred number of children in the family?*
- b. *What are their considerations in deciding the number of children in the family?*

• **ANSWER SHEET 1: Table of Responsibilities (some examples)**

Toward Self	Toward Spouse	Toward Children	Toward Parents
Takes care of one's: <ul style="list-style-type: none"> – Health – Career – Education 	<ul style="list-style-type: none"> – Provides/ addresses the needs of spouse: emotional, social, economic, etc. – Expresses & demonstrates care & affection 	Mother: <ul style="list-style-type: none"> – Cares for children – Performs domestic tasks e.g. cooking, cleaning the house, etc... – Earns a living for the family Father: <ul style="list-style-type: none"> – Earns a living – Sends children to school – Keeps children in good health 	Young children: <ul style="list-style-type: none"> – Help in household chores – Study hard – Care for siblings and the elderly Older children: <ul style="list-style-type: none"> – Take care of older parents

• STUDENT READER 1: Roles and Responsibilities of Family Members

The family is considered to be the simplest form of social organization. Each member of the family occupies a position, like being a father or mother to one's children, husband or wife, the eldest or the youngest child. Each position has accompanying roles and responsibilities. A father must earn a living, and a mother must attend to domestic and household chores. In addition, both are expected to attend to the informal education of their children, like socializing them to the values and culture of the group. The children, on the other hand, are expected to internalize the culture of the group and put them into practice as they go about their day-to-day activities. Children too must have their share of responsibilities, such as helping their mothers in the performance of household tasks. One has to care for oneself to have the strength to perform all these responsibilities expected by society .

Source:

- [http://www.ccsf.edu/Departments/Philippines Studies/event2.html](http://www.ccsf.edu/Departments/Philippines%20Studies/event2.html)

The following biblical text:

- Ephesians 5:28 "In the same way, husbands should love their own bodies. He who loves his wife loves himself."
- 1 Corinthians 7:5 "Do not refuse each other, except by mutual consent and only for a time in order to dedicate yourselves to prayer, and then come together again."
- Titus 2: 3-6 "...but as good counselors, able to teach each younger women to love their husbands and children."

• **TEACHER RESOURCE 1: Marriage**

Familiaris Consortio 14: In its most profound reality, love is essentially a gift; and conjugal love, while leading the spouses to the reciprocal “knowledge” which makes them “one flesh”, does not end with the couple, because it makes them capable of the greatest possible gift, the gift by which they become cooperators with God for giving life to a new human person. Thus the couple, while giving themselves to one another, give not just themselves but also the reality of children, who are living reflection of their love, a permanent sign of conjugal unity and a living and inseparable synthesis of their being a father and mother.

Familiaris Consortio 15: In matrimony and in the family a complex of interpersonal relationships is set up – married life, fatherhood and motherhood, filiation and fraternity – through which each human person is introduced into the human family and into the “family of God, which is the church.”

Christian marriage and the christian family build up the Church: for in the family, the human person is not only brought into being and progressively introduced by means of education into the human community, but by means of rebirth of baptism and education in the faith, the child is also introduced into God's family, which is the church.

Familiaris Consortio 18: The family, which is founded and given life by love, is a community of persons: of husband and wife, of parents and children, of relatives. Its first task is to live with fidelity the reality of communion in a constant effort to develop an authentic community of persons.

The inner principle of that task, its permanent power and its final goal, is love: Without love the family is not a community of persons, and in the same way, without love the family cannot live, grow and perfect itself as a community of persons. What I wrote in the Encyclical REDEMPTOR HOMINIS applies primarily and especially within the family as such: “Man cannot live without love. He remains a being that is incomprehensible for himself, his life is senseless, if love is not revealed to him, if he does not encounter love, if he does not experience it and make it his own, if he does not participate intimately in it”

The love between husband and wife and, in a derivatory and broader way, the love between members of the same family -- between parents and children, brothers and sisters and relatives and members of the household -- is given life and sustenance by the unceasing inner dynamism leading the family to ever deeper and more intense communion, which is the foundation and soul of the community of marriage and the family.

Familiaris Consortio 36: When they become parents, spouses receive from God the gift of a new responsibility. Their parental love is called to become for the children the visible sign of the very love of God, “from whom every family in heaven and on earth is named.”

Familiaris Consortio 55: The Sacrament of Marriage is the specific source and original means of sanctification for Christian married couples and families. It takes up again and makes specific the sanctifying grace of baptism. By virtue of the mystery of the death and resurrection of Christ, of which the spouses are made part in a new way by marriage, conjugal love is purified and made holy: “This love the Lord has judged worthy of special gifts, healing, perfecting and exalting of grace and of charity.”

Source:

- John Paul II. (2005). *Familiaris Consortio, Apostolic Exhortation of Pope John Paul II on the Role of the Christian Family in the Modern World* (10th printing). Pasay City, Philippines: Paulines Publishing House.

• TEACHER READER 1: Other Perspectives on the Value of Marriage

By: Maristela Gales and Adelfa Yumo

Some social scientists, view marriage as an “**institution**” as well as a **relationship**.” To consider it as an institution implies appropriate marital roles and statuses which come from the outside and from above. And as a relationship, it connotes that statuses and roles come from within, from the practices themselves (Panopio, 2000).

- Marriage has often been considered a lifelong relationship, meaning that there is no end to it but death.
- Some people view marriage as a way of life, something that is more than a sexual relationship. Couples who have decided to enter into such a relationship are bound to live together, in principle, for the rest of their lives.

Most people marry for a combination of the above reasons. When we understand the proper reasons for marriage, we also understand why it is a mistake for people to marry for other reasons, such as:

- To attain wealth, influence, popularity, or social status
- To escape serious problems in their previous home life
- Because one’s friends are getting married
- Just so you can feel like somebody wanted you – some people have felt unloved and rejected or inferior all their lives, so they just want to feel somebody wants them
- Because we are “on the rebound” from a broken relationship
- Because we want someone to provide for us to keep house for us, etc.
- Because our family or friends think we make a good couple

When people enter marriage for these improper reasons, they usually find that their marriage dissatisfies them.

- **STUDENT READER 2: The Catholic Church Says...The Purpose and Value of Marriage**

A. Marriage is for companionship and love.

Genesis 2: 18 Yahweh God said, "It is not good for man to be alone; I will give him a helper who will be like him."

When man and wife are proper companions loving one another as the Bible teaches, they fulfill one of the strongest desires and greatest needs people have.

B. Marriage is to express sexual affection.

The expression of sexual affection culminates in the act of sexual intercourse which is intended both for procreation and union of the man and the woman. These two intentions cannot be separated, hence the need for openness to life in all acts of intercourse, both for the sake of children already born and the potential of having more children. Sexuality is expressed in many ways in every human act, since humans are sexed beings, "but the only 'place' in which this self-giving in its whole truth is made possible is marriage, where the covenant of conjugal love freely and consciously chosen, whereby man and woman accept the intimate commitment of life and love willed by God himself, which this light manifests its true meaning."

C. Marriage is to bear and raise children.

Genesis 1: 28 God blessed them and said to them, "Be fruitful and increase in number, fill the earth and subdue it, rule over the fish of the sea and the birds of the sky, over every living creature that moves on the ground."

Ephesians 6:4 And you, fathers, do not make rebels of your children, but educate them by correction and instruction which the Lord may inspire.

No institution or arrangement, other than the family, can produce the same benefits for children. This is one reason why it is immoral to bear children out of wedlock or to refuse to care for them after we have given them birth.

Marriage is "a very valuable maturing experience, an opportunity for personality growth, and it serves to meet an important emotional need" (Panopio, 2000)

• **ACTIVITY 2: Group Sharing**

- Group the students into five.
- Allow the students to share their answers by group and ask them to write on the manila paper the answers to the interview they conducted with their parents and neighbors.
- Let the students assign a reporter for the big group sharing.
- Process the answer to the questions: Preferences and Considerations with the students grouped into five using the following matrix:

Preference on the number of children in the family	Considerations on deciding the number of children in the family
<ul style="list-style-type: none"> • Small (1-4) 	<ul style="list-style-type: none"> • Family income
<ul style="list-style-type: none"> • Medium (5-7) 	<ul style="list-style-type: none"> • Mother's / Father's health
<ul style="list-style-type: none"> • 8 and above 	<ul style="list-style-type: none"> • Mother's / Father's career

Ask: *What is the most preferred family size?*

small size
medium size

Ask: *What are the common considerations in deciding the number of children in the family?*

family income
mother's health
mother's employment

• **STUDENT READER 3: Value of Children**

The value of children is not the exclusive domain of a single discipline. It is associated with a number of disciplines – economics, sociology, demography and psychology. In developing countries, economic value of children has two principal components: the net contribution the children make to the family's income through their labour and contribution they make later in life to the support of the aged parents. In other words, labour value of children and old age security value of children. Parents in the developing countries desire large families for good and valid economic reasons, and not because they are ignorant of how to avoid having children or acting under uncurbed passion or from blind adherence to traditional cultural norms. Where children are economically useful and cost of raising them is insignificant, it is very common for the parents to have large families. When child labour makes considerable contribution to the family income and when parents are dependent on the children for protection and security in old age, there will be few incentives to reduce fertility no matter what the social cost of rapid population growth.

Source: <http://Encarta.msn.com/encyclopedia761574825/Marriage.html> accesses 9/24/2007

Children are a huge responsibility and require a great deal of self-sacrifice on the part of their parents. So in this sense, there is a burden involved. But the Bible portrays the blessing of children to be so much greater than the burden of their care and upbringing.

So just how valuable is a child? How can one place a specific value on another living soul born into a family? Is a child worth Php 100,000. or 1,000,000? It is impossible to accurately value a child by money! The question is whether we value children properly, as God does. Would we willingly suffer financial hardship to give life to another child? Would we even risk our lives for the sake of a baby? Moses' parents risked theirs!

Source: <http://journaloffilipinostudies.csueastbay.edu/html/verder-aligahtm/11/6/2007>

• **TEACHER RESOURCE 2: Children — The Precious Gift of Marriage**

According to the plan of God, marriage is the foundation of the wider community of the family since the very institution of marriage and conjugal love are ordained to the procreation and education of children, in whom they find their crowning.

In its most profound reality, love is essentially a gift; and conjugal love, while leading the spouses to the reciprocal "knowledge" which makes them "one flesh" does not end with the couple, because it makes them capable of the great possible gift, the gift by which they become cooperators with God for giving life to a new human person. Thus the couple, while giving themselves to one another, give not just themselves but also the reality of children, who are a living reflection of their love, a permanent sign of conjugal unity and a living and inseparable synthesis of their being a father and a mother.

When they become parents, spouses received from God the gift of a new responsibility. Their parental love is called to become for the children the visible sign of the very love of God, "from whom every family in heaven and on earth is named."

Source:

- John Paul II. (2005). *Familiaris Consortio, Apostolic Exhortation of Pope John Paul II on the Role of the Christian Family in the Modern World* (10th printing). Pasay City, Philippines: Paulines Publishing House.

FERTILITY ISSUES

By: Alma Eleazar

Suggested

Time Frame : 2 hours
(1 hour per lesson)
Subject : Social Science
Year Level : College

LESSON 1: Human Fertility: A Gift

LEARNING COMPETENCY

Deepen understanding of the factors affecting fertility

OBJECTIVE

The students are expected to:

1. Identify the intermediate variables affecting fertility as influenced by social, cultural, and economic factors

LEARNING CONTENT

Concepts

1. Fertility refers not only to the capacity to bear children but also to the number of live births
2. The intermediate variables affecting fertility include age of entry into sexual union, frequency of sexual intercourse, use of family planning methods, fecundity/infecundity and fetal mortality
3. Social, cultural and economic factors affect the intermediate variables

Skills

1. Identifying patterns, relationships, and trends
2. Drawing conclusions

Values

1. Objectivity and data-based conclusions
2. Responsible fertility

Prerequisite knowledge

1. Human sexuality
2. Human reproduction
3. Concept of fertility

LEARNING RESOURCES

References

- Catan, N., P. Giordano, S.J., and M. Rivera. (2005). *Evangelizing Presence Caring for Life*. Makati, Metro Manila: The Philippine Foundation of The Brotherhood of Christian Businessmen and Professionals.
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- Pinto, G. (2005). *CDE Working Paper No. 2005-01*. University of Wisconsin-Madison: Center for Demography and Ecology.

Websites

- United States Conference of Catholic Bishops. *Catechism of the Catholic Church. The Sixth Commandment*. <http://www.nccbuscc.org>
- Zablan, Z. (2004). *Filipino Youth's Views on Pre-Marital Sex and Unmarried Parenthood*. Retrieved from <http://www.ph/library/nonfad/filyouth.htm>

Materials

Student Reader 1: Intermediate Factors Affecting Fertility
 Student Reader 2: Fertility Awareness
 Student Reader 3: Family Planning Methods
 Student Reader 4: Natural Family Planning in a Framework of Human Sexuality

LEARNING ACTIVITIES

Preparation

- Randomly pick students to answer the following question:

How many brothers and sisters do you have in your family?

- Write the answers on the board. Point out that each one may differ from or be similar with another in terms of the number of brothers and sisters that they have or in the number of pregnancies their mother had.
- Draw out from the students the term that refers to the capacity of the couple to bear children.

Fertility

- As a review, ask the students what they remember as the definition of fertility is.

Fertility is the capacity to bear children.

- Ask the students the possible reasons why some of them have more brothers/sisters than the others.

Early marriage, use or non-use of family planning methods, etc.

Development

- Ask the students to read ***Student Reader 1***.
- Ask the students what are the stages involved in bearing a child.
- Point out that the factors that will influence fertility relate to these three stages and that fertility refers not only to the capacity to bear children (also referred to as fecundity) but also to the number of live births.
- Divide the class into three groups. Let the group determine their facilitator, recorder, and reporter. Using the responses given by the students on the possible reasons, the conditions/factors that will influence/determine the number of children in the family, instruct the students in each group to:
 - Draw out the responses that will fit the classification assigned to the group with the help of the Student Reader 1 material.
 - Group 1: Factors Affecting Exposure to Intercourse ("Intercourse Variables")
 - Group 2: Factors Affecting Exposure to Conception ("Conception Variables")
 - Group 3: Factors Affecting Gestation and Successful Parturition ("Gestation Variables")
- Relate these factors/variables to certain social norms, beliefs, and practices in courtship and marriage, then identify and explain possible effects of these variables to societal fertility by completing the following table:

For Group 1:

Social Norm/Belief/ Practice	Intermediate Factor	Effect on Fertility (High/Low)
Example: 1. Early marriage to preserve/perpetuate the clan	Age of entry to sexual union	High fertility
	Permanent celibacy	
	Amount of reproduction period spent after or between unions	
	Voluntary abstinence	
	Involuntary abstinence	
	Coital frequency	

For Group 2:

Social Norm/Belief/ Practice	Intermediate Factor	Effect on Fertility (High/Low)
	Fecundity or infecundity, as affected by involuntary causes	
	Use or non-use of contraception	
	Fecundity or infecundity, as affected by voluntary causes	

For Group 3:

Social Norm/Belief/ Practice	Intermediate Factor	Effect on Fertility (High/Low)
	Fetal mortality from involuntary causes	
	Fetal mortality from voluntary causes	

- Have the reporter of each group present the group's output.
- Call on a student to summarize or synthesize the answers given. Synthesize the small group presentations paying attention to the following:

Age of entry into sexual union, frequency of sexual intercourse, use of family planning methods, fecundity/infecundity and fetal mortality affect fertility and are considered the intermediate variables affecting fertility.

Social norms, beliefs, and practices as well as social and economic structures can enhance or depress societal fertility.

- Bring the synthesis to a discussion of fertility in the context of marriage – that man and woman give themselves to one another not just as something purely biological, but that it also concerns the innermost being of the human persons. And that fertility, the ability to bring forth a child, is God's gift of Life. The union of spouses and their acts in marriage foster self-giving for the good of the spouses and the transmission of life.

Closure

- Ask the students to identify a fertility/sexuality issue and the intermediate variable/s involved as experienced in their community. Explain, in a paragraph or two, how the Church considers this issue.

Example:

Adolescent/youth premarital sex and the age of entry into sexual union with the Church's teaching on responsible fertility.

- Give **Student Readers 2, 3** and **4** as reading assignments for the next lesson:

LESSON 2: Human Fertility and the Miracle of Life

LEARNING COMPETENCIES

1. Enhance awareness of male and female fertility
2. Discuss fertility in the context of marriage and the Church's teachings

OBJECTIVES

The students are expected to:

1. Describe male and female fertility
2. Distinguish natural family planning methods from artificial contraception

LEARNING CONTENT

Concepts

1. Men are fertile from puberty until death, while women are fertile only on certain days of their menstrual cycle from menarche to menopause
2. There are available, acceptable and effective family planning methods according to the moral norms of the church
3. The use of natural family planning methods is a part of the vocation to responsible parenthood

Skills

1. Identifying cause and effect
2. Synthesizing

Values

1. Children as gifts from God
2. Life, love, and freedom

Prerequisite knowledge

1. Fertility
2. Intermediate variables affecting fertility

LEARNING RESOURCES

References

- Balsam C. and E. Balsam. (2004). *Family Planning: A guide for exploring the issues*. USA: Ligouri Publications.
- Catan, N., P. Giordano, S.J., and M. Rivera, (2005). *Evangelizing Presence Caring for Life*. Makati, Metro Manila: The Philippine Foundation of The Brotherhood of Christian Businessmen and Professionals.
- Herrin, A. (2007). Social Science Perspectives on Population and Development. *A Balancing Act: Social and Catholic Perspectives on Population and Development*. Quezon City: John J. Carroll Institute on Church and Social Issues and the Philippine Center for Population and Development.
- Institute for Reproductive Health & Department of Health. (2009) *All Natural Family Planning Manual*. Manila: IRH.
- Rivera, M. (2007). Mainstreaming Natural Family Planning, in *A Balancing Act: Social and Catholic Perspectives on Population and Development*. Quezon City: John Carroll Institute on Church and Social Issues and Philippine Center for Population and Development.

Websites

- A Campaign In Support of Life, United States Catholic Bishops. <http://www.priests for life.org>
- Education and the Common Good: A Moral Philosophy of the Curriculum by Phillip H. Phenix. <http://www.relion-online.org>
- Early Pregnancy Risks, Armenian Medical Network. <http://www.health.am> Education and the Common Good: A Moral Philosophy of the Curriculum by Phillip H. Phoenix. <http://www.relion-online.org>
- Leyson, J. The Philippines (Republika ng Pilipinas). <http://www.hyberhn.de/sexology/IES/Philippines.html>
- Pavone, F. Humanae Vitae, Control, and Fear, Priests for Life, Pontifical Council for the Family in <http://www.catholicagency.com/resource.php.n=666>.
- United States Conference of Catholic Bishops, <http://www.priests for life.org>

Materials

Idea cards
Pentel pens

LEARNING ACTIVITIES

Preparation

- Tell the students that the lesson for the day is on fertility and family planning methods alongside the teachings of the Church particularly on natural family planning.

Development

- From the reading assignment of the **Reader 2** material **Fertility Awareness**, ask students the following questions:

Why is it important for couples to be aware of their fertility?

What are the differentiating characteristics between male and female fertility?

- Call students at random to share their answers. Synthesize the responses of students focusing on the following points:

Ask: *Why is it important for couples to be aware of their fertility?*

Husbands and wives are able to understand:

- a) when pregnancy is most likely to occur and when it is least likely to occur;
- b) factors that affect women's menstrual cycles and ovulation;
- c) men's fertility and other aspects of men's health;
- d) recognize naturally occurring signs and symptoms, and changes that may indicate potential reproductive health problems, such as sexually transmitted diseases (STDs); and
- e) the process of menopause and the physical and emotional changes that occur when women's reproductive capabilities end.

Ask: *What are the differentiating characteristics between male and female fertility?*

- a) A man contributes the sperm cell in the conception of a child. He is capable of getting a woman pregnant in every act of intercourse he engages in from the time of puberty until his death.
 - b) A woman, contributes an egg cell and has monthly cycles of fertile days (when she can get pregnant) and infertile days (days when she will not get pregnant) beginning from her first menstruation until menopause.
- Point out that awareness of one's fertility, of the male and female fertility, is needed to achieve a couple's fertility intentions: to have a child at this point or not, whether to have a small or big family, and when to have a child, taking into consideration the family's resources. As such, there are different family planning methods that can be used.
 - Draw out from the students the different family planning methods they know by writing them on idea cards. Explain that each idea card should contain only one family planning method and should be written legibly and big enough for the whole class to read. Let the students paste the idea card on board.

- Ask the class to break into groups. From the responses given, ask each group to classify the family planning methods (**Example: artificial and natural**). Arrange the idea cards in a matrix either drawn on the board or in a manila paper the FP method classification (natural or artificial).

Natural Family Planning	Artificial Family Planning

- Let the students give reason/s as their basis/bases for making the classification. From among the possible ways of classifying what the students may come up with, lead the class to focus on the Artificial and Natural Family Planning methods, the advantages and disadvantages.
- Then, let them share and discuss their assignment with the group. Let the group summarize their sharing by presenting them in the form of a table as shown below.
- From the assigned material, please fill in the Compare-Contrast Matrix below. Write the figures/values and descriptions under each of the columns

ATTRIBUTES	FAMILY PLANNING METHODS	
	Artificial	Natural
Effectiveness Rate		
Safety in Use/Presence of Side effects		
Economic Consideration		
Promotive of the values of personal dignity, appreciation of male and female fertility, respect for oneself and one's partner, open sexual communication, partnership, sexual harmony & intimacy. (Place a check if present)		
Logistical Support Systems Needed		
Advantages		
Disadvantages		

- Process the sharing as a class by looking at similarities and differences in responses. Provide a sample input focusing on the following:
 - People differ in their views based on what they know and how they have been socialized at home and with the influence of institutions such as the church, media, government, and the school.
 - The decision on the family planning method that a couple will use rests on the principle of the primacy of the conscience. But in the proper exercise of conscience, the person needs to listen to other external authorities, such as the church.
 - There are available, acceptable and effective family planning methods according to the moral norms of the church. The Catholic Church promotes the Natural Family Planning methods.

- a) These methods and their use reflect the dignity of the human person within the context of marriage and family life, promote openness to life, and recognize the value of the child. For by respecting the love-giving and life-giving natures of marriage, these Natural Family Planning methods can enrich the bond between husband and wife.
- b) Married couples are called by God to cooperate generously in bringing forth and educating new life.
- c) NFP is a practice of virtue, resting upon self-control, inner freedom, respect, trust, communication, and reverence to God's plan for love and marriage. It enriches both love and marriage.
- d) The use of natural family planning methods is a part of the vocation to responsible parenthood.

Closure

- Let the students write a composition in response to the following questions:

Ask: What are the challenges in enhancing a couple's (a) knowledge of one's fertility, (b) in honing skills in identifying the fertile and infertile periods, and (c) in applying knowledge and skills in everyday practice?

Ask: What systems are needed to be put in place for a sustained practice of NFP among Christians?

ATTACHMENTS

• **STUDENT READER 1: Intermediate Factors Affecting Fertility**

By: Alma Eleazar

Fertility is the number of live-born babies a woman bears during her lifetime. This number is influenced by several social, cultural, environmental and biological factors. Davis and Blake (1956) argued that some factors, such as economic, cultural and biosocial factors, affect fertility indirectly through a set of intermediate factors known as the *proximate determinants* of fertility. Lucas (1994) explains the processes related to the proximate determinants as follows:

"To have a live birth a woman passes through three stages

- she has sexual intercourse (coitus)
- she becomes pregnant (conception)
- she successfully completes the period of pregnancy or gestation and gives birth to the child (parturition)."

Thus, the indirect factors affecting fertility must first exert their influence on the intermediate factors, namely those affecting: 1) exposure to intercourse, 2) exposure to conception, and 3) successful gestation and parturition. These three sets of intermediate factors, are further expanded into 11 intermediate variables as follows:

- I. Factors Affecting Exposure to Intercourse ("Intercourse Variables")
 - A. Those governing the formation and dissolution of unions in the reproductive period.
 - Age of entry into sexual unions (age at first marriage or age at first sexual encounter)
 - Permanent celibacy: proportion of women never entering sexual unions (Those who never engaged in sexual activity)
 - Amount of reproduction period spent after or between unions
 - When unions are broken by divorce, separation, or desertion
 - When unions are broken by death of husband or partner
 - B. Those governing the exposure to intercourse within unions.
 - Voluntary abstinence (religious or other cultural rules for sexual abstinence in certain periods)
 - Involuntary abstinence (from impotence, illness, unavoidable but temporary separations)
 - Coital frequency (excluding periods of abstinence)
- II. Factors Affecting Exposure to Conception ("Conception Variables") that could be involuntary or voluntary such as:
 1. Fecundity or infecundity, as affected by involuntary causes (illness, impotence, menopause)
 2. Use or non-use of contraception
 - a. by mechanical and chemical means
 - b. by other means
 3. Fecundity or infecundity, as affected by voluntary causes (sterilization, medical treatment, etc.)
- III. Factors Affecting Gestation and Successful Parturition ("Gestation Variables") such as:
 1. Fetal mortality from involuntary causes (spontaneous intrauterine mortality)
 2. Fetal mortality from voluntary causes (induced abortion)

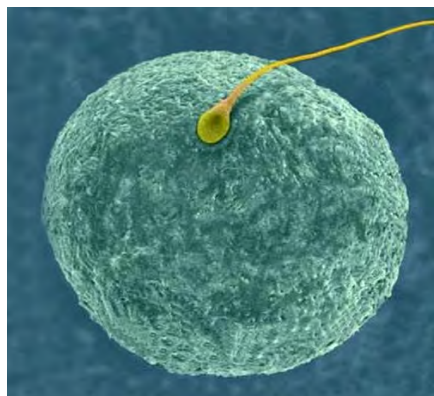
Source:

- Davis, K. and J. Blake. (1956). Social Structure and Fertility: An Analytic Framework. *Economic Development and Cultural Change*, 4, 211-235.
- Lucas, D. (1994). The Proximate Determinants of Fertility. In Lucas and Paul Meyer (Eds.), *Beginning Population Studies* (2nd ed.) (p. 46). Australia: National Centre for Development Studies, Australian National University.

STUDENT READER 2: Fertility Awareness

By: Alma Eleazar

Fertility is the ability to get pregnant or the capacity to have a baby.. For a woman, it is the ability to conceive and bear children. In men, it is their capacity to get a woman pregnant. It involves the male and female reproductive systems.



This picture is a fertilized egg cell. At this point, the sperm cell and the egg cell have united, in the process called fertilization. Sexual intercourse between a man and a woman is presumed to have taken place.

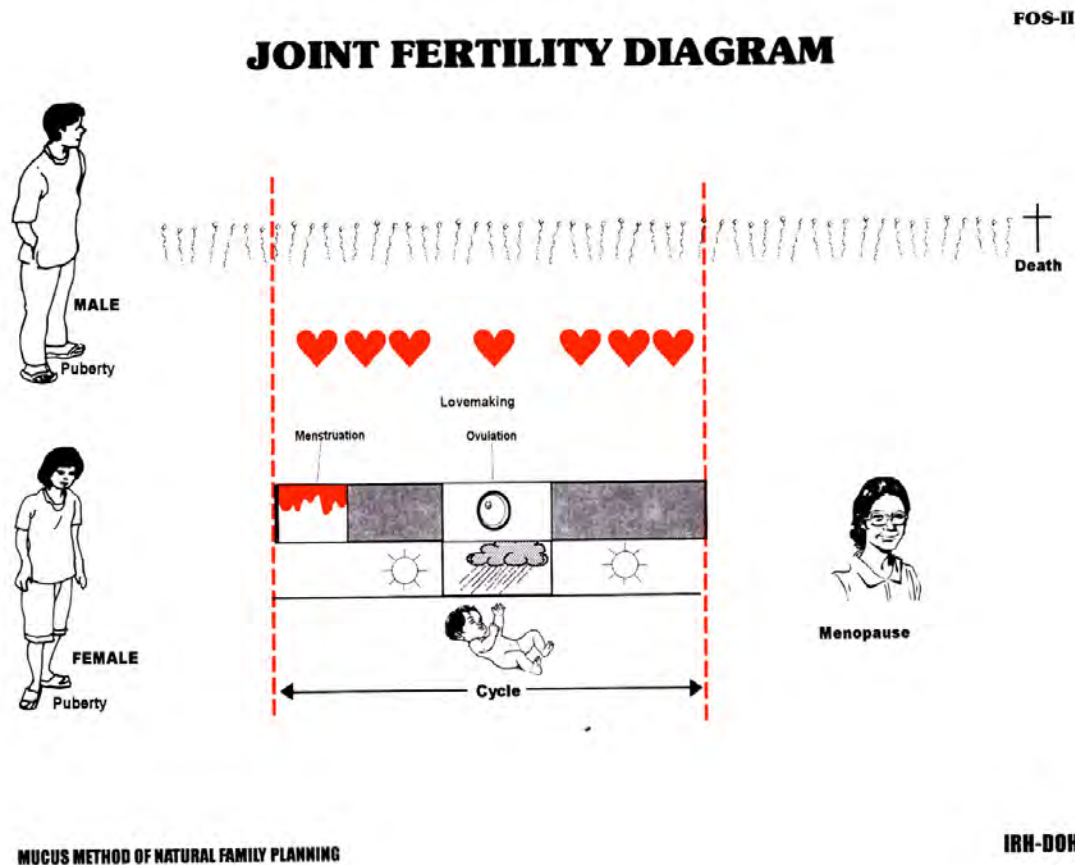


Although it is the woman who becomes pregnant and goes through childbirth, fertility involves united and equal contributions from both the man and the woman. Thus, from the point of view of marriage and family, fertility is always seen from a perspective of a shared responsibility and decision-making.

Fertility Awareness is knowing how the process of reproduction works. It is important for both members of a couple to understand the reproductive processes so that they will be able to share the responsibilities and behaviors required to meet reproductive health goals.

Many experts emphasize that fertility awareness is more than the ability to detect physical changes related to the menstrual cycle. Fertility awareness also involves understanding how emotions, behaviors and cultural factors relate to fertility. Many experts have expanded the definition to include a couple's ability to use and apply this basic information in their everyday lives and the ability to discuss the information with sexual partners and with health providers.

Fertility Awareness also refers to recognition of the fertile and infertile phases of a woman's reproductive cycle through daily interpretation of changing body signs.



Male Fertility

A man is fertile everyday starting from puberty continuing throughout his life. He has the ability to make a woman pregnant. His contribution in the conception of a child is the sperm.

Men's bodies are capable of producing sperm at any time starting at puberty and continues until the end of his life.

From a reproductive point of view, the difference between men and women is that men are 'sperm factories'. Men have the ability to make sperm every single day of the week.

Male fertility is different from female fertility since a male is fertile at all times. Although a man's fertility is generally adequate for fertilization to occur at all times, the sperm count does indeed respond to the personal fertility cycle.

Sperm production in the male starts early in puberty and in the vast majority of men continues throughout adult life until death. Men do not have a menopause in the same way that women do and it is possible for them to father children well into old age (assuming that they are still sexually active and they are partnered with a woman who is fertile herself).

Female Fertility

A woman is fertile and becomes capable of becoming pregnant and bearing a child from the onset of her menses (menarche) until menopause. However, unlike a man she is fertile only for a few days in a month around the time when an egg cell is present. While men are sperm factories, women, on the other hand, are egg warehouses, they do not have the ability to make eggs. The average woman has her full complement of eggs before she is born and from that moment on her eggs will start to die off, even before she starts ovulating round about her fourteenth year or maybe earlier.

Her contribution in the conception of a child is the egg cell which is released at ovulation once during the menstrual cycle. Women's bodies normally produce only one egg a month in a cyclical process that is governed by a series of hormonal changes. Pregnancy is most likely to occur at or around the time the egg is released from the ovary (ovulation), about midway in the woman's menstrual cycle. If pregnancy does not occur, the lining of the uterus sheds and a woman experiences vaginal bleeding.

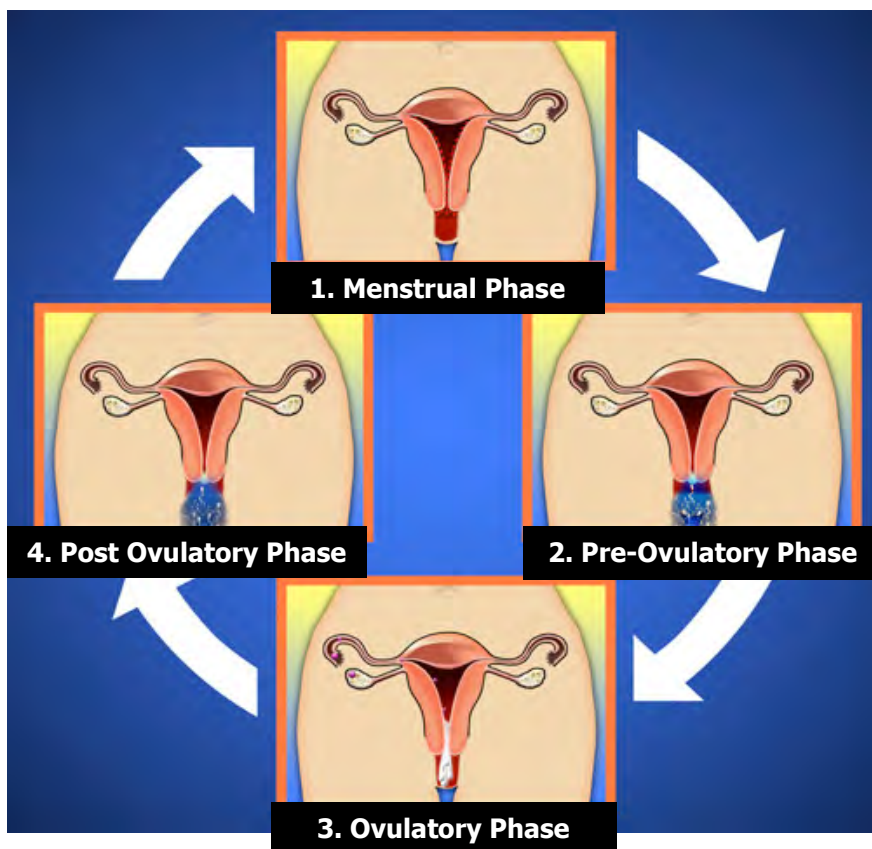
Knowledge of the fertile and infertile phases of a woman's menstrual cycle helps a woman know when she can or cannot become pregnant.

The Menstrual Cycle

- a) Menstruation and the menstrual cycle are part of a woman's reproductive functions.
- b) The menstrual cycle starts from the first day of the woman's menstrual period and ends on the day before she begins her next menstrual period. Since this happens regularly, it is called a cycle.

The Menstrual Cycle has four phases. These are:

1. Menstrual phase
2. Pre-ovulatory phase
3. Ovulatory phase
4. Post-ovulatory phase



The Menstrual Phase

- a) Starts on the first day of menses during which the woman starts bleeding.
- b) Bleeding comes from the shedding of the lining of the uterus. It indicates that there is no pregnancy.
- c) Includes all days of menstrual bleeding, usually 4-6 days.
- d) Menstrual bleeding is normal and healthy. Bleeding does not mean the woman is sick.

Pre-ovulatory Phase

- a) Bleeding has stopped.
- b) Egg cells begin to develop.
- c) Lining of the uterus starts to thicken.
- d) Mucus forms a plug. This mucus prevents entry of sperms.
- e) Includes all dry days after menstrual bleeding stops.
- f) A woman experiences dry feeling and no mucus.
- g) The pre-ovulatory phase is a **relatively infertile phase**.

Ovulatory Phase

- a) The third phase of the cycle, called ovulatory phase is the **highlight of a woman's fertility**.
- b) One mature egg is released and stays in the fallopian tube for about 24 hours.
- c) The uterine lining continues to thicken.
- d) The mucus plug is gone.
- e) The mucus becomes watery, stretchy, slippery and clear. It nourishes and provides channels that help the sperm to be transported to meet the egg.

Post-ovulatory phase

- a) No egg is present. Since it was not fertilized, the egg cell deteriorates and is reabsorbed by the body.
- b) Lining of the uterus thickens.
- c) The mucus forms a plug again to prevent entry of sperms.
- d) Women experience dry feeling with no mucus at all, if there is any mucus, it appears to be sticky, cloudy, crumbly or pasty.
- e) The post-ovulatory phase is called the **absolute infertile phase** because there is no egg present.
- f) If there is no pregnancy, the woman will experience menstruation again and another cycle will begin in about two weeks' time.

****** However, if during the ovulatory or fertile phase, sexual intercourse took place, then pregnancy is likely to occur. If this happens, fetal development quickly happens. Immediately after fertilization, the fertilized zygote stays in the fallopian tube for 3-4 days.

- g) During which rapid cell division (mitosis – resulting daughter cells contain double the number of chromosomes, called diploid division) is taking place.
- h) The fertilized ovum journeys for around 6 days towards the **uterus** where it is implanted in the **endometrium** or **uterine lining**.
- i) Pregnancy takes place for a period of 9 months and culminates with childbirth. The **cervix**, which is the neck of the uterus, dilates at childbirth to allow the emergence of the baby from the uterus through the **vagina**.



3rd month (12 weeks)



At the end of 12 weeks:

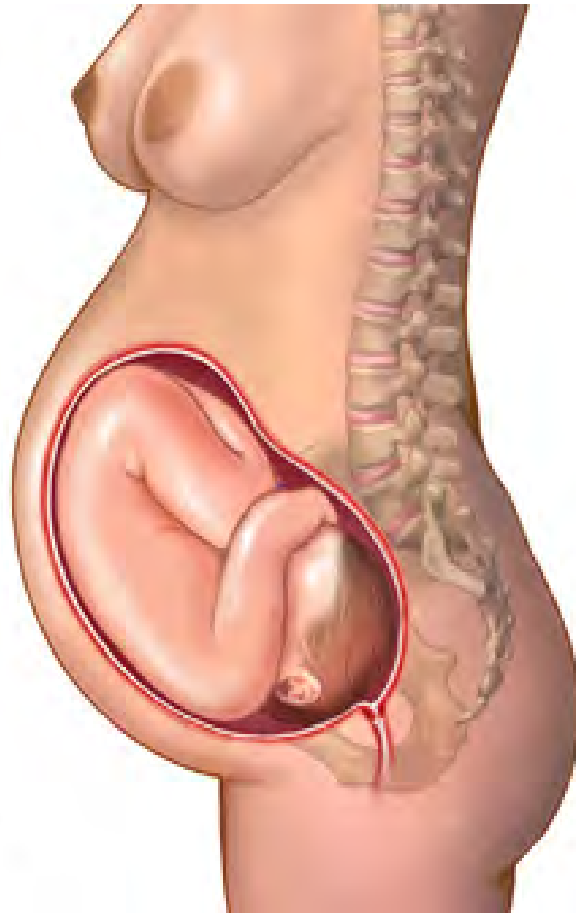
- a) Weight is about 1/2 to 1 ounce.
- b) Baby develops recognizable form.
- c) Nails start to develop and earlobes are formed.
- d) Arms, hands, fingers, legs, feet and toes are fully formed.
- e) Eyes are almost fully develop.
- f) Baby has developed most of his/her organs and tissues.
- g) Baby's heart rate can be heard at 10 weeks with a special instrument.
- h) Placenta is fully developed.
- i) Sex of fetus can be identified.



6th month (24 weeks)

At the end of 6 months:

- a) Internal organs are maturing and the fetus begins to grow and prepares for life outside the womb.
- b) Eyelids begin to part and eyes open sometimes for short periods of time.
- c) Skin is covered with protective coating of thick, cheesy white grease called vernix caseosa.
- d) Soft woolly hair called lanugo will cover its body.
- e) Some may remain until a week after birth, when it is shed.
- f) Mother begins to feel fetal movement called quickening.



9th month (38 weeks)

At the end of 9 months:

- a) The baby's weight is about 7 to 7 1/2 pounds.
- b) The lungs are mature.
- c) Baby is now fully developed and can survive outside the mother's body.
- d) Skin is pink and smooth.
- e) From 36 weeks onwards, baby settles down into the mother's pelvis and lower in the abdomen in preparation for birth and may seem less active.
- f) Baby is just about ready for birth.

Thus knowing the facts about human fertility, and the miracle of Life, in which we are called to participate as God's children, can bring about responsible, mature, and loving decisions related to marriage and family.

Starting to learn and accept and manage one's fertility from adolescence is an advantage, rather than just facing up to it when one is married. It would be good for engaged couples to discuss their Reproductive Health goals and their expected behaviors from each other in meeting these, thus encouraging both to be mutually responsible for the gift of their Joint Fertility, which unites them as a couple. Timing sexual intercourse as an expression of their love for each other and understanding the basic facts of fertility will help them meet their desired family size.

Sources:

- United States Conference of Catholic Bishops, <http://www.priests for life.org>
- Early Pregnancy Risks, Armenian Medical Network. <http://www.health.am>
- Education and the Common Good: A Moral Philosophy of the Curriculum by Phillip H. Phoenix. <http://www.relion-online.org>
- Institute for Reproductive Health and Department of Health. (2009) *All Natural Family Planning Manual*. Manila: IRH.

• STUDENT READER 3: Family Planning Methods

By: Alma Eleazar

Family Planning is defined as a way of regulating, limiting and spacing the births of children and affords parents the freedom to choose the number of children they want. It is also a way of helping couples with some difficulties to achieve a pregnancy. There are two types of family planning methods, the natural methods, and the artificial.

The Natural Family Planning methods are couple methods. They put the responsibility for family planning squarely on the shoulders of both partners because these methods require communication, cooperation [and discipline]. These methods do not use any chemical, drug or device and the natural process of the reproductive system is left undisturbed as these methods rely on the natural signs and symptoms within a woman in identifying the times of fertility and infertility.

Family planning is achieving desired family size based on the number of children couples can responsibly raise and space pregnancies, the recommended guideline is at least 3-5 years apart, for the health of the mother and child.

A. Benefits of Family Planning

Family planning **promotes better health of the mother** by helping her regain strength lost in the last pregnancy, helping avoid unplanned, high risk pregnancies and helping prevent abortion.

Pregnancy is a physically stressful event in a woman's life. It would take some years to restore the body to its normal state after nine months of carrying the baby in the womb and finally giving birth.

Pregnancy is particularly risky to certain groups of women – very young women under 18 years, older women, 35 years and older, women with more than four children whose pregnancies are too closely spaced.

Very young adolescent women who become pregnant face serious health risks because their bodies may not be physically mature enough to handle the stress of pregnancy and childbirth. They are especially likely to suffer from pre-eclampsia, anemia and obstructed labor.

Similarly, the risks of childbearing are also greater in older women as their bodies may be less able to deal with pregnancy. The likelihood of giving birth to babies with low birth weight or disabilities also increases in the older women.

The risk of maternal death increases for each successive birth after the fourth since these women are more likely to suffer from anemia, require blood transfusion during delivery and die of hemorrhage.

Data shows that one in six pregnancies ends up in abortion because they are unplanned or unwanted (too old, too many or too close). There are about 400,000 abortions recorded annually while many remain unreported. Three in ten pregnancies occur to teen-age pregnancies which cause high risk.

Family Planning also **promotes better health of the child** by being able to provide better child care and being able to reduce infant deaths.

Couples who plan their families could provide the essential health care needed by the child such as nutrition, immunization as well as emotional and mental support.

Studies have demonstrated that if births are not well spaced or if the birth interval is below three years, the health and nutrition outcome and survival among children are usually poor.

B. Classification of Family Planning Methods**Temporary (Spacing) Methods**

- Oral Contraceptives (Pills)
- Injectables
- Condom
- Intrauterine Device (IUD)
- Fertility Awareness Based Methods (Natural Family Planning)
 - Standard Days Method
 - Cervical Mucus Method
 - Basal Body Temperature
 - Sympto-thermal Method
 - Lactational Amenorrhea Method
 - Two-Day Method

Permanent Methods

- Bilateral Tubal Ligation for women
- No-Scalpel Vasectomy for men

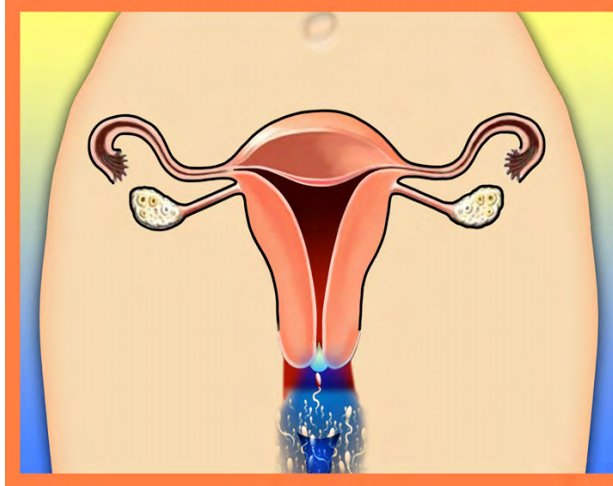
C. Fertility Awareness Based-Methods

Fertility awareness-based methods or Natural Family Planning methods utilize the signs and symptoms of female fertility to identify the fertile and infertile periods of a woman, thus timing sexual intercourse to either avoid or achieve pregnancy.

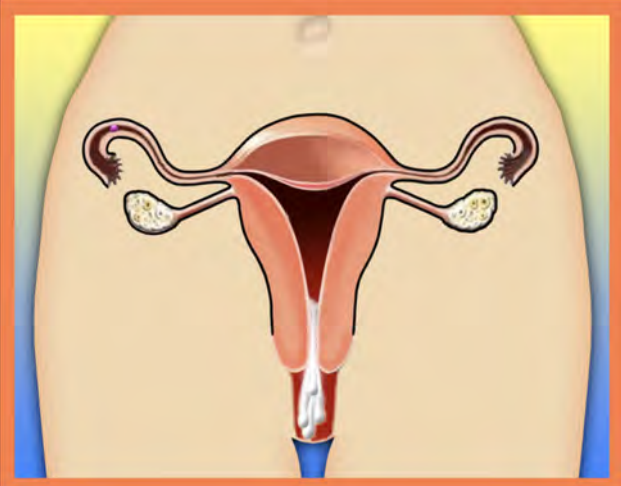
They work through the following mechanism: There can be no meeting of the sperm and the egg during the fertile days because the couple does not engage in sexual intercourse. Natural Family Planning (NFP) methods are based on direct observations of various signs that occur in a woman's body (changes in the cervix, cervical mucus, and temperature) which tell her when ovulation occurs. These are based on the knowledge from the scientific facts of fertility, the woman's skill in determining her fertile and infertile days by observing signs and symptoms, in the couple's decision-making to engage and time the acts of sexual intercourse based on whether they wish to have or avoid having a child at a particular time. The successful practice of NFP requires the cooperation and participation of both the husband and the wife. As such, they have the added effect of bringing out other aspects of human sexuality.

NFP requires abstinence from intercourse during the fertile days if a pregnancy has to be avoided. Abstinence can actually strengthen the couple's sexual life. When the spouses know that they can abstain for good reasons, they also come to trust each other more, and avoid the risk of treating each other primarily as objects of pleasure or as sexual partners rather than as persons. Among married couples, NFP is the only method approved by the Catholic Church. The following are Fertility Awareness-based or Natural Family Planning methods:

Cervical Mucus Method is based on the daily observation of the cervical mucus that a woman sees and feels at the vaginal area throughout the day. Cervical mucus changes during fertile and infertile days and can be used to avoid or achieve pregnancy. As soon as the woman notices secretions after the menstrual or pre-ovulatory phases, the couple avoids sexual intercourse until the mucus secretions dry up or disappear. The post-ovulatory phase is about two weeks until the next menstrual period begins. The cervical mucus method also allows for sexual intercourse without fear of pregnancy only during dry days following menstruation, if any.



Infertile Mucus Plug at Cervix



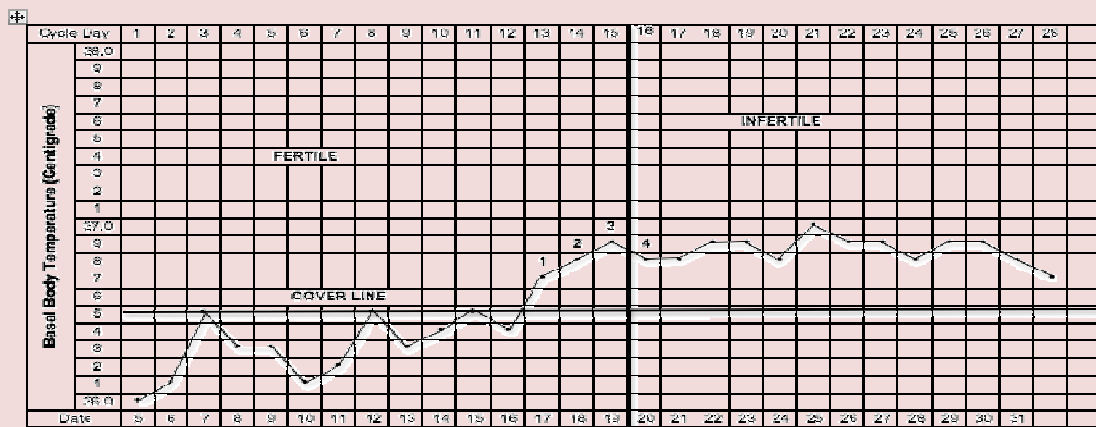
Fertile Cervical Mucus

Basal Body Temperature is based on a woman's resting body temperature which is lower before ovulation. A rise in basal body temperature from 0.2 C to 0.5 C and maintained for the next three days confirms the occurrence of ovulation. The couple avoids sexual intercourse, from the first day of menstrual bleeding until the woman's temperature has risen above her regular temperature and has stayed up for 3 full days. After this, the couple can engage in lovemaking without fear of pregnancy (over the next 10 -12 days) until her next menstrual bleeding begins.

An Ovulation thermometer is best used to determine the rise in temperature. Recordings are made on a BBT chart. (see appendix)



Completed BBT Chart



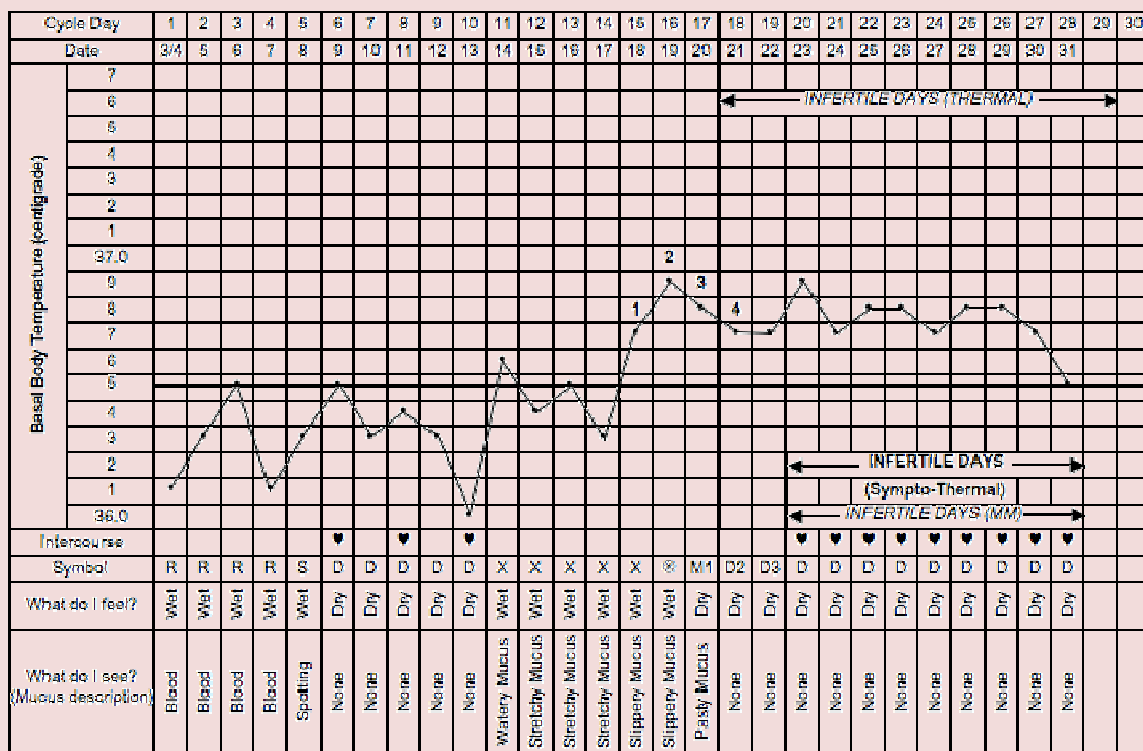
The main drawback of using the BBT method by itself, is that several factors can influence your BBT, including illness, lack of sleep, alcohol or drug use.

Sympto-Thermal Method is a combination of the cervical mucus method and the basal body temperature i.e., the resting body temperature and the observations of the mucus changes in the vaginal area throughout the day together with other signs such as breast tenderness and abdominal pain. The couple starts avoiding sexual intercourse when the woman senses cervical secretions. The couple also avoids sexual intercourse until both the fourth day after peak cervical secretions and the third full day after the rise in temperature have been recorded.

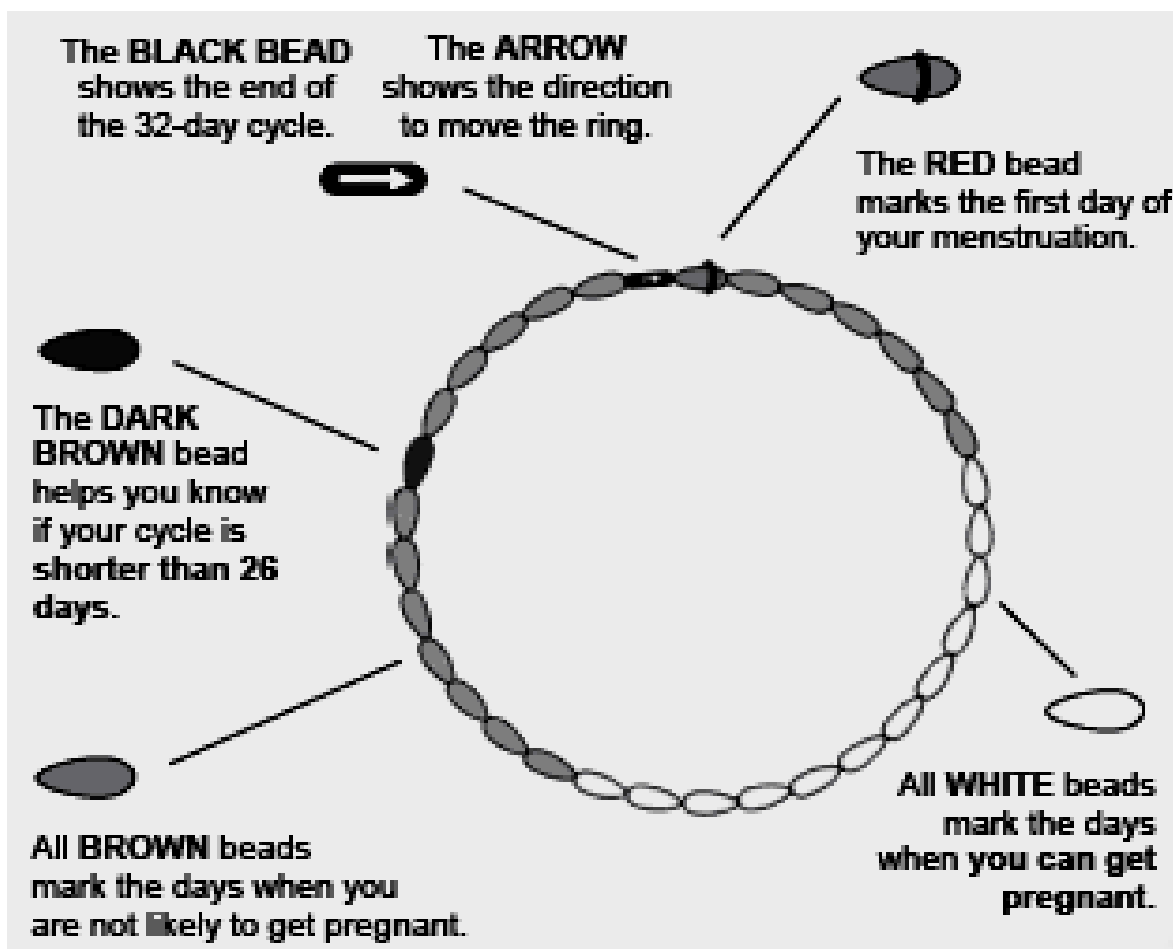
COMPLETED SYMPTO-THERMAL CHART

Client: _____
Husband: _____

Month/Year: _____
Cycle Length: _____



Standard Days Method (SDM) is a new method of natural family planning. It identifies days 8-19 of a woman's cycle as the fertile days. All women with most cycles of 26-32 days can use the method. It utilizes a device called the "necklace" or colored beads to track the different days of the menstrual cycle.



Cycle Beads

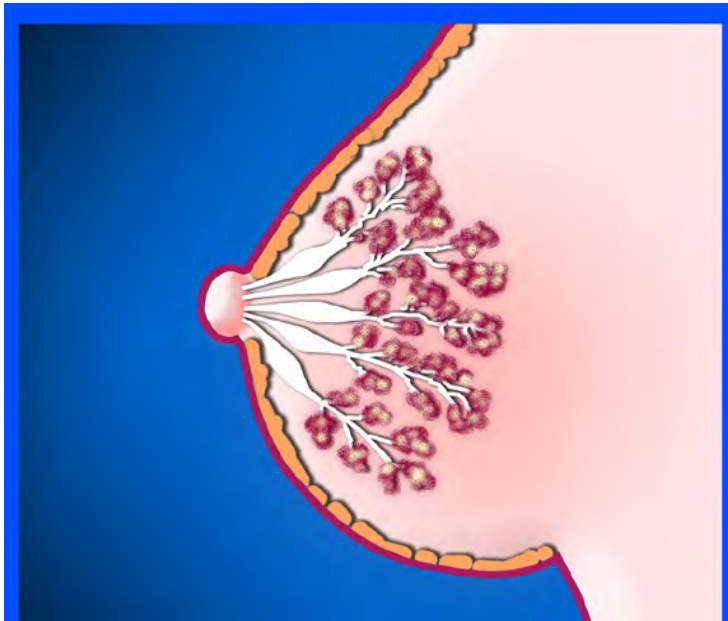
Each bead represents a day in a woman's cycle.

The red bead marks the first day of menstruation. The white beads represent the fertile days (Days 8-19) of the woman or when she can become pregnant. The brown beads are the days when a woman cannot become pregnant. The black bead determines if the cycle is within the required cycle range.

A woman can use this method if her cycles are between 26-32 days.

**** Note that Calendar Rhythm is no longer considered a modern family planning method as this has been delisted by the Department of Health due to its guessing the fertile and infertile days of the cycle, resulting in many unplanned pregnancies. The Standard Days Method, on the other hand, is backed up by scientific research, and is 95.25% effective.**

Lactational Amenorrhea Method (LAM) (**Lactational** means breastfeeding and **Amenorrhea** means absence of menstruation). It utilizes the infertility caused by breastfeeding. LAM prevents pregnancy by inhibiting ovulation.



Mammary Glands

In order for LAM to be effective, it has to fulfill the following criteria:

- a woman is exclusively breastfeeding her baby (no supplements are given)
- her menstrual period has not returned
- her baby is less than 6 months old

Emphasize that if any one of the above condition is not present, LAM's effectiveness may no longer be certain.

The **Two-Day Method** of natural family planning is based on the identification of the fertile days by monitoring the presence or absence of secretions during the menstrual cycle. This method is grounded in research completed over the last several years on the relationship of fertility signs to actual fertility as well as recent work that more precisely

delineates the fertile days of the cycle. Two consecutive days with no secretions seen or felt denotes an infertile day, and is thus available for a couple to engage in sexual intercourse even if they are not achieving a pregnancy at this time.

Some of the advantages of fertility awareness-based methods include:

- can be used to avoid or achieve pregnancy
- no physical side-effects
- effective if used correctly
- very little or no cost
- educates people about women's fertility cycles
- involves men in family planning
- enhances sexual communication
- can bring about deeper sexual intimacy beyond the physical between the husband and wife
- All natural Methods are more than 95% effective.

Some disadvantages in using fertility awareness-based methods. These are:

- periodic abstinence may be difficult for some couples
- needs the cooperation of the male partner
- does not protect against sexually-transmitted diseases including HIV/AIDS
- requires discipline and support groups

NFP is not just a means of avoiding pregnancy, as artificial contraception is. Rather, it can also be used to **ACHIEVE** pregnancy since it pinpoints ovulation. It is a wholly positive approach to the sexual life of the spouses. It is clean, inexpensive, morally acceptable, and reliable.

NFP is a practice of virtue, resting upon self-control, inner freedom, respect, trust, communication, and reverence to God's plan for love and marriage. It enriches both love and marriage.

D. Artificial Methods

(This section is presented to provide a complete and balanced education about family planning methods. However, it must be emphasized that artificial methods are not consistent with the Catholic Church's moral teachings and should not be used by Catholics.)

The artificial methods use contraceptives such as condoms, pills, spermicidal foam, cream, gel, film, suppository sponge, vaginal ring, Intrauterine Device (IUD), Depo Provera Shots, and sterilization techniques. They work to prevent pregnancy in a number of ways. These include providing a barrier between partners so that bodily fluids, like semen, are not shared, killing or disabling the sperm, releasing hormones that stop ovulation and thicken the cervical mucus, creating a barrier to prevent the sperm from fertilizing an egg, stopping the ovaries from releasing eggs or closing the fallopian tubes and stopping the egg from traveling to the uterus from the ovary. They are reported to be 71 - 99.7% effective.

These artificial contraceptives are either male or female methods – these can be practiced by just one partner and achieve the purpose of preventing pregnancies.

Oral Contraceptives (Pills)

Oral contraceptives can either contain two synthetic hormones similar to the natural hormones in a woman's body – an estrogen and progestin. These are also called combined pills. Progestin-only pills contain only one hormone - progestin. They do not contain estrogen. A woman takes the pill daily at about the same time each day.

The mechanism of action of oral contraceptives are:
inhibit ovulation since the hormone level simulates the post-ovulatory phase of the menstrual cycle thicken the cervical mucus, making it difficult for sperm to pass through.

Injectable Contraceptives (Progestin-only)

The injectable contraceptive contains only progestin. It is a long acting contraceptive that works for 2-3 months.

DMPA (Depo-medroxyprogesterone acetate) also known as Depo-Provera that is given every three months.

The injectable contraceptives work through the following mechanism:
mainly stops ovulation and thicken the cervical mucus making it difficult for sperm to pass through.

Condom

Condom is a sheath or covering made to fit over a man's erect penis. It is usually made of thin latex rubber and available in different colors and flavors.

The condom works through the following mechanism:
prevents sperm and egg from meeting by keeping sperm out of the vagina

Intrauterine Device (IUD)

The IUD is made of plastic shaped like a T with copper sleeves on its arms and copper wire wrapped on its vertical stem with 2 nylon threads at its end.

The most widely used and available in the Philippines is the Copper T380A (CuT380A). It is inserted in the woman's uterus by a trained service provider.

The mechanisms of action of IUD are the following:

- prevents the sperm and egg from meeting
- paralyzes sperms thus interfering with sperm transport

Permanent Methods

Permanent methods are for men, women and couples who would not want any more pregnancies/children. Permanent methods involve minor surgery. There are permanent methods for men and women.

a) Bilateral Tubal Ligation (BTL)

It is known as female sterilization. It involves tying and cutting the two fallopian tubes so that the sperm and egg cannot unite. With the woman's tubes blocked, the woman's egg cannot meet the sperm. The woman continues to have menstrual cycles after tubal ligation is done.

a) No-Scalpel Vasectomy (NSV)

It is known as male sterilization. It involves tying and cutting the vas deferens so that no sperm is found in the seminal fluid. It requires a simple surgical procedure. The man continues to have erections and ejaculate semen without any sperm.

Perspective of the Catholic Church on Family Planning (NFP vs. Artificial Methods)

"Thus, the cooperative responsibility of both partners for preventing or achieving pregnancy fosters a more loving relationship. Periodic continence, that is, the methods of birth regulation based on self-observation and the use of infertile periods, is in conformity with the objective criteria of morality. These methods respect the bodies of the spouses, encourage tenderness between them and favor the education of an authentic freedom. In contrast, 'every action which, whether in anticipation of the conjugal act, or in its accomplishment, or in the development of its natural consequences, proposes, whether as an end or as a means, to render procreation impossible' is intrinsically evil.

Thus the innate language that expresses the total reciprocal self-giving of husband and wife is overlaid, through contraception, by an objectively contradictory language, namely, that of not giving oneself totally to the other. This leads not only to a positive refusal to be open to life but also to a falsification of the inner truth of conjugal love, which is called upon to give itself in personal totality "....The difference, both anthropological and moral, between contraception and recourse to the rhythm of the cycle...involves in the final analysis two irreconcilable concepts of the human person and of human sexuality." (Catechism, 2370)

As married couples, it is important to remember that conception is a logical and beautiful result of the couple's love and that children are living manifestations of their love in-the-flesh.

Sources:

- Balsam, C. & E. Balsam. (2004). *Family Planning: A Guide for Exploring the Issues*. USA: Ligouri Publications.
- Early Pregnancy Risks, Armenian Medical Network. <http://www.health.am>

• STUDENT READER 4: Natural Family Planning in a Framework of Human Sexuality

By: Alma Eleazar

"The Church was founded by Christ as the 'pillar and bulwark' of the truth.'
It preserves without ceasing and transmits without error the truths of the moral order.
It interprets authentically both revealed positive law and 'the principles of the moral order which
spring from human nature itself' and which relate to man's full development and sanctification."
(Flannery, O.P., 1982, pp 488)

Jesus Christ constituted Peter and the other apostles as the authentic guardians and interpreters of the whole moral law. The Church provides teaching on the nature of fertility and marriage among others. A Catholic must make a serious effort to understand and follow the teaching of the Church. This Reader presents excerpts from the Vatican Council II More Post-Conciliar Documents.

1. Married love requires of husband and wife the full awareness of their obligations in the matter of responsible parenthood. Responsible parenthood refers to the objective moral order instituted by God – the order of which a right conscience is the true interpreter. It requires that husband and wife, keeping a right order of priorities, recognize their own duties towards God, themselves, their families and human society.
2. Sexuality, by means of which man and woman give themselves to one another through the acts which are proper and exclusive to spouses, is by no means something purely biological, but concerns the innermost being of the human person. It is realized in a truly human way only if it is an integral part of the love by which a man and woman commit themselves totally to one another until death.... This totality which is required by conjugal love also corresponds to the demands of responsible fertility. This fertility is directed to the generation of a human being, and so by its nature it surpasses the purely biological order and involves a whole series of personal values.
3. The only "place" in which this self-giving in its whole truth is made possible is marriage, the covenant of conjugal love freely and consciously chosen, whereby man and woman accept the intimate community of life and love willed by God himself, which only in this light manifests its true meaning.
4. The sexual activity, in which husband and wife are intimately and chastely united with one another, through which human life is transmitted, is honorable and good. ... The facts are, as experience shows, that new life is not the result of each and every act of sexual intercourse. God has wisely ordered the laws of nature and the incidence of fertility in such a way that successive births are already naturally spaced through the inherent operation of these laws. The Church, nevertheless, in urging men to the observance of the precepts of the natural law, which it interprets by its constant doctrine, teaches as absolutely required that in any use whatever of marriage there must be no impairment of its natural capacity to procreate human life.
5. If therefore there are reasonable grounds for spacing births, arising from the physical or psychological condition of husband or wife, or from external circumstances, the Church teaches then that married people may take advantage of the natural cycles immanent in the reproductive system and use their marriage at precisely those times that are infertile, and in this way control birth, a way which does not in the least offend the moral principles.

"Human life must be respected and protected absolutely from the moment of conception. From the first of his existence, a human being must be recognized as having the rights of a person." (Catechism of the Catholic Church #2270, 1995)

Let us take an opportunity to mull over NFP operational principles, which basically are rooted in the appreciation of human sexuality. This serves as a basis for understanding the Catholic perspectives on family planning.

This article will attempt to answer the following questions:

1. Why does the Church approve only the natural methods of family planning?
2. The article will present the positive viewpoint of NFP, and why the natural methods have an edge over contraceptives.
3. What are the methods and the benefits of NFP?
4. What are the challenges faced by the Catholic Church, particularly for the youth in the context of human sexuality and the NFP?

A. Why does the Church approve only the natural methods of family planning?

To be able to understand why the Church in her wisdom, guides the faithful to use the natural methods of family planning in the exercise of responsible parenthood, it is important to educate ourselves on the mechanisms of how babies come about.

Fertility (or the capacity to reproduce human beings) involves processes that are part of the human person and are perfectly made for the purpose of procreation and union with another person of the opposite sex. Consider the following fertility facts and events: A man contributes the **sperm cell** in the conception of a child. He is capable of getting a woman pregnant in **every act of intercourse** he engages in from the time of **puberty** until his death. A woman, on the other hand, contributes an **egg cell**, and has monthly **cycles of fertile** days (days when she will get pregnant) beginning from her **first menstruation** until **menopause**. There are **naturally occurring signs and symptoms** that tell a woman when she is fertile and when she is not.

In NFP, human fertility is seen in the context of **joint fertility**, recognizing the united and equal contribution of the man and the woman in the ability and decision to have a child. The fertility of every individual is half of the human capability to reproduce or procreate. It will take another half (the opposite sex) for this capability to be activated and made fruitful. As part of normal maturation process, fertility is seen in the context of a person's entire maleness or femaleness.

In very evident terms, the parts and process of the male and female reproductive systems are **reciprocal** and **complement** each other from the physical organs, to the psychological make-up needs of each.

The natural methods of family planning respect these facts of human fertility and do not make couples dependent on any external chemical, device, or procedure to make conscious decisions on the number of children they wish to have and the timing for having them.

Couples rely on the **knowledge** from the scientific facts of fertility, the woman's **skill** in determining her fertile and infertile days by observing signs and symptoms, and in the couple's **decision-making** to engage and time the acts of sexual intercourse, based on whether they wish to **have** or **avoid** having a child at a particular time.

B. The methods and benefits of NFP**Methods**

How then can a woman tell on what days she is fertile or infertile? Indication of a woman's fertility have evolved over time into the different natural methods of family planning:

1. Basal Body Temperature
2. Mucus Method or Billings Ovulation Method
3. Sympto-thermal Method
4. Standard Days Method
5. Two-Day Method
6. Lactational Amenorrhea Method

Many couples have reported benefits of NFP practice in relation to human sexuality. Throughout the world, many couples choose to practice the natural methods of birth spacing for many reasons, whether these are for health, economic, cultural or spiritual reasons or for convenience.

Beyond the above reasons, the benefits that have been recorded from the universal practice of NFP among couples encompassing the different socio-economic levels across cultures are:

- discipline and control over sexual urges; delayed gratification
- deeper communication between husband and wife
- achieving intimacy in non-genital ways
- peace of mind in the knowledge of doing good; '*no conscience problems*'
- peace between the couple and the children
- time for each of the living children, and
- community involvement, which is a naturally-evolving social responsibility for teaching others.

Benefits

NFP methods are couple methods. The successful practice of NFP requires the cooperation and participation of both the husband and wife. Because of this, the decision to use it is best discussed before the actual use. Beyond fertility decisions, the way they regard themselves and their partner in all aspects of being a man or a woman and the way they relate to each other do get into the picture. Other family planning methods are either male or female methods; these can be practiced by just one partner and achieve the purpose of preventing pregnancies. Because of this, they do not have the added effect of natural methods in bringing out other aspects of human sexuality such as learning to wait and to engage in substitute activities to sexual intercourse.

Couples practicing NFP to space the births of their children are faced with the issue of effectively managing the fertile days, and in so doing are forced to talk about these matters. In the process, they discover non-genital ways of expressing tenderness and affection during the woman's fertile period, and engage in much-awaited mutually satisfying sexual intercourse during the infertile days. It is precisely the waiting time which allows opportunities for sexual maturity within the marital relationship. Beyond the physical aspects of human sexuality, many other dimensions come into play. NFP provides opportunities for each partner to complement the other in varied aspects of the relationship to achieve intimacy, and does not separate the erotic and affective elements of being a sexed person. This results in each of the partner's total self-giving, while being open to the fruitfulness of the sexual act, which is life itself. Eventually, this gift of life is so appreciated that the timing to have another child develops from the partners' mutual love and self-giving. This is when they knowingly appreciate in awe their God-given capacity to participate in life-giving. This then would be the ideal to strive for in the practice of NFP: when parents can truly say, "Every child is a wanted child."

While difficulties may be present at the beginning of NFP practice, especially for those couples who have become used to having sexual intercourse whenever they want to, the practice of waiting for the infertile days is self-rewarding over time.

As NFP couple practitioners are wont to say, "The quality of our lovemaking makes the waiting time worthwhile."

Natural Family Planning has been tagged as the best kept open secret of the Catholic Church. Obviously, NFP is a building block in the foundation of the home and family in terms of both the values and technology involved.

C. What are the challenges faced by the Catholic Church, particularly for the youth in the context of human sexuality and the NFP?

In demographic terms, the four decades of the presence of family planning in the Philippines have resulted in 50 percent use of family planning among women of reproductive age in union. Of the 50 percent, 33 percent are using the modern (artificial) methods, 15 percent rely on traditional (ineffective) practices such as withdrawal and some kind of rhythm, and 0.1 percent use the modern natural methods. Fifty one percent are not using any method, resulting in a big unmet family planning need. And yet, these are the same women who would like to space their pregnancies or limit the number of children. Without the correct use of an effective method of their choice to achieve their fertility goal, the couples can be handicapped, and continue to add to the problem of unwanted pregnancies.

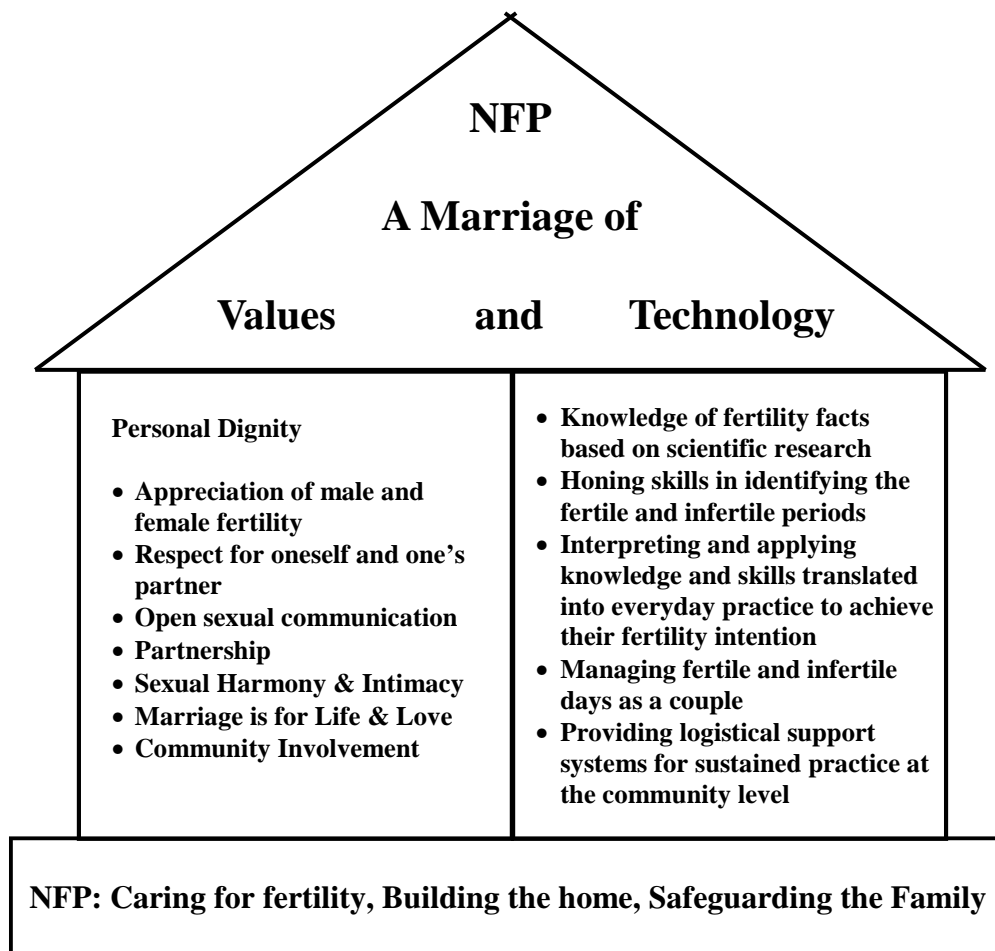
Knowing that most programs up to this day are focused on the modern artificial methods, who would take up the call to teach couples who prefer to rely on the natural methods? Where can they go for service? Where do we get teachers who have the time and the energy to teach the methods? Should we rely on volunteers alone? How do we teach our youth that there are methods that can be relied on when they decide to have a family of their own? And if their parents are using artificial methods because they do not know their fertile periods, or cannot abstain or wait during the fertile days, do we expect our children to know and do better? Can we expect them to wait to have sex until they are ready to have a family? Teenage pregnancies in the largest public maternity hospital of the Philippines now account for a reported 30 percent of all pregnancies.

Conclusion

In the face of an ever increasing culture of instant gratification, NFP offers couples a choice to do good, really feel good, and even look good.

The encouraging words of the late Holy Father Pope John Paul II keep ringing in our minds as we try to spur individuals and organizations to become partners in our NFP endeavors in the Philippines: **"Before there was original sin, there was original innocence."** NFP does somehow bring us back to that state of bliss through love, marriage and the family.

There are many choices that present themselves in the management of fertility. Ultimately couples are guided by their needs, their knowledge, and their readiness in their own process towards achieving responsible sexual maturity.



Source:

- Rivera, M. (2007). Mainstreaming Natural Family Planning. *A Balancing Act: Social and Catholic Perspectives on Population and Development*. Quezon City: John J. Carroll Institute on Church and Social Issues and the Philippine Center for Population and Development. pp. 63-69.