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# Human Biology - Reproduction Teacher's Guide



# Human Biology Reproduction Teacher's Guide

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Stanford University, (HumBio)

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CHAPTER **1** **Introduction to Reproduction -  
Teacher's Guide (Human Biology)**

**CHAPTER OUTLINE**

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# 1.1 Overview

## **Human Biology: An inquiry-based guide for the middle school student.**

Developed by the Program in Human Biology at Stanford University and  
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Hanson, Kimberly A., and Christine A. Gidycz. "Evaluation of a Sexual Assault Prevention Program," *The Journal of Consulting and Clinical Psychology* 61 (1993), 1046. Excerpt reprinted with permission of the American Psychology Association.

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### **Dedication**

The faculty, staff, and teachers of Stanford University's Human Biology Middle Grades Life Science Curriculum Project dedicate the publication of the HumBio Curriculum in memory of our colleagues and friends, Mrs. Donna Harrison and Dr. Mary Budd Rowe. Donna was the lead science teacher at Dozier Middle School, the project test site school in Newport News, Virginia. She was an outstanding teacher, a community leader, a devoted wife and mother, and a wonderful human being. Her involvement in the HumBio Project enriched the curriculum materials and brought great joy to our lives. Although her life ended suddenly and tragically, the inspiration she gave to all who knew her will live on in what we do to improve the education of children and youth. Mary Budd Rowe was our most distinguished science education colleague and our dear friend. She guided the early organizational stages of the project as a group of university scientists attempted to address issues of middle level science education. Her unbridled enthusiasm for the education of children always reminded us of the important purpose of our work. Mary continued her unwavering support of the HumBio curriculum until her passing in June of 1996.

## 1.3 Preface

Stanford University's Middle Grades Life Science Project began in 1986 with the vision of David A. Hamburg, M.D., then President of Carnegie Corporation of New York. A new wave of science education reform was gathering momentum following the release of *A Nation at Risk* by the United States Department of Education and *Educating Americans for the Twenty-First Century* by the National Science Board. Dr. Hamburg brought together the concerns of scientists and science educators over the watered down, vocabulary-laden life science curricula that were typical of middle level science courses at that time with broader public concern over large and increasing numbers of adolescents who engaged in high-risk behaviors leading to school failure, teen pregnancy, and other health problems. Because of his leadership in developing Stanford's undergraduate Program in Human Biology and his interests as a physician and scientist in the major physiological and behavioral transitions in the lives of children, Dr. Hamburg believed that a rigorous middle grades life science curriculum focused on human biology, and where possible on the adolescent, not only would greatly improve the science taught at this level, but through its relevance would capture the interest of this age group.

Initial work on the Human Biology (HumBio) Middle Grades Life Science curriculum brought together faculty, staff, and students from Stanford's Program in Human Biology and its School of Education with local middle and high school teachers. The curriculum development team was enriched in 1991 by twelve interdisciplinary teams of middle level teachers from diverse test site schools across the country. These teams became our most valued collaborators. The teachers attended annual two week summer institutes at Stanford between 1991 and 1994 and used the draft curriculum units in their classes between 1991 and 1995. The teachers and their students provided extensive formative evaluation data on the field-test materials, which has shaped the final student and teacher versions of the units that comprise the HumBio curriculum. Using HumBio units as a starting point, many teams also created their own innovative, interdisciplinary materials, which they taught across the middle level curricula in their schools.

The Project's Advisory Board provided insightful advice on the development of the curriculum from the unique perspectives of the professional associations, the institutions, and the fields its members represented. We are grateful to all of those who served for periods of time during the past seven years. We also would like to express our appreciation to the education consultants from universities, the National Middle School Association, and the California State Department of Education who made presentations and worked with the teacher teams during the summer institutes at Stanford. C. Stuart Brewster served with great distinction as our advisor on publication. We are indebted to him for his keen insights and good advice.

The Project faculty, the staff, and the teachers contributed more to the development of the HumBio Curriculum than anyone could have imagined before this work began. Their expertise, determination, and dedication to improving the education of young adolescents were inspirational. Supporting the curriculum development team and the test-site teachers were wonderful groups of Stanford undergraduates from the Program in Human Biology. They helped to ensure a productive and pleasurable working environment, which was an essential part of the success of the summer institutes.

To be sure, none of this work would have been possible without funding from Carnegie Corporation of New York, the National Science Foundation, and most recently The David and Lucile Packard Foundation. On behalf of the entire Project team we would like to thank these foundations and the program officers who have worked with us over the years for their support. As always, the final content of this curriculum is the sole responsibility of the Stanford University Middle Grades Life Science Project and does not necessarily reflect the views of Carnegie Corporation of New York, the National Science Foundation, or The David and Lucile Packard Foundation.

H. Craig Heller *Principal Investigator*

Mary L. Kiely *Project Director*

*January, 1998 Stanford, California*

## 1.4 Letter to the Teacher

### Dear Teacher:

Teaching young people about reproduction is not easy. Yet there is hardly a topic that is more vital to their health and happiness. Parenthood is one of the great blessings in life, but at the wrong time and under the wrong circumstances, it can also be extremely difficult. As parents and teachers, we have a solemn responsibility to see to it that the reproductive potential achieved during puberty is channeled to responsible ends instead of running wild. There may be limits to what we can do as adults in guiding the young, but whatever else we may or may not achieve, we can certainly try to educate.

Yet, despite the important role of sex and reproduction in people's lives, our society places serious constraints on educating the young about these topics. Much has been said about parental concerns and obstacles, but most parents want their children to learn about these matters, provided it is done in a responsible manner sensitive to their family values. However, there are also those in some communities who are inexorably opposed to such efforts. As teachers, we need to be aware of our own attitudes and values in this area so that we become part of the solution and not the problem. While we may disagree on the morality of specific issues like abortion, or, more broadly, on the proper role of sexuality during adolescence, we should surely be able to stand together in our commitment to our student's health, growth and development.

This unit on reproduction is intended to stand alone, but it has close companions in the Human Biology curriculum. Two units that are most closely related to it are *Your Changing Body* (which deals with puberty) and *Sexuality* (which treats sexual behavior more broadly, including sexually transmitted diseases). These two units, along with the present one on reproduction, represent an integrated whole.

With respect to this unit, it is important to understand and to convey to your students the broad themes it covers. There is a "story line" that unfolds as you move through the unit that logically links the parts together.

The first five sections deal with reproduction in general. After the introductory section, we describe the male and female reproductive systems. After covering the reproductive "machinery," we turn to how it works. Pregnancy is discussed both from the maternal as well as fetal perspectives.

We then switch our focus from pregnancy as a biological process to parenthood as a human experience. We first consider this in general terms and then more specifically with respect to pregnancy during adolescence.

The second half of the unit addresses the issues of why and how to prevent pregnancy. We consider first the reasons for family planning and then turn to a detailed consideration of contraception methods. Then we look at the failure of contraception and abortion.

The final section addresses the critical process of making decisions. It is important, but insufficient, to know about contraceptive methods and abstinence. One has to make choices with full knowledge of the consequences of these choices. The overall purpose is to help young people to understand the issues, master the necessary information, make the right choices, and to stick by them. It is our goal to help them learn to make responsible decisions.

Herant Katchadourian

Professor of Psychiatry and Behavioral Sciences and Professor of Human Biology-Project Steering Committee

## 1.5 Content Overview

### Reproduction

What comprises the human reproductive system and how does it function? What responsibilities and decisions come with being physically mature?

*Reproduction* details the physiology of reproduction-how it happens and how to prevent it from happening-as well as the challenges of teenage pregnancy and parenthood. Throughout the unit students use diagrams to clarify new information, such as the parts of the male and female reproductive systems. They create charts to compare and contrast specific information, as in the section on contraception. Role-playing is used as a technique for addressing complex issues such as parenting, and students conduct a week-long simulation during which they care for an “egg baby.” Discussion groups allow for the sharing of ideas, especially regarding sensitive issues. While abstinence is discussed as the only reliable way to avoid pregnancy, the unit does address contraception and abortion in a factual and straight forward manner. Students are made aware that becoming a fully mature adult involves taking responsibility for and making decisions about sexual activity. Therefore, decision making skills are taught and practiced. This unit relates directly to students’ lives as they face the biological, social, and psychological changes of puberty, as expressed in the following key concepts:

- The changes of puberty can be both exciting and a little intimidating to adolescents. The more they understand about how their bodies are changing and why, the more control they will feel over their lives and what is happening with their bodies. A greater sense of control may lead to reduced anxiety, and fewer adjustment problems during the transition to adulthood.
- The male and female reproductive systems are organized on the same basic plan to function in complementary ways-like a hand and glove.
- Once a girl has achieved full maturity, she is fully capable of bearing children. In some parts of the world, teenage marriage and pregnancy are normal. But in this society, where leading a happy life depends heavily on getting a good education, teenage pregnancy is highly problematic.
- Abstinence is the only sure way to avoid pregnancy. Abstinence does not imply, however, that a person will never have sex, it means that for this time in one’s life, (and maybe other times as well), sex involves a greater risk than the person is ready to assume.
- Contraception should be more than a device used to reduce the risk of pregnancy. It should be a commitment, a partnership, and a result of open communication between a couple.
- You, and only you, are responsible for your actions. Part of accepting that responsibility is making the effort to learn about yourself and others, and to anticipate the consequences of your actions. Making good decisions is a lifelong skill that benefits everyone.

*The text is so well written that it would be difficult to imagine any group taking offense with any of the issues covered. The wording of delicate issues is sensitive enough that both boys and girls can be in the same classroom and not feel threatened.*

-Overland Trail Summer Institute Team

### How This Unit Is Organized

Sections 1-3 review the biological functions of the female and male reproductive systems, as well as the progression of pregnancy and fetal development and how they culminate with the birth of the baby.

Sections 4-5 focus on becoming a parent, why some people choose to do so, and others not. These sections also review teenage pregnancy from a biological standpoint, a psychological standpoint, and a financial and social perspective. The difficulties of teenage pregnancy and parenthood are made very clear, both in the text and through the activities (see egg babies).

### 1.5. CONTENT OVERVIEW

Sections 6-9 discuss the fundamentals of abstinence, contraception, abortion, and good decision making.

### Why Teach This Unit?

*It is the responsibility of every adult-especially parents, educators, and religious leaders-to make sure that children learn what we have learned from the lessons of life and to hear over and over that we love them and that they are not alone.*

-Marion Wright Edelman

*The Measure of Our Success*

Harper Perennial, 1992

The United States has the highest rate of teenage pregnancy among developed countries.

- One million teenage women become pregnant each year.
- 56% of women and 70% of men have sex before age 18.
- 85% of teenage pregnancies are unplanned.
- One in three teenage mothers will have a second child within two years after her first child is born.
- About two-thirds of teenage women use some form of contraceptive during first intercourse this number is up from less than 50% during the 1980s.

*Source of statistics: Alan Guttmacher Institute, **Facts In Brief**, 1994.*

Education programs are an important component in preventing teen pregnancy. However, teen pregnancy is a complex social issue, of which education is only one important part.

Puberty and adolescence present the challenge of adaptation to young teens: how will they incorporate their changing bodies and changing lives into their existing self-concept? This task proves to be more challenging for some than others. Giving students the knowledge and skills to take control of their lives and make responsible decisions is one step toward raising self esteem and reducing social problems such as teen pregnancy or alcohol and drug abuse.

Students should emerge from this learning experience with:

- a solid understanding of their own reproductive system, as well as that of the opposite sex.
- a greater appreciation for the challenges of teenage pregnancy and parenthood.
- a basic understanding of the various methods of contraception.
- the practical knowledge of the fundamentals of good decision making.

### Summary Questions for the Unit

- How does the statement “That won’t happen to me” relate to the material in this unit?

*Young adolescents experience a combination of being exposed to adult behavior and resulting expectations of their own behavior, without the benefit of experience and the ability to think critically and abstractly to foresee consequences. Most teenage pregnancy is a result of careless behavior-the attitude that “just this once is OK” and “pregnancy happens to other people.”*

- Why is a getting a good education important in your life?

*As the world grows more complex, and computers make more and more information available to us, our knowledge base increases significantly on a daily basis. By the time a person finishes college, much of the technical information learned will be obsolete. Education provides not only gratification in the joy of learning, it also enhances the potential for a quality life.*

- What are the most important elements of making good decisions?



*Identifying options and foreseeing the consequences of these possible options.*

- What does a “cycle of dependency” refer to?

*It refers to the difficulty of taking care of one’s self and one’s family when one is handicapped by an inability to get a job (because of a lack of education, or children at home that need care) or to receive a good education.*

- How can adolescents handle the peer pressure to engage in sex, their growing natural urge to explore their sexuality, and their difficulty in getting enough information to make a good decision?

*Adolescents can learn a lot from interacting with adults or older siblings who can share the benefit of experience. Information alone is not enough, nor is a supportive friend, peer or adult.*

**TABLE 1.1: Unit Activities and Key Ideas**

<b>Section</b>	<b>Key Ideas</b>	<b>Activity</b>
<b>1 Reproduction</b> What is reproduction and why is it so difficult to talk about?	<ul style="list-style-type: none"> <li>• Unlike other functions of the body, reproduction is not necessary to keep us alive as individuals. It is essential, however, for the survival of the species.</li> <li>• Reproduction refers to the biological functions of our sex organs; sex refers not only to reproduction, but also to the behaviors, emotions, and thoughts about reproduction.</li> <li>• Cultural attitudes influence how we feel when talking or learning about reproduction. In this culture the facts are difficult to share openly.</li> </ul>	<b>Activity: 1-1: Teaching Children about Reproduction</b>

**TABLE 1.1:** (continued)

<b>Section</b>	<b>Key Ideas</b>	<b>Activity</b>
<b>2 Sex Organs</b> How do the male and female reproductive systems work?	<ul style="list-style-type: none"><li>• The reproductive systems of both the male and female consist of three parts that work together as an integrated unit. These three parts include production, storage and transportation, and delivery of either sperm (in the male) or ova (in the female).</li><li>• Some of the male reproductive organs are outside the body. Most of the female reproductive organs lie inside the body, where there is more and better protection for conception and childbearing. This maximizes reproductive success.</li><li>• Circumcision is a cultural rite of passage. It does not affect the function or sensitivity of the penis, nor does an uncircumcised penis cause any health problems.</li><li>• The female reproductive system produces mature eggs (one each month) in the ovaries. Once released, they travel down the fallopian tubes into the uterus; if not fertilized by a sperm, they exit the body through the vagina.</li></ul>	<b>Activity 2-1:</b> Male Anatomy <b>Activity 2-2:</b> Female Anatomy

**TABLE 1.1:** (continued)**Section****3 Pregnancy and Childbirth**

What happens to the mother and child during pregnancy?

**Key Ideas**

- Pregnancy is a natural condition, not an illness, which is the result of intercourse leading to fertilization and implantation. Conception can occur only around the time of ovulation, but knowing when ovulation occurs is very difficult.
- The embryo grows from a tiny dot, the size of a period at the end of a sentence at implantation, to a 7.5 lb. (on average), fully functioning human infant in about 296 days. If born prior to eight months or weighing less than 5.8 lb., a baby is considered premature.
- The placenta grows from fetal and maternal tissue. The size of a plate, the placenta links the baby to the mother, bringing food and oxygen in and taking away waste materials. The baby receives whatever is in the mother's blood—both good and bad.
- The baby plays no active role in childbirth, but is pushed out by contractions of the uterus, which at term, is a woman's largest muscle.

**Activity**

**Mini Activity:** Fertilization Math

**Activity: 3-1:** The Journey of the Sperm and Egg

**Mini Activity:** Embryonic Models

**Activity: 3-2:** Boy or Girl?

**TABLE 1.1:** (continued)**Section****4 Becoming a Parent**

Why is becoming a parent so important?

**Key Ideas**

- Having children comes from a natural instinct to ensure the survival of the human species. Children used to play an important economic role in the survival of the family, but now they are more a result of love and a desire to continue the family.
- Families are changing. People wait longer to marry and have children, and more single parents are raising children. (Only 1 out of 4 families have mother, father, and kids living in the same house.)
- Adoption and medical interventions allow couples, and even individuals, to become parents who otherwise couldn't become pregnant.

**Activity**

**Activity 4-1:** Why Have Children?

**Mini Activity:** Family in Poetry

**Mini Activity:** New Terms in Reproduction

**Activity 4-2:** Newborn

**TABLE 1.1:** (continued)**Section****5 Adolescent Pregnancy**

What are some of the physical, emotional, and social effects of becoming a teenage parent?

**Key Ideas**

- The U.S. has the highest rate of teenage pregnancy in the developed world. Most teenage pregnancies are unplanned.
- If you engage in sex, you risk pregnancy, even with contraceptive use, which is not fool-proof. The only absolute way to avoid pregnancy is to practice abstinence.
- Teenage mothers are often poor, poorly educated, poorly motivated, involved with unhealthy behaviors (alcohol, drugs, unprotected sex), and are less likely to receive prenatal care than other mothers, resulting in more complications, premature babies, and babies with problems (addiction, deformities).
- Teenage mothers and fathers face a difficult future—education is difficult to complete. Jobs are hard to get. Many feel very isolated, lonely, and overwhelmed. Dependency on others because of a lack of education and the inability to sustain oneself through work creates a cycle of poverty.

**Activity**

**Mini Activity:** Teen Pregnancy Rates-A Little Math Work

**Activity 5-1:** Why Do Adolescents Become Pregnant?

**Mini Activity:** Role-Play: Becoming a Parent

**Mini Activity:** Raising Kids-How Much Does It Cost?

**Mini Activity:** Role-Play: Teen Parents Looking for a Job

**Activity 5-2:** Problems of Being a Mother and Father

**Mini Activity:** Looking at Welfare Payments

**TABLE 1.1:** (continued)

<b>Section</b>	<b>Key Ideas</b>	<b>Activity</b>
<p><b>6 Family Planning and Abstinence</b> How does someone decide when and if to have children?</p>	<ul style="list-style-type: none"> <li>• Family planning refers to deciding when and how many (if any) children to have. Some of the considerations are population control, careers, financial situation, religious views, and personal preference. Decisions about sexual activity involve taking control of a crucial part of your life.</li> <li>• The rate of population growth has slowed, but the numbers continue to rise. People are having fewer children at later ages. Having children is a function of culture-most people do it. So if your culture tends to have large families and not practice birth control, the same is apt to apply to you.</li> <li>• The only absolute way to avoid pregnancy is abstinence. Abstinence means making an active choice which one commits to, just as one commits to any personal goal. It does not mean one will never have, or never has had, sexual intercourse-it means, for now, one is not willing to accept the risks involved in sexual activity.</li> <li>• Birth control greatly reduces, but does not eliminate, the risk of pregnancy.</li> </ul>	<p><b>Mini Activity:</b> Predict Your School Population <b>Mini Activity:</b> Debate! <b>Activity 6-1:</b> Reasons for Not Wanting Children <b>Mini Activity:</b> Abstinence <b>Activity 6-2:</b> Who Decides?</p>

**TABLE 1.1:** (continued)**Section****7 Contraception**

What are the methods used and how do they work?

**Key Ideas**

- A number of barriers prevent many teens from behaving in smart ways when it comes to sex: ignorance, reluctance to think about the consequences of having sex, or lack of good knowledge about how and when pregnancy can occur. In order to make good decisions in intimate relationships, you must accept your sexuality, understand yourself, know what having sex involves, how contraceptives work, and how to communicate with your friends and partners.
- Three types of effective birth control methods exist: preventing the sperm from reaching the egg, preventing ovulation, preventing implantation. Traditional rhythm and withdrawal methods are not reliable. Birth control is part of a sexual relationship that should involve decision and communication between partners.
- Every kind of contraception involves typical (actual) and ideal failure rates, has specific costs and benefits, and must be evaluated in terms of the user's current lifestyle, needs, and personality.

**Activity**

**Mini Activity:** Mixed Messages

**Activity 7-1:** What Will They Choose?

**Mini Activity:** Persuade the Class!

**Mini Activity:** Debate!

**Activity 7-2:** Review of Methods

**TABLE 1.1:** (continued)

<b>Section</b>	<b>Key Ideas</b>	<b>Activity</b>
<p><b>8 Interrupting Pregnancy</b> When does contraception become abortion?</p>	<ul style="list-style-type: none"> <li>• The IUD prevents implantation by changing the lining of the uterus or interfering with the fertilized egg. Currently, the IUD carries a risk of infection and commonly causes bleeding.</li> <li>• Abortion, either forced or by miscarriage, interrupts pregnancy before the fetus can survive outside of the uterus.</li> <li>• Abortion brings up legal and moral issues, and may cause emotional and psychological distress.</li> </ul>	<p><b>Mini Activity:</b> Debate! <b>Activity 8-1:</b> What Are the Issues?</p>
<p><b>9 Making Decisions</b> How do you make good decisions?</p>	<ul style="list-style-type: none"> <li>• Decision making is a lifelong skill that you can use in the simplest or the most complex decisions you need to make.</li> <li>• Good decisions come from understanding and recognizing all the choices that are available, choosing one that best suits your life at the time, and following through with the decision.</li> <li>• The most important element in good decision making is confidence in oneself, and that confidence is something you can build through many opportunities to make decisions on your own.</li> </ul>	<p><b>Mini Activity:</b> Hindsight Has Perfect Vision <b>Mini Activity:</b> Sources of Advice <b>Activity 9-1:</b> Effective Decision Making</p>

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## Teacher's Guide Overview

This *Reproduction* unit is built around a variety of student activities. Text material can be used to introduce, reinforce, and extend the concepts developed in the activities. The activities are the foundation of this unit, so the unit's success depends on students' involvement in the activities. Embedded activities are interrelated, since the concepts developed in one may be applied in another.



## Section Planning

For each section, you'll find extensive advance planning for the student activities and the section topic. Key ideas, section objectives, background information, suggestions for introducing activities, and the materials needed for each activity are listed on the Section Planning page. Review this information ahead of time to ensure that materials for each activity are available when you need them.

## Support for Embedded Activities

Embedded activities are those activities contained or “embedded” in the student edition. Procedures for each embedded activity are contained in the student edition. In the Teacher’s Guide, you’ll find activity planning information, activity assessment, and student procedures and reproducible pages for each embedded activity.

## Enrichment Activities

Enrichment activities are activities found in most Teacher’s Guides. These activities are designed to extend and enrich students’ learning experiences. Complete Enrichment activities, including Teacher Activity Notes and student procedures and reproducible pages, are located at the end of each appropriate section of the Teacher’s Guide. These sample Enrichment pages are taken from the *Genetics* unit, which would connect well with the content in this unit.

## GroupWork Activities

Learning science is a process that is both individual and social. Students in science classrooms often need to interact with their peers to develop a knowledge of scientific concepts and ideas, just as researchers, engineers, mathematicians, and physicians who are working in teams do to answer questions and to solve problems. The GroupWork activities of the HumBio Curriculum for Middle Grades have been developed to foster a collaborative environment for groups of students. Students plan experiments, collect and review data, ask questions and offer solutions, use data to explain and justify their arguments, discuss ideas and negotiate conflicting interpretations, summarize and present findings, and explore the societal implications of the scientific enterprise. In short, GroupWork activities provide an environment in which students are “doing science” as a team.

For more information, refer to “Using GroupWork Activities” on TE page 88. The specific GroupWork activities for this unit can be found beginning on TE page 91.

## Projects

The research and action projects in HumBio are varied and provide students with time to explore a particular topic in depth. With Projects, students have the opportunity to take a position based on knowledge gained through research, debate an issue, and devise a plan of action. In this way, students can apply what they are learning to larger issues in the world around them.

Projects for this unit include

- Research Questions
- Multicultural Perspective: Issues of Reproduction

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## Assessment Overview

Within each section of the unit there are suggestions for assessment that can be used individually or in combination to develop a complete assessment package. The list below describes the variety of assessment tools provided.

*Apply*  
→ *Your* → **KNOWLEDGE**

*Apply Your Knowledge* questions appear throughout each section. They can be used as homework assignments and as ways to initiate a class discussion. These questions are designed to assess

### 1.5. CONTENT OVERVIEW

- communication skills
- depth of thought and preparation
- problem-solving skills
- ability to apply concepts to related or big ideas
- how well students relate their new knowledge to different problems

### What Do You Think?

These questions appear in each section. They provide students with opportunities to think and write about the concepts they are learning in a larger context. You can use these questions to assess

- writing skills
- problem-solving abilities
- creativity and depth of thought
- the ability to analyze and summarize

## *Journal Writing*

*Journal Writing* prompts are suggested throughout the unit. These prompts provide opportunities for students to write critically and creatively about concepts and issues. The writing products can be used to assess

- writing skills
- depth of thought
- the ability to explain and expand concepts

### Review Questions

*Review Questions* are located at the end of each section. These questions can be used for written responses or as the basis for class discussion. These questions are designed to assess content knowledge and whether students can explain the concepts explored in the section.

### Activity-Based Assessment

Inquiry-based student-centered activities are the foundation of the *Human Biology* Program. The unit is rich with relevant exciting activities that introduce support, or and reinforce concepts students are exploring. Within the Teacher's Guide, you'll find extensive teacher information, including assessment strategies, for each type of activity:

- Embedded Activities
- Enrichment Activities
- Mini Activities
- GroupWork
- Projects

## Mini-Activity

**Persuade the Class** Should prescription contraceptives be available without parental consent for people under age 18? Why or why not?

You can use students' products to assess their progress. These products include models, simulations, observations and report of laboratory investigations, role-plays, written responses to questions and written observations, student-designed explorations and procedures, poster presentations, and classroom presentations.

## PORTFOLIO ASSESSMENT

You may want to have your students develop a portfolio for the unit. A sample assessment portfolio for the unit might include the following items:

- Written responses to one *Apply Your Knowledge* from each section.
- An analysis of their two favorite activities and how those activities helped them learn an important concept.
- A completed project.
- Daily record from *Activity 4-2: Newborn*.
- Example of decision-making process.

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## Getting Started

**Keep Students Interested.** Encourage students to read the text: It is the story line that ties all of the content together. Every effort has been made to make the text interesting to students and appropriate to their reading level. Text material can be used to introduce, reinforce, and extend the concepts addressed within the activities.

The success of the unit depends on the completion of at least the Embedded activities. Keep in mind that some activities are related since the data obtained in one may be used in another.

**Plan Ahead.** The unit is activity-based, and you can select the activities that will best meet your class' needs. The activities are listed in the Unit Matrix on page xiv and in the Activity Index on page 133. Mini Activities are shorter and can be done with minimal teacher input; they are located in the margin of the student edition. The Embedded activities in the student text are investigations that require some planning and setup time; these are the essential activities within the unit.

A variety of projects were designed to extend the content of the unit. These include ongoing class projects, school projects, and/or community projects. Projects are located at the end of the Teacher's Guide, beginning on page 123.

**Customize the Unit.** Each section of this unit builds upon knowledge gained in the previous sections. Teaching timelines are provided on TE pages xxiv-xxv. The first timeline on TE page xxiv demonstrates how to complete this unit within a three-week schedule. The timeline on TE page xxv demonstrates how to complete this unit within a five-week schedule. Both of these timelines highlight the essential activities. If your class has time to study the unit over a longer period of time, many additional activities are available.

**Allow Time for Projects.** Consider having students start projects at the beginning of the unit and then prepare those projects for presentation as a culminating event.

**Use Current Events.** Ask students to bring in newspaper and magazine articles that relate to what they are studying each week. Relating the unit content to current events helps students see that what they are doing in class is, in fact, relevant to their lives outside of school. Students can use current events to make group scrapbooks, bulletin boards, and posters or to develop class presentations.

**Make a "Question Box" Available.** Have students write down questions they have about what they are investigating and put them in the box. At appropriate times select questions and read them to the class to generate discussion. These questions can also be used to initiate class research projects.

**Use a Variety of Resources.** We encourage you and your students to use a wide variety of sources for information. The activities provide rich opportunities for students to explore a variety of concepts. The more students incorporate information from resources outside the classroom, the richer their learning experiences will be. Use computer services for gathering student and teacher information, for networking with students in different schools and with community resources, and for contacting experts in the field under study. A list of resources can be found on page 128 of this Teacher's Guide.

**Make Career Connections.** Encourage students to investigate careers related to the content of the unit. Invite sci-

entists, physicians, and technologists working in the field to come to your classroom to discuss career opportunities, their research, and specific topics of interest.

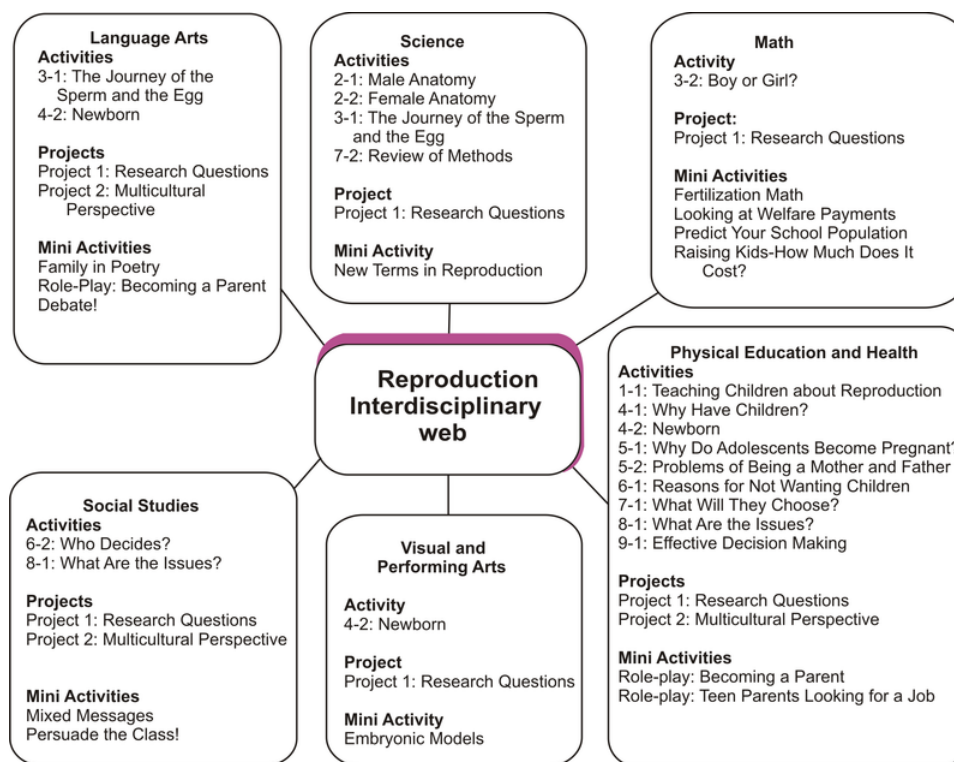
**Plan for Field Trips.** Field trips to local hospitals, industrial sites, or universities need, of course, to be arranged well in advance. Contact the public affairs offices of these institutions for assistance.

**Address Health Concerns.** Be aware of any special health problems your students may have. Some students may have health conditions that would make it uncomfortable for them to participate in certain activities, such as those that require exercise or that relate directly to their particular health problems. For students unable to participate fully in these activities you may wish to create an alternative assignment or have them use data from another group. If the class is appropriately prepared, the affected students may want to share information about their special circumstances with the class in order to increase empathy and knowledge of all students.

**Connect with Other HumBio Units.** The units covering human physiological systems, cell biology, and genetics are related. There are many opportunities to make connections among the concepts taught in these units. Similarly, the three units covering the biological, behavioral, and social aspects of adolescent development can be taught in sequence.

**Connect with Other Disciplines.** The interdisciplinary web provided is a guide for planning if your school uses an interdisciplinary team approach. The web classifies the unit's activities and projects by related discipline—language arts, math, social studies, physical education, health/nutrition, visual and performing arts, and science. For interdisciplinary planning, schedule meetings with your team early. You are encouraged to tap the talents and interests of your team members as well as of your unique school and community resources in developing other suitable activities for this unit.

**Connect with the Home.** Give special attention to the unit activities as a means of involving family and community members. Also, encourage your students to take selected Apply Your Knowledge questions and Mini Activities home for further exploration.



## Teaching Timelines

You can use these timelines as a place to start in designing your own timelines, or you can use them as they are laid out. If you're planning your own timeline, consider the inclusion of the Embedded activities first. The "Embedded activities" are included in the student edition. The Enrichment activities, GroupWork activities, and Projects can then be included, depending on your time restrictions. The timelines are guides that can vary if some activities are done at home or in other classes in addition to science class.

Given your time constraints, it may not be possible to do all the activities shown on these timelines. If you need to remove activities, be careful not to remove any activities critical to the content of the unit. You may want to divide the activities among interdisciplinary members of your teaching team.

Page references in these charts refer to the student edition.

**TABLE 1.2: Option 1: Three Week Timeline**

	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>
<b>Week 1</b>	Read Section 1 <b>Activity 1-1:</b> Teaching Children about Reproduction	Read Section 2 through part on the Male Reproductive System <b>Activity 2-1:</b> Male Anatomy	Read Section 2 through part on the Female Reproductive System <b>Activity 2-2:</b> Female Anatomy	Read Section 3	<b>Activity 3-1:</b> The Journey of the Sperm and the Egg
<b>Week 2</b>	<b>Activity 3-2:</b> Boy or Girl? Read Section 4	<b>Activity 4-1:</b> Why Have Children?	Introduce Ac- <b>tivity 4-2:</b> Newborn Read Section 5	<b>Activity 5-1:</b> Why Do Adolescents Become Pregnant? <b>Activity 5-2:</b> Problems of Being a Mother and Father	Read Section 6 <b>Activity 6-1:</b> Reasons for Not Wanting Children
<b>Week 3</b>	<b>Activity 6-2:</b> Who Decides? <b>Activity 4-2:</b> Newborn	Read Section 7 <b>Activity 7-1:</b> What Will They Choose?	<b>Activity 7-2:</b> Review of Methods	Read Section 8 <b>Activity 8-1:</b> What Are the Issues?	Read Section 9 <b>Activity 9-1:</b> Effective Decision Making

**TABLE 1.3: Option 1: Five Week Timeline**

	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>
<b>Week 1</b>	Read Section 1 <b>Activity 1-1:</b> Teaching Children about Reproduction	Explain project choices to students (Have entire class do Project 2 Multicultural Perspective, or let students choose from Project 1 Research and Action Projects)	Read Section 2 through part on the Male Reproductive System <b>Activity 2-1:</b> Male Anatomy	Read Section 2 through part on the Female Reproductive System <b>Activity 2-2:</b> Female Anatomy	Project Day: allow students to work on their projects
<b>Week 2</b>	Read Section 3	<b>Activity 3-1:</b> The Journey of the Sperm and the Egg	<b>Activity 3-2:</b> Boy or Girl?	Read Section 4 <b>Activity 4-1:</b> Why Have Children?	Introduce <b>Activity 4-2:</b> Newborn (activity will start on Monday) Project Day: allow students to work on their projects
<b>Week 3</b>	Introduce all “Newborns” to the class. Have a “Get Acquainted Day”	Read Section 5 through Activity 5-1	<b>Activity 5-1:</b> Why Do Adolescents Become Pregnant?	<b>Activity 5-2:</b> Problems of Being a Mother and Father	Project Day: allow students to work on their projects
<b>Week 4</b>	Read Section 6 <b>Activity 6-1:</b> Reasons for Not Wanting Children	<b>Activity 6-2:</b> Who Decides?	Read Section 7	<b>Activity 7-1:</b> What Will They Choose?	Project Day: allow students to work on their projects
<b>Week 5</b>	<b>Activity 7-2:</b> Review of Methods	Read Section 8 <b>Activity 8-1:</b> What Are the Issues?	Read Section 9 <b>Activity 9-1:</b> Effective Decision Making	Have groups share projects	Have groups share projects

## Safety for Teachers

- Always perform an experiment or demonstration on your own before allowing students to perform the activity. Look for possible hazards. Alert students to possible dangers. Safety instructions should be given each time an experiment is begun.
- Wear glasses and not contact lenses. Make sure you and your students wear safety goggles in the lab when performing any experiments.
- Do not tolerate horseplay or practical jokes of any kind.
- Do not allow students to perform any unauthorized experiments.

- Never use mouth suction in filling pipettes with chemical reagents.
- Never “force” glass tubing into rubber stoppers.
- Use equipment that is heat resistant.
- Set good safety examples when conducting demonstrations and experiments.
- Turn off all hot plates and open burners when they are not in use and when leaving the lab.
- When students are working with open flames, remind them to tie back long hair and to be aware of loose clothing in order to avoid contact with flames.
- Make sure you and your students know the location of and how to use fire extinguishers, eyewash fountains, safety showers, fire blankets, and first-aid kits.
- Students and student aides should be fully aware of potential hazards and know how to deal with accidents. Establish and educate students on first-aid procedures.
- Teach students the safety precautions regarding the use of electricity in everyday situations. Make sure students understand that the human body is a conductor of electricity. Never handle electrical equipment with wet hands or when standing in damp areas. Never overload electrical circuits. Use 3-prong service outlets.
- Make sure that electrical equipment is properly grounded. A ground-fault circuit breaker is desirable for all laboratory AC circuits. A master switch to cut off electricity to all stations is desirable for all laboratory AC circuits.
- Make sure you and your students are familiar with how to leave the lab safely in an emergency. Be sure you know a safe exit route in the event of a fire or an explosion.

## **For Student Safety**

### **Safety in the Classroom**

- Wear safety goggles in the lab when performing any experiments. Tie back long hair and tuck in loose clothing while performing experiments, especially when working near or with an open flame.
- Never eat or drink anything while working in the science classroom. Only lab manuals, notebooks, and writing instruments should be in the work area.
- Do not taste any chemicals for any reason, including identification.
- Carefully dispose of waste materials as instructed by your teacher. Wash your hands thoroughly.
- Do not use cracked, chipped, or deeply scratched glassware, and never handle broken glass with your bare hands.
- Lubricate glass tubing and thermometers with water or glycerin before inserting them into a rubber stopper. Do not apply force when inserting or removing a stopper from glassware while using a twisting motion.
- Allow hot glass to cool before touching it. Hot glass shows no visible signs of its temperature and can cause painful burns. Do not allow the open end of a heated test tube to be pointed toward another person.
- Do not use reflected sunlight for illuminating microscopes. Reflected sunlight can damage your eyes.
- Tell your teacher if you have any medical problems that may affect your safety in doing lab work. These problems may include allergies, asthma, sensitivity to certain chemicals, epilepsy, or any heart condition.
- Report all accidents and problems to your teacher immediately.

### **HANDLING DISSECTING INSTRUMENTS and PRESERVED SPECIMENS**

- Preserved specimens showing signs of decay should not be used for lab observation or dissection. Alert your teacher to any problem with the specimen.
- Dissecting instruments, such as scissors and scalpels, are sharp. Use a cutting motion directed away from yourself and your lab partner.
- Be sure the specimen is pinned down firmly in a dissecting tray before starting a dissection.
- In most cases very little force is necessary for making incisions. Excess force can damage delicate, preserved tissues.
- Do not touch your eyes while handling preserved specimens. First wash your hands thoroughly with warm water and soap. Also wash your hands thoroughly with warm water and soap when you are finished with the dissection.

## **1.5. CONTENT OVERVIEW**

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## Letter to the Student

### Dear Student:

One of the major differences between being a child and being an adult is the ability to reproduce, or have children. This unit, *Reproduction*, will help you understand the changes that take place in your body as you go from being a child, to being able to create a child. These changes are powerful, and bring with them many choices, enormous responsibilities, and wonderful possibilities.

The first part of this unit will focus on the parts of the female reproductive system, the parts of the male reproductive system, and how they work together. Then you will learn about pregnancy from the point of view of the mother as well as the developing child.

The second part of the unit discusses what it is like to be a parent, and the many responsibilities that come along with that role. You will learn about the different types of contraception (ways of preventing pregnancy), including abstinence. That means not having sexual intercourse, and it is still the only way to make sure you do not become pregnant or make someone pregnant.

The purpose of this unit is to give you the factual information that you will need to make healthy choices in your own life. This information, along with your own beliefs and the opinions of the important people in your life (such as your parents) will help you to grow from a child into a healthy, responsible adult.

### Letter Home

#### Sections 1-5

Dear \_\_\_\_\_,

Teaching young people about reproduction is not easy, yet there is hardly a topic that is more vital to their health and happiness. The purpose of this unit, which covers both the physical aspects of reproduction and the behavioral aspects of changing, growing, and maturing, is to give students the factual information that they will need in order to make healthy choices in their own lives.

The first section of the unit is an introduction to the sensitive topic of reproduction. Section 2 focuses on the reproductive systems of males and females. Section 3 explains about conception, pregnancy, and childbirth. Sections 4 and 5 discuss the issues and responsibilities of parenthood, as well as the special problems that can face adolescent parents.

Your student may have questions that arise from this study of the reproductive system. Since this unit deals with sensitive concepts and processes, we have established classroom guidelines that promote respectful and serious attitudes as students discuss reproduction. The information provided in class, individual beliefs, and the opinions of important people in their lives, such as you, will help them grow from children into healthy, responsible adults.

Sincerely,

---

### Reproduction Unit, Sections 1-5

Please complete and return by \_\_\_\_\_ (date)

---

Student's name

I have read the above.

---

Parent's signature

### Sections 6-9



Dear \_\_\_\_\_,

Teaching young people about reproduction is not easy. Yet there is hardly a topic that is more vital to their health and happiness. Parenthood is one of the great blessings in life, but at the wrong time and under the wrong circumstances, it can also be a curse. As you have discovered, this unit deals with sensitive concepts and processes. Sections 1 to 5 of this unit covered the physical aspects of reproduction, such as the reproductive organs and pregnancy.

Sections 6 to 9 of the unit address the issues of why and how to prevent pregnancy. We consider first the reasons for family planning and then turn to a detailed consideration of contraception methods. Throughout the unit, we emphasize the fact that abstinence is the safest choice for adolescents. However, we also discuss other methods of preventing pregnancy for those adolescents who may need protection against pregnancy.

The final section, Section 9, addresses the critical process of making decisions. It is important, but insufficient, to know about contraceptive methods and abstinence. One has to make choices with full knowledge of the consequences of these choices. The overall purpose is to help young people to understand the issues, master the necessary information, make the right choices and to stick by them. It is our goal to help them learn to make responsible decisions.

Your student may have questions that arise from this discussion of the reproductive system. The purpose of this unit is to give students the factual information that they will need to make healthy choices in their own lives. This information, along with individual beliefs, and the opinions of the important people in their lives, such as you, their parents, will help them grow from children into healthy, responsible adults.

Sincerely,

---

### **Reproduction Unit, Sections 6-9**

Please complete and return by \_\_\_\_\_ (date)

---

Student's name

I have read the above.

---

Parent's signature

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**CHAPTER 2**

# Reproduction - Teacher's Guide (Human Biology)

## CHAPTER OUTLINE

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**2.1 PLANNING**

**2.2 USING REPRODUCTION – STUDENT MATERIALS (HUMAN BIOLOGY)**

**2.3 ACTIVITIES AND ANSWER KEYS**

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## 2.1 Planning

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### Key Idea

- Unlike other functions of the body, reproduction is not necessary to keep us alive as individuals. It is essential, however, for the survival of the species.
- Reproduction refers to the biological functions of our sex organs; sex refers not only to reproduction, but also to the behaviors, emotions, and thoughts about reproduction.
- Cultural attitudes influence how we feel when talking or learning about reproduction. In this culture the facts are difficult to share openly.

---

### Overview

This section serves as an introduction to the unit on reproduction. Since this is a topic that is somewhat difficult to talk about, students begin with an activity on when and how children should learn about reproduction. In addition, the section introduces the idea that reproduction is the result of the union of the sperm and the egg after sexual intercourse, but that sex and reproduction are not always the same thing.

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### Objective

Students:

✓ assume the roles of parents and teachers as they try to decide when, where, and how children should learn about reproduction.

---

### Vocabulary

adolescence, egg, puberty, reproduction, semen, sex organs, sexual intercourse, sperm

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### Student Materials

#### Activity 1-1: Teaching Children about Reproduction

- Activity Report

---

## Teacher Materials

### Activity 1-1: Teaching Children about Reproduction

- None required

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## Advance Preparation

See Activity 1-1 in the Student Edition.

### Activity 1-1: Teaching Children about Reproduction

- None required

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## Interdisciplinary Connection

**Language Arts** Discussion groups help students develop communication skills. The Activity requires personal writing.

### Background Information

Although people engage in sex most of the time without reproductive intent or consequence, from an evolutionary point of view we can best understand sex in terms of its reproductive aspects. In other words, the structure and function of our sex organs have evolved into what they are, in ways that have enhanced their reproductive potential.

This is a key point to get across at the outset of this chapter-in behavioral terms, sex serves many purposes, of which reproduction is only one; but biologically, reproduction is the key to understanding sexuality.

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## 2.2 Using Reproduction – Student Materials (Human Biology)

Read the first sentence in the section to the students. Give them a few moments to share their stories if they wish. Ask if there was a time when they were given misinformation about sex or reproduction, that they later found out was not the truth. Let students know that even though this topic may be difficult, this class is an appropriate place to go for the answers to their questions.

Read the section.

Conduct *Activity 1-1: Teaching Children about Reproduction*.

### **What Do You Think?**

Why might young children have problems understanding the true nature of pregnancy?

### **What Do You Think?**

Why might parents and other adults give incomplete or incorrect explanations to children about babies and reproduction?

## 2.3 Activities and Answer Keys

### Activity 1-1: Teaching Children about Reproduction

#### PLAN

**Summary** In this activity students discuss how the subject of reproduction can best be explained to children.

#### *Objectives*

Students:

- ✓ simulate the roles of parents and teachers as they try to decide when, where, and how children will learn about reproduction.
- ✓ apply the skills of respectful, attentive listening as they exchange ideas.
- ✓ evaluate and select the most effective approach to teaching about reproduction.

#### *Student Materials*

- Activity Report

#### *Teacher Materials*

- None required

#### *Advance Preparation*

None required

**Estimated Time** 40 minutes

#### *Interdisciplinary Connections*

This activity has **Health** connections. It can be extended to include:

**Language Arts** Write a story about a parent trying to explain the facts about the reproductive system to one of his or her children.

- Describe the setting, what is actually said in dialogue form, and the child's reaction.
- Your story may be either humorous, poignant, factual, or fictional.

Create a collection of scenarios in a scrapbook from literature, books, magazines, newspapers, TV shows, and movies that describe someone either teaching or learning about the reproductive system, and their reactions to this experience.

**Social Studies** In many cultures there are fanciful stories told to children about reproduction when they are young. For example, in some parts of this country children are told they came from the “cabbage patch,” or that the stork brought them. Find examples of reproduction myths in other countries and cultures.

#### *Prerequisites and Background Information*

The class would benefit from having previous experiences in which they have shared personal experiences in a class setting. The comfort level of the class might improve if words such as “intercourse,” “penis,” “erection,” “vagina,” and other terms associated with reproduction are introduced prior to this lesson.

## IMPLEMENT

**Introduce Activity 1-1** by reading the introduction to Activity 1-1.

**Step 1** Ask students to think about or write down how they learned about reproduction. Some students may feel uncomfortable discussing this subject. Instead of relating their own experience, they might want to relate the experience of a friend.

**Steps 2-4** Group discussions will progress more easily if each group has an equal number of assertive talkers and quiet listeners. 4-6 students per group seems to be effective. You can choose to assign roles or allow students to assign roles within the group. Some groups will feel comfortable if the teacher circulates around the room and listens, while other groups may feel inhibited. You are the best judge of this. It is important for the teacher to be alert to the feelings and sensitivities of the individual group members. As students discuss the activity, make sure they are using the correct terms.

**Conclude Activity 1-1** by asking each group to report any conclusions they have determined.

## ASSESS

Use the completion of the written report and student discussion to assess if students can

- ✓ explain why it is so difficult for many parents to instruct their children on this topic.
- ✓ identify what should be taught by the parents.
- ✓ identify what should be taught by the school.
- ✓ describe the conflict that sometimes arises between what is taught in the school and what is taught at home.
- ✓ explain why some teachers may feel uncomfortable teaching reproduction.
- ✓ determine the correct terminology when discussing the reproductive system.

- A suggested response will be provided upon request. **Please send an email to [teachers-requests@ck12.org](mailto:teachers-requests@ck12.org).**

*Apply*  
→ **KNOWLEDGE**  
*Your*

**What body functions serve dual purposes, one biological function and one pleasurable function? (Hint: Do you eat only because your body needs food?)**

## *Journal Writing*

In the rest of this unit you will learn all about reproduction. What do you already know? What questions do you hope to have answered? How comfortable will you be asking the questions you need answered? If you are not comfortable asking out loud, consider turning this assignment in to your teacher so the questions can be answered privately.

## Review Questions/Answers

- Sample answers to these questions will be provided upon request. **Please send an email to [teachers-requests@ck12.org](mailto:teachers-requests@ck12.org) to request sample answers.**

1. What is the difference between sexual intercourse and reproduction?
2. The distinction between reproduction and sex is important. Explain why this distinction is important to learn about, but difficult to get information on as an adolescent

### Activity 1-1 Report: Teaching Children about Reproduction (Student Reproducible)

#### Instructions

In this simulation, half of the group will assume the role of parents who must decide if, when, and how to tell their children the truth about reproduction. The other half will assume the role of teachers who must decide at what grade level, and to what extent, reproduction will be taught in the classroom.

#### Discussion topics

##### “Parents”

- a. When will you first tell your child about reproduction and having babies? Will you wait for them to ask, or will you bring up the topic yourself? Will you give this task to someone else?
- b. Should the mother, father, or both do the talking? Should mothers talk to the girls and fathers talk to the boys, or does it really matter?
- c. Should boys and girls be told the same thing?
- d. What will you say to the child?
- e. Will you cover everything at one time or at different times?
- f. What attitudes do you want your child to have with regard to reproduction?

##### “Teachers”

- a. In what grade and in what class should reproduction be introduced and discussed?
- b. How should topics taught in school be linked to topics taught at home? Should the home and the school teach the same thing? Should certain topics be taught at school? Should certain topics only be taught at home?

#### Summaries

- a. As a group, discuss what you want to report back to the class. The recorder can check or circle the information to be shared with the class.
- b. Confidentiality must be kept if some member of your group tells the group something that they do not want to have shared with the class as a whole.
- c. The presenter will read the summaries to the class, but any group member can respond to questions asked by class members.



## CHAPTER

**3****Sex Organs - Teacher's Guide  
(Human Biology)****CHAPTER OUTLINE**

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**3.1 PLANNING****3.2 USING SEX ORGANS – STUDENT EDITION (HUMAN BIOLOGY)****3.3 ACTIVITIES AND ANSWER KEYS**

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## 3.1 Planning

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### Key Ideas

- The reproductive systems of both the male and female consist of three parts that work together as an integrated unit. These three parts include production, storage and transportation, and delivery of either sperm (in the male) or ova (in the female).
- Some of the male reproductive organs are outside of the body. Most of the female reproductive organs lie inside the body, where there is more and better protection for conception and childbearing. This maximizes reproductive success.
- Circumcision is a cultural rite of passage. It does not affect the functions or sensitivity of the penis, nor does an uncircumcised penis cause any health problems.
- The female reproductive system produces mature eggs (one each month) in the ovaries. Once released, they travel down the fallopian tubes into the uterus; and if not fertilized by a sperm, they exit the body through the vagina.

---

### Overview

This section is a detailed look at both the male and female reproductive systems. Students are given the proper terminology for the external and internal reproductive organs, and they are expected to use the proper terms in class discussions and when filling out Activity Reports. They begin by focusing on the male reproductive system, discussing the genitals, then the production and storage of sperm in the testes, the transport of sperm through the vas deferens, and the delivery of sperm through the penis. The same approach is used for the female reproductive system. Students study the female genitals, then the production and storage of the eggs in the ovaries, transport of the egg through the fallopian tubes, and the implantation of a fertilized egg in the uterus, or the disintegration and release of the egg if it is not fertilized.

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### Objectives

Students:

- ✓ locate and identify the parts of the male and female reproductive system in a drawing using proper terminology.
- ✓ describe the differences between the male and female reproductive systems.
- ✓ describe the process of reproduction.
- ✓ define the parts of the reproductive system.

---

## Vocabulary

bladder, cervix, circumcision, clitoris, corpus luteum, endocrine glands, epididymis, erection, estrogen, Fallopian tubes, follicle, foreskin, genitals, glans, hymen, major lips (labia majora), minor lips (labia minora), orgasm, ovaries, ovulation, penis, progesterone, prostate gland, pubic hair, scrotum, seminal vesicles, testes, testosterone, urethra, urethral opening, uterus, vagina, vas deferens

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## Student Materials

### Activity 2-1: Male Anatomy

- Activity Report

### Activity 2-2: Female Anatomy

- Activity Report
- 

## Teacher Materials

### Activity 2-1: Male Anatomy

- Activity Report Answer Key

### Activity 2-2: Female Anatomy

- Activity Report Answer Key
- 

## Advance Preparation

See Activities 2-1 and 2-2 in the Student Edition.

### Activity 2-1: Male Anatomy

- Optional: You may want to create an overhead transparency of this illustration for use at the end of the labeling procedure. Familiarize yourself by reading the appropriate pages in the teacher edition of the textbook.

### Activity 2-2: Female Anatomy

- Optional: You may want to create an overhead transparency of this illustration for use at the end of the labeling procedure.

### 3.1. PLANNING

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## Interdisciplinary Connection

**Language Arts** This unit is full of new vocabulary words. Their spellings and definitions can be incorporated into a language arts lesson.

### Background Information

The physiology of sexual arousal and orgasm is fundamentally similar in men and women, but it is more easily described in the male because of the male's more obvious erection and ejaculation of semen.

Erection of the penis is a primarily vascular phenomenon. When more blood rushes in than flows out, the penis becomes stiff (similar to a garden hose with the nozzle shut when the water is turned on). An erection is primarily controlled by the parasympathetic segment of the autonomic nervous system. There are no muscles involved, and a man cannot voluntarily "will" an erection. He can only let it happen. The parasympathetic erection center in the sacral segment of the spinal cord can act independently of the brain, but normally it is strongly influenced by the brain. This is why men can have erections through fantasy, while feelings such as anxiety may inhibit it.

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## 3.2 Using Sex Organs – Student Edition (Human Biology)

Begin by reminding students that it is important to be respectful when discussing personal or potentially embarrassing material. Tell them that although they may not always use the proper terminology in their own conversations when referring to body parts, they will be expected to do so throughout this unit.

Read the portion on the male reproductive system.

Complete *Activity 2-1: Male Anatomy*.

Read the material on the female reproductive system.

Complete *Activity 2-2: Female Anatomy*.

### **What Do You Think**

What are some of the reasons that people in most cultures cover their genitals even if they don't wear much other clothing?

## 3.3 Activities and Answer Keys

### Activity 2-1: Male Anatomy

#### PLAN

**Summary** In this activity students learn to identify and name the parts of the male reproductive system. These correct terms can then be used in class discussions to avoid unnecessary confusion or embarrassment.

#### *Objectives*

Students:

- ✓ identify the parts of the male reproductive system.
- ✓ explain the importance of using the proper terminology for the male reproductive system.

#### *Student Materials*

- Activity Report

#### *Teacher Materials*

- Activity Report Answer Key

#### *Advance Preparation*

Optional: You may want to create an overhead transparency of this illustration for use at the end of the labeling procedure. Familiarize yourself by reading the appropriate pages in the teacher edition of the textbook.

**Estimated Time** 10-15 minutes

#### *Interdisciplinary Connection*

This activity has connections to **Science/Health**.

#### *Prerequisites and Background Information*

None required

#### IMPLEMENT

**Introduce Activity 2-1** by explaining the importance of using proper terminology when discussing the human anatomy in the classroom and in understanding how reproduction and contraception work. You might also discuss the importance of using proper terminology outside of the classroom. For example, it's important to know the correct terms in order to explain a problem to a medical doctor.

**Steps 1-3** Issue one Activity Report and illustration per student. Allow 5-10 minutes for the students to label and correct their work.

**Conclude Activity 2-1** by going over the answers on the Activity Report together.

## ASSESS

Use the completion of the activity and the written answers on the Activity Report to assess if students can:

- ✓ identify parts of the male reproductive system.
- ✓ explain the importance of using proper terminology for the male reproductive system.

### Activity 2-1: Male Anatomy – Activity Report Answer Key

- Sample answers to these questions will be provided upon request. **Please send an email to teachers-requests@ck12.org to request sample answers.**

See how many parts of the male reproductive system you can identify and name.

1. Label the numbered body parts using the terms listed with each illustration.
2. After you have completed the labeling, read the text, review your choices, and correct your work if necessary.

#### What Do You Think?

Countless magazines, videos, advertising, and art forms display and focus on the female body and sexual characteristics. There is not nearly the same interest shown in the male body. Why do you think this is? Is this imbalance changing as women's roles are changing?

A suggested response will be provided upon request. **Please send an email to teachers-requests@ck12.org.**

*Apply*  
→ *Your* → KNOWLEDGE

**Why do you think an egg doesn't have a tail?**

#### What Do You Think?

How do some people compare the importance of virginity between boys and girls?

### Activity 2-2: Female Anatomy

#### PLAN

**Summary** In this activity students learn to identify and name the parts of the female anatomy. These correct terms can then be used in class discussions to avoid unnecessary confusion or embarrassment.

#### Objectives

Students:

- ✓ identify the parts of the female reproductive system on a drawing using proper terminology.
- ✓ explain the importance of using proper terminology for the female reproductive system.

#### Student Materials

- Activity Report

### ***Teacher Materials***

- Activity Report Answer Key

### ***Advance Preparation***

Optional: You may want to create an overhead transparency of this illustration for use at the end of the labeling procedure.

***Estimated Time*** 10-15 minutes

### ***Interdisciplinary Connection***

This activity has **Health** connections.

### ***Prerequisites and Background Information***

None required

## **IMPLEMENT**

***Introduce Activity 2-2*** by explaining the importance of using proper terminology when discussing the human anatomy in the classroom and in understanding how reproduction and contraception work. You might also discuss the importance of using proper terminology outside the classroom (i.e., explaining a problem to a medical doctor).

***Steps 1-3*** Issue one Activity Report and illustration per student. Allow 5-10 minutes for the students to label and correct their work.

***Conclude Activity 2-2*** by going over answers on the Activity Report together.

## **ASSESS**

Use the completion of the activity and the written answers on the Activity Report to assess if students can

- ✓ identify parts of the female reproductive system.
- ✓ explain the importance of using proper terminology for the female reproductive system.

---

## **Activity 2-2: Female Anatomy – Activity Report Answer Key**

- Sample answers to these questions will be provided upon request. **Please send an email to teachers-requests@ck12.org to request sample answers.**

See how many parts of the female reproductive system you can identify and name.

1. Label the numbered body parts using the terms listed with each illustration.
2. After you have completed the labeling, read the text, review your choices, and correct your work if necessary.

### ***Journal Writing***

Why do you think that you are being taught about both male and female reproductive systems? How do you think the opposite sex feels learning about the changes that are happening to you? What did you learn that was new to you or that surprised you? Are there any questions that still haven't been answered?



## Review Questions/Answers

- Sample answers to these questions will be provided upon request. **Please send an email to teachers-requests@ck12.org to request sample answers.**

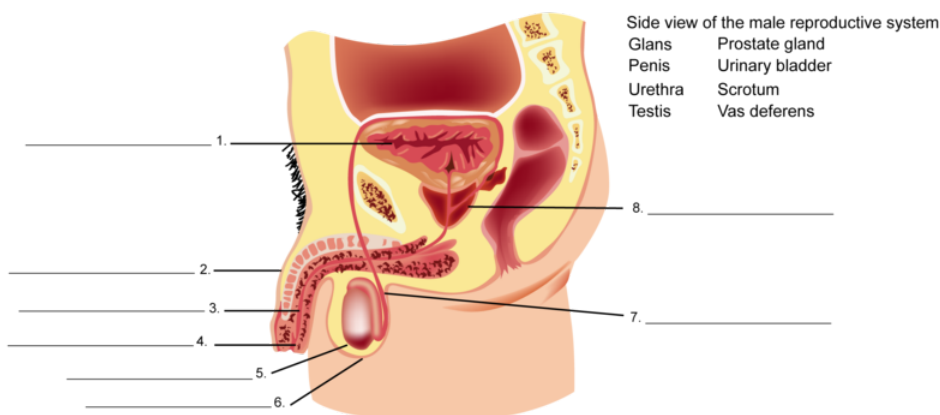
1. Describe three similarities and three differences between the female and male reproductive systems.
2. How do sperm get from the testes to the penis? Describe the route and define the parts.
3. What is semen? How is it produced?
4. Why is the female reproductive system primarily internal?
5. Explain the ovarian cycle using the correct terms.
6. How does the egg get to the uterus?

## Activity 2-1 Report: Male Anatomy (Student Reproducible)

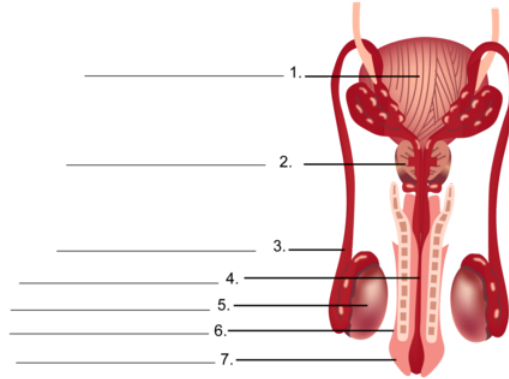
### Instructions

See how many parts of the male reproductive system you can identify and name.

1. Label the numbered body parts using the terms listed with each illustration.
2. After you have completed the labeling, read the text, review your choices, and correct your work if necessary.



Front view of the male reproductive system  
 Glans Prostate gland Urethra  
 Penis Vas deferens Urinary bladder  
 Testis

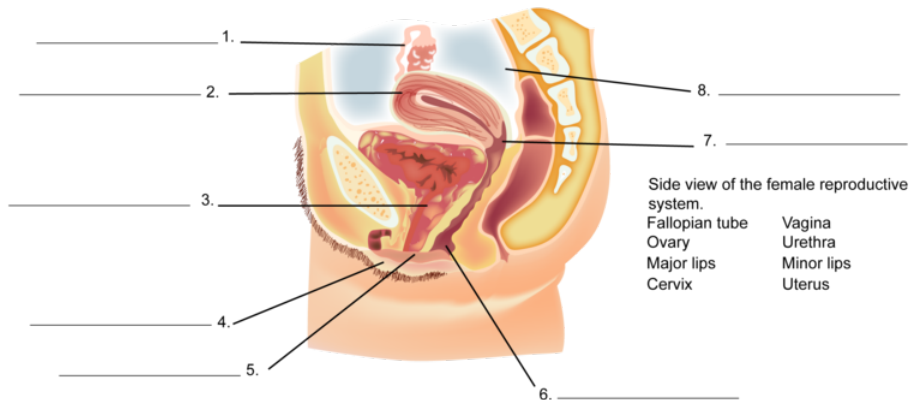


## Activity 2-2 Report: Female Anatomy (Student Reproducible)

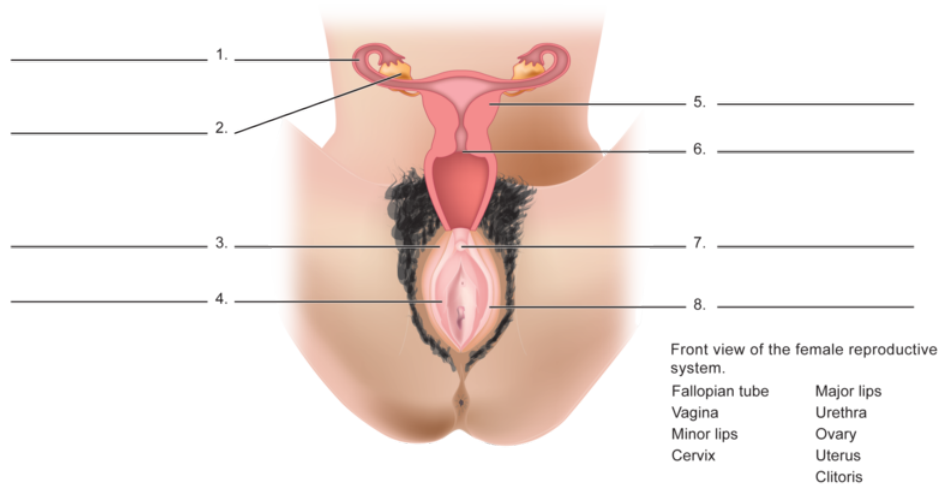
### Instructions

See how many parts of the female reproductive system you can identify and name.

1. Label the numbered body parts using the terms listed with each illustration.
2. After you have completed the labeling, read the text, review your choices, and correct your work if necessary.



Side view of the female reproductive system.  
 Fallopian tube Vagina  
 Ovary Urethra  
 Major lips Minor lips  
 Cervix Uterus



## CHAPTER

**4****Pregnancy and Childbirth -  
Teacher's Guide (Human Biology)****CHAPTER OUTLINE**

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**4.1 PLANNING****4.2 USING PREGNANCY AND CHILDBIRTH – STUDENT EDITION (HUMAN BIOLOGY)****4.3 ACTIVITIES AND ANSWER KEYS**

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## 4.1 Planning

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### Key Ideas

- Pregnancy is a natural condition, not an illness, that is the result of intercourse leading to fertilization and implantation. Conception can occur only around the time of ovulation, but knowing when ovulation occurs is very difficult.
- The embryo grows from a tiny dot, the size of a period at the end of a sentence at implantation, to a 7.5 lb. (on average), fully functioning human infant in about 296 days. A baby is considered premature if it's born before eight months or if it weighs less than 5.8 pounds.
- The placenta grows from fetal and maternal tissue. The size of a plate, the placenta links the baby to the mother, bringing food and oxygen in and taking away waste materials. The baby receives whatever is in the mother's blood-both good and bad.
- The baby plays no active role in childbirth, but is pushed out by contractions of the uterus, which, at term, is a woman's largest muscle.

---

### Overview

Pregnancy and childbirth are the topic of this section. Students learn about how and when conception takes place, then they demonstrate their knowledge by completing *Activity 3-1: The Journey of the Sperm and the Egg* that traces the journey of the sperm and the egg.-Next they examine pregnancy, studying the changes the mother and the fetus go through in each of the three trimesters. The importance of prenatal care is stressed. Childbirth itself is described. The section concludes with *Activity 3-2: Boy or Girl?* in which students see that the sex of a child is determined at the time of conception by whether or not the father's sperm contributes an X or a Y chromosome.

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### Objectives

Students:

- ✓ trace the journey of the sperm and the egg as they travel through the reproductive system.
- ✓ demonstrate the role of the male chromosome in determining the sex of the baby.
- ✓ examine fetal development.
- ✓ discuss the importance of prenatal care.

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### Vocabulary

amniotic fluid, contractions, embryo, endometrium, fetus, fertilization, labor, maternal mortality rate, menstrual period, placenta, premature, prenatal care, trimester, umbilical cord, viability

#### 4.1. PLANNING

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## Student Materials

### Activity 3-1: The Journey of the Sperm and the Egg

- Activity Report

### Activity 3-2: Boy or Girl?

- Activity Report
- Coin (per pair) to toss

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## Teacher Materials

### Activity 3-1: The Journey of the Sperm and the Egg

- Activity Report Answer Key

### Activity 3-2: Boy or Girl?

- Extra coins
- Copy of Activity Report to use as a class tally sheet

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## Advance Preparation

See Activities 3-1 and 3-2 in the Student Edition.

### Activity 3-1: The Journey of the Sperm and the Egg

- None required

### Activity 3-2: Boy or Girl?

- If you wish, familiarize yourself with the story of England's Henry VIII and his quest for a male heir. Other examples would be appropriate, also. The intent is to pique student curiosity.

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## Interdisciplinary Connections

**Math** Calculations are involved in the Mini Activity. Activity 3-2 requires work with percentages and probability.

**Language Arts** Activity 3-1 asks the students to edit and rewrite an essay.

### Background Information

An excellent source on pregnancy, fetal development, and childbirth is *A Child Is Born* by Lennant Nillson (Delacorte Press, 1990). It has a clear and concise text and excellent color illustrations.

---

## 4.2 Using Pregnancy and Childbirth – Student Edition (Human Biology)

Remind students that the male and female reproductive systems are designed to maximize the chances of conception. Pregnancy is a natural consequence of sexual intercourse, not an accident.

Assign the portion of the section relating to pregnancy.

Conduct *Activity 3-1: The journey of the Sperm and the Egg*.

Emphasize the importance of prenatal care as students learn about the development of the baby in the uterus.

The section ends with a description of childbirth. Be prepared for strong reactions and many questions.

Conclude with *Activity 3-2: Boy or Girl?*



### Mini-Activity

**Fertilization Math** Given some assumptions about fertilization, students calculate how long it might take for a sperm to reach an egg.



## 4.3 Activities and Answer Keys

### Activity 3-1: The Journey of the Sperm and the Egg

#### PLAN

**Summary** In this activity the students role-play an editor who must edit an article for a scientific journal.

#### *Objectives*

Students:

✓ describe the journey of the sperm and egg as they travel through the reproductive system, using the correct terminology.

#### *Student Materials*

- Activity Report

#### *Teacher Materials*

- Activity Report Answer Key

#### *Advance Preparation*

None required

**Estimated Time** 10-15 minutes

#### *Interdisciplinary Connection*

**Language Arts** Students write a report for a “Scientific Journal” that describes the journey of the sperm and the egg in the process of reproduction, using the correct terms.

#### *Prerequisites and Background Information*

Students should know the correct terminology for the human reproductive system and should feel comfortable in verbalizing these terms.

#### IMPLEMENT

**Introduce Activity 3-1** by letting them know that they will use the knowledge they have been gaining to edit an essay.

**Steps 1-2** Allow the students 10 minutes to complete the editing. You might have them work in pairs to proofread the work.

**Conclude Activity 3-1** by going over the answers together.

#### ASSESS

Use the activity report to assess if students can

✓ describe the journey of the sperm and egg as they travel through the reproductive system, using the correct terminology.

### Activity 3-1: The Journey of the Sperm and the Egg – Activity Report Answer Key

- Sample answers to these questions will be provided upon request. **Please send an email to teachers-requests@ck12.org to request sample answers.**

Sperm originate in the tubules of each \_\_\_\_\_. From there the sperm travel through a tube called the \_\_\_\_\_ that leads to the \_\_\_\_\_ gland where the sperm enter a single tube called the \_\_\_\_\_. The gland adds more secretions to the sperm to form \_\_\_\_\_. Ejaculation during sexual intercourse forces semen out of the \_\_\_\_\_, and it is deposited inside the \_\_\_\_\_. Sperm, in the semen, are capable of moving on their own by whipping their tails. The sperm move up through the vagina and the \_\_\_\_\_ through an opening called the \_\_\_\_\_. The sperm keep moving inside the uterus until they reach the openings of the \_\_\_\_\_ tubes. Sperm in the fallopian tube that contains the egg make their way towards it. Several hundred sperm may reach the egg, but only one sperm will penetrate its wall and fertilize it. At this moment of conception pregnancy begins.”

- A suggested response will be provided upon request. **Please send an email to teachers-requests@ck12.org.**

*Apply*  
→  
*Your* **KNOWLEDGE**

**If sperm moving up the uterus to the fallopian tubes don't know which tube has an egg in it, what percent chance does each sperm have of choosing the right tube?**



### Mini-Activity

**Embryonic Models** Students construct life-size models of the embryo/fetus at various stages of growth.

#### What Do You Think?

Why might some people prefer to give birth in their own home with a midwife attending, instead of giving birth in a hospital?

- A suggested response will be provided upon request. **Please send an email to teachers-requests@ck12.org.**

*Apply*  
→  
*Your* **KNOWLEDGE**

**Why do you have a belly button, or navel?**

#### What Do You Think?

Can you control what sex child you have?

- A suggested response will be provided upon request. **Please send an email to teachers-requests@ck12.org.**

*Apply*  
→  
*Your* **KNOWLEDGE**

**Why is it even more important than usual for a woman to not smoke, drink, or use drugs when she is or may become pregnant?**

$\xrightarrow[\text{Your}]{\text{Apply}}$  KNOWLEDGE

**Why are most babies in an upside down position in the uterus? Why is it easier for a baby to be born headfirst?**

$\xrightarrow[\text{Your}]{\text{Apply}}$  KNOWLEDGE

**How do twins occur?**

## Activity 3-2: Boy or Girl?

### PLAN

**Summary** In this activity students investigate the “law of averages” as they determine how many girls and boys are likely to be born in a given set of 10 pregnancies.

#### *Objectives*

Students:

- ✓ identify the role of the male chromosome in determining the sex of the baby.
- ✓ explain the probability of having a girl or boy baby.

#### *Student Materials*

- Coin (per pair) to toss;
- Activity Report

#### *Teacher Materials*

- Extra coins;
- Copy of Activity Report to use as a class tally sheet

#### *Advance Preparation*

If you wish, familiarize yourself with the story of England’s Henry VIII and his quest for a male heir. Other examples also would be appropriate. The intent is to pique student curiosity.

**Estimated Time** 10-15 minutes

#### *Interdisciplinary Connections*

**Social Studies** This activity could be embellished if you took a few minutes to talk about King Henry VIII and his nasty habit of beheading or imprisoning his wives because they would not give him a male heir to the throne. Whose fault was this? Students might also research the difficulties of child birth and the high rate of infant mortality in those early days.

**Language Arts or Social Studies** Have “Henry VIII” write a letter of apology to his wives for his “insensitivity to gender identity.”

**Math** Students are determining probabilities.

#### *Prerequisites and Background Information*

Students should understand the roles of the X and Y chromosomes in determining the sex of a baby.

### 4.3. ACTIVITIES AND ANSWER KEYS

## IMPLEMENT

**Introduce Activity 3-1** by telling the story of Henry VIII or by asking the students to explain what they have learned about how the sex of a child is determined.

**Steps 1-2** Divide the class into pairs and give each pair an Activity Report. If possible, a girl should be paired with a boy. If not, designate one partner to be the male, the other to be the female. Ask students to study Figure 3.9.

**Step 3** Each pair should have a coin to toss. The boy should toss the coin since it is the male that determines the sex of the child. Results will be recorded on the Activity Report.

**Step 4** Gather the answers for the number of boys and girls from the entire class and add them together. Since 10 (the number of children possible in this activity) is not a very large number, the fifty-fifty probability of having either sex may not show up among pairs. You may get an uneven number (such as seven girls and three boys) from the class. By adding the sub-totals, the chances are that you will obtain a fairly even number of boys and girls, which is the way it works in population demographics.

## ASSESS

Use the completion of the activity and the written answers on the Activity Report to assess if students can

- ✓ identify the role of the Y chromosome in determining the sex of a baby.
- ✓ explain the probability of having a girl or a boy baby.

## Journal Writing

You are a fetus with exceptional communication skills. Write a letter to your mother and express your concerns regarding the pregnancy and how you want her to take care of herself and you. Tell her about the changes you are going through, and how you are feeling about the prospect of being born.

## Review Questions

- Sample answers to these questions will be provided upon request. **Please send an email to teachers-requests@ck12.org to request sample answers.**
1. What happens to a fertilized egg while traveling to the uterus? How long does the journey take?
  2. What are some signs and symptoms of pregnancy?
  3. Why is prenatal care important?
  4. By the time the fetal heartbeat can be heard, what developments have taken place in the fetus?
  5. What determines the baby's viability if born prematurely?
  6. What is the placenta? Why is it important?
  7. What does labor mean?

## Activity 3-1 Report: The Journey of the Sperm and the Egg (Student Reproducible)

### Instructions

Here are the original instructions given to an author hired to write an essay describing the journey of the sperm and egg as they move towards each other: Write a description of the paths the sperm and egg take, and where they will meet if conception occurs. Be sure to include:

- where the sperm is produced.
- what happens to the sperm after it is produced, but before it gets to the penis.

- where the egg is produced.
- what happens to the egg after it is produced.

The author wrote the essay, but because the author did not know the correct scientific terms, these terms were left out of the essay. As editor you will now complete the essay by writing the correct scientific terms in the spaces provided. Use Figures 3.1 and 3.2 in your book that show the human reproductive system as guides to help you trace the journey of the sperm and the egg.

Sperm originate in the tubules of each \_\_\_\_\_. From there the sperm travel through a tube called the \_\_\_\_\_ that leads to the \_\_\_\_\_ gland where the sperm enter a single tube called the \_\_\_\_\_. The gland adds more secretions to the sperm to form \_\_\_\_\_. Ejaculation during sexual intercourse forces semen out of the \_\_\_\_\_, and it is deposited inside the \_\_\_\_\_. Sperm, in the semen, are capable of moving on their own by whipping their tails. The sperm move up through the vagina and the \_\_\_\_\_ through an opening called the \_\_\_\_\_. The sperm keep moving inside the uterus until they reach the openings of the \_\_\_\_\_ tubes. Sperm in the fallopian tube that contains the egg make their way towards it. Several hundred sperm may reach the egg, but only one sperm will penetrate its wall and fertilize it. At this moment of conception pregnancy begins.

### Activity 3-2 Report: Boy or Girl? (Student Reproducible)

Since the mother always contributes an X chromosome, start by writing X in each of the 10 spaces below the heading “Mother” (as in 1).

**TABLE 4.1:**

	<b>Mother</b>	<b>Father</b>	<b>Sex of baby</b>
1.	X		
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

The second chromosome of the pair (the father’s chromosome) will be decided by the toss of the coin. Let heads mean X and tails mean Y. Toss the coin, and write down the answer in the “Father” column. You will then decide together the sex of the baby.

Your conclusion:

Number of boys = \_\_\_\_\_

Number of girls = \_\_\_\_\_

% Female = \_\_\_\_\_

% Male = \_\_\_\_\_

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CHAPTER **5** **Becoming a Parent - Teacher's Guide (Human Biology)**

**CHAPTER OUTLINE**

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**5.1 PLANNING**

**5.2 USING BECOMING A PARENT – STUDENT EDITION (HUMAN BIOLOGY)**

**5.3 ACTIVITIES AND ANSWER KEYS**

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## 5.1 Planning

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### Key Ideas

- Having children comes from a natural instinct to ensure the survival of the human species. Children used to play an important economic role in the survival of the family, but now they are more often a result of love and a desire to continue the family.
- Families are changing. Today, people wait longer to marry and have children, and more single parents are raising children. (Only one out of four families have mother, father, and kids living in the same house.)
- Adoption and medical interventions allow couples, and even individuals, to become parents, who otherwise couldn't become pregnant.

---

### Overview

This section explores the complex issues surrounding becoming a parent. Students examine the historical context of parenting in this country. The downward trend in the fertility rate and the changes in the traditional family are discussed. Students discuss the options open to infertile couples who wish to be parents. *Activity 4-2: Newborn* is a parenting simulation that lasts a full week, and therefore may extend beyond this unit. In it students become responsible for the complete care and feeding of an egg baby and must behave like responsible parents.

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### Objectives

Students:

- ✓ identify reasons for having (or not having) children.
- ✓ simulate parenting for five days.
- ✓ describe the feelings and responsibilities of being a parent.
- ✓ examine options for infertile couples.

---

### Vocabulary

adopt, artificial insemination, fertility rate, infertile, in vitro fertilization, sterile, surrogate mother

---

## Student Materials

### Activity 4-1: Why Have Children?

- Activity Report

### Activity 4-2: Newborn

- Resource 1
- Raw egg
- Hard candy
- Student-created supplies for newborn

---

## Teacher Materials

### Activity 4-1: Why Have Children?

- None required

### Activity 4-2: Newborn

- Resource 2: Letter Home
- Resource 3: Letter to Faculty and Staff
- 1 dozen raw eggs in reserve

---

## Advance Preparation

See Activities 4-1 and 4-2 in the Student Edition.

### Activity 4-2: Newborn

- Send a letter of introduction to each of the parents and other teachers involved with your students approximately one week prior to the beginning of this activity. A sample letter is included in Resource 2. Many parents may not want their children to participate in the 2:00 A.M. feeding requirement. Decide how you will allow for that without penalizing the student.
- Shortly thereafter, if necessary, a parent meeting can be held to explain the purposes and procedures of this activity to those parents who have questions or concerns.
- Purchase eggs and hard candy if you are providing them. Keep the eggs refrigerated until they are issued.
- It is essential to get the support of other students and teachers who may not be involved in this activity. Resource 3 is a sample letter that can be sent to other teachers. Issuing raw eggs can obviously be a potential problem without school-wide support. It is possible to substitute other items to represent the babies if you feel it is necessary. Students can create paper doll babies, which are also very fragile, to use instead. Work with the student council, leadership classes, advisories, administration, etc. to set the foundation for a successful experience.



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## Interdisciplinary Connections

**Language Arts** One Mini Activity requires students to define new terms. Another asks the students to write a poem. Role-playing and discussion groups help students develop communication skills, and can lead to essay or journal writing. The activity on newborns lends itself to a daily diary.

**Social Studies** The changing role of the American family is discussed, as is the relatively brief history of adolescence. The role of economics as a factor in family size is addressed. There are many opportunities to discuss the different ways in which family life is shaped by culture.

### Background Information

The key concept to establish here is the discrepancy between the biological capacity for parenthood that is present following puberty, and psycho-social readiness to be formed that typically takes part of, or most of, the decade that follows. This will lay down the groundwork for discussing *Adolescent Pregnancy*.

The new assisted reproductive technologies rely on fresh or frozen sperm, eggs, embryos, and/or a “borrowed” uterus, in various combinations. It is important to point out the benefits of these advances to infertile couples, as well as the social and ethical complications they have generated.

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## 5.2 Using Becoming a Parent – Student Edition (Human Biology)

Use *Activity 4-1: Why Have Children?* as an introduction to the section.

Assign the reading of Section 4.

Have students discuss what they see as the most important job a parent has. Ask them to think about the type of parent that they would like to be.

Introduce *Activity 4-2: Newborn*. This activity will span a full week and fits in well with the upcoming sections.

## 5.3 Activities and Answer Keys

### Activity 4-1: Why Have Children?

#### PLAN

**Summary** In this activity students consider the ramifications of parenthood.

**Objective**

Students:

✓ identify reasons for having (or not having) children.

**Student Materials**

- Activity Report

**Teacher Materials**

- None required

**Advance Preparation**

None required

**Estimated Time** 20-40 minutes

**Interdisciplinary Connections**

This activity can be performed in **Guidance** or **Health Education**.

**Language Arts** Students can write two scenarios, one about what their life would be like 20 years from now with children, and another what their life would be like without children.

**Prerequisites and Background Information**

None required

#### IMPLEMENT

**Introduce Activity 4-1** by telling students that over one million teenagers become parents each year in the United States. Most teenage pregnancies are unplanned. Emphasize the importance of thinking about parenthood before becoming a parent.

**Step 1** Allow 5-10 minutes for students to respond individually to the questions in their textbook. These responses should be written on a separate paper and taken with them for group discussions.

**Step 2** Divide the class into groups of about 4 students per group. Give each group one Activity Report. Each group will select one discussion leader and one reporter. Allow sufficient time for the groups to share their responses and record them.

**Step 3** As each group reports to the class, you might write the most common reasons given for having children on the chalkboard, as well as the most important things prospective parents should know and be able to do. See which statements repeat from group to group.

**Conclude Activity 4-1** by asking the class the following questions and discussing their responses.

- What were the most frequently given reasons? Why do you think they were given so often?
- Did girls and boys come up with similar reasons or different reasons? What might the reasons be for these differences if there are any?

## ASSESS

Use the group reports and class discussion to assess if students can:

- ✓ explain the variety of reasons why people would want children.
- ✓ articulate the knowledge and skills a prospective parent should have.



## Mini-Activity

**Family in Poetry** Students write a poem about things important to them when they eventually have a family.

### What Do You Think?

Do you think members of your generation will marry at younger or older ages than present trends (age 25 for women and 27 for men)? Will men and women differ in this respect? Would you like to have many children, a few children, or no children?

### What Do You Think?

Would you adopt a child? Would you adopt instead of having your own biological child if you were fertile? Would you adopt a child from another country?



## Mini-Activity

**New Terms in Reproduction** Students define the terms sperm bank, embryo transfer, and micro-injection, and they explain how they relate to childless couples.

## Activity 4-2: Newborn

### PLAN

**Summary** In this activity the students simulate the responsibilities of parenthood by adopting a raw egg (the newborn) and caring for this newborn for 5 days.

### Objectives

Students:

- ✓ simulate parenting for five days.

- ✓ record their activities.
- ✓ describe the feelings and responsibilities of being a parent.

### ***Student Materials***

- Resource 1
- Raw egg
- Hard candy
- Student-created supplies for newborn

### ***Teacher Materials***

- Resource 2: Letter Home
- Resource 3: Letter to Faculty and Staff
- 1 dozen raw eggs in reserve

### ***Advance preparation***

Send a letter of introduction to each of the parents and other teachers involved with your students approximately one week prior to the beginning of this activity. A sample letter is included in Resource 2. Many parents may not want their children to participate in the 2:00 A.M. feeding requirement. Decide how you will allow for that without penalizing the student.

Shortly thereafter, if necessary, a parent meeting can be held to explain the purposes and procedures of this activity to those parents who have questions or concerns.

Purchase eggs and hard candy if you are providing them. Keep the eggs refrigerated until they are issued.

It is essential to get the support of other students and teachers who may not be involved in this activity. Resource 3 is a sample letter that can be sent to other teachers. Issuing raw eggs can obviously be a potential problem without schoolwide support. It is possible to substitute other items to represent the babies if you feel it is necessary. Students can create paper doll babies, which are also very fragile, to use instead. Work with the student council, leadership classes, advisories, administration, etc. to set the foundation for a successful experience.

***Estimated Time*** 7 days

### ***Interdisciplinary Connections***

**Language Arts** Read to your “newborn” during reading class. Select and evaluate good books for children.

Write an original story for children in language arts class. Write *and tell* an original story to your newborn. Write creative descriptions of daily events in the life of your newborn for your diary.

**Math** Students can create a budget in mathematics class for their role as a parent and maintain accurate records for the week.

**Community Service** Volunteer to baby-sit for someone who needs help after school.

**Art** Students can design toys, mobiles, and wallpaper for the newborn’s room. Draw a picture of the newborn to carry in a wallet. Design clothing.

**Social Studies** Create a service for the parents of the newborns. Build an inventory, advertise, and carry on the business for the week. Keep accurate records. Study child-rearing practices in other countries or among the various ethnic groups in your state or community. Study current events and report on effective and ineffective child-rearing practices.

### ***Prerequisites and Background Information***

Students should know the basic needs of a child.

## **5.3. ACTIVITIES AND ANSWER KEYS**

## IMPLEMENT

**Introduce Activity 4-2** by asking the students to tell you what they think would be easy about taking care of a baby. What do they think would be hard? Write their ideas on the board. Tell them you will save their list until next week when they can see how they feel after being parents for a week. If you want the activity to run from Monday to Friday, then you will need to introduce it on Thursday of the preceding week.

**Thursday:** Issue an Activity Report to each participant and review the entire procedure for this activity. This activity is for *single parents* only. Sharing the duties of parenthood with a *spouse* can be very complicated. Other issues besides parenthood can distract from the purposes of this activity.

**Friday:** Review the creative aspects of this activity. Do any students visualize a newborn service-related business they can either establish or work in to generate additional money? What services/articles would be needed?

Ideas: food, clothing, blankets, baby buggies, baby carriers, books, baby-sitting, diaper service, room decorations, etc.

- Review the “Cost” section of the Activity Report.
- Costs for services must remain within these parameters.
- All articles are reduced in size to fit the newborn.

**Weekend:** Students prepare for the arrival (Monday) of their newborns. They are to bring the basic necessities with them to class: food, clothing, diapers, baby carrier, wash basin, a diary to record daily activities, and a name for the newborn. Entrepreneurs should prepare advertising, set costs, and prepare sample wares.

### *Steps 1-5*

**Monday:** The newborns arrive! Issue one per student.

- Demonstrate how the newborn is to be fed, bathed, and changed.
- Businesses can set up their shops and post advertising.

**Special note:** If a newborn “dies” (breaks) there must be a complete written account in the diary and an oral explanation must be made to the class so that other parents can avoid that situation. The newborn can then be replaced.

**Tuesday-Thursday:** The basic daily routine includes:

- feeding and bathing the newborn,
- changing the newborn’s diaper,
- providing intellectual stimulation,
- socializing with other newborns,
- carrying on business affairs,
- maintaining a ledger to show income and expenses for the business, and
- sharing information with other “parents.”

Times for feeding, bathing, and intellectual stimulation should be quiet times in the classroom. Suitable background music might be played to set the mood. (Is this a business opportunity?)

**Friday:** The newborns are returned to class and:

- diary is completed,
- daily activities are recorded,
- costs are recorded,
- parent signature for each listed home activity is reviewed,

- diaper pail with “soiled” diapers is shown,
- original hard candy is returned, and
- any newborn not returned in a “healthy” condition must have a full explanation written in the diary with an oral explanation given to the class.

**Conclude Activity 4-2** by having a discussion about how parenting WAS as opposed to how they thought it would be. If you’d like, give each student a certificate for responsible parenting.

Students are required to return the following:

- the original, “healthy” newborn
- the diary with the daily events recorded and signed as required
- the diaper pail with “soiled” diapers (dated and signed)
- the original hard candy
- the expense account listing all income and expenses
- Students are required to participate in classroom activities and discussions during which they demonstrate good parenting skills.

## ASSESS

Use the written data, logs, items submitted, participation in classroom activities, and the discussions on parenting to assess if students can

- ✓ explain the basic needs of a baby.
- ✓ demonstrate conscientious effort to care for the newborn by assuming and completing the assigned responsibilities.

---

## Review Questions/Answers

- Sample answers to these questions will be provided upon request. **Please send an email to teachers-requests@ck12.org to request sample answers.**
1. How did children help the family survive in earlier generations?
  2. Why do families have fewer children today than they used to?
  3. Name and define three ways couples who cannot conceive can now become parents.
  4. How is divorce affecting family size and structure?

---

## Activity 4-1 Report: Why Have Children? (Student Reproducible)

### Instructions

1. Select a discussion leader and a reporter.
2. The discussion leader should ask each person to give the reasons they thought people might choose to have children.
3. The reporter should list the responses below.

### Reasons for becoming a parent

4. After all the reasons have been given, have the group identify the three most commonly given reasons.

- Next, the discussion leader should ask all the group members to give their answer to what people should know and be able to do before they become parents to make sure children are well cared for.
- The reporters should list the responses below.

**Things potential parents should know and be able to do**

- As a group, identify the most important things to think about before deciding to have children. List them.

---

## Activity 4-2 Resource 1: Newborn Guidelines for Newborn Care (Student Reproducible)

### Instructions

As most parents discover, you will have to rely on your own instincts and creativity to solve the numerous challenges of raising a child. These instructions present the basic requirements for this simulation. Read and follow these requirements carefully.

**A. These basic needs must be met.**

- food: preparation of formula
- shelter: room with crib, decorations, toys, etc.
- clothing: blanket, daily wearing apparel, diapers
- protection: closely supervised, car seat, carrying device, etc.
- love: held, cared for
- intellectual stimulation: talking, singing, reading, etc.

**Keep a daily record.**

Create a diary or “Baby Book” in which you will record daily activities with your newborn. In the Baby Book, record:

- dates, times, and descriptions of diaper changes, baths, and feedings (with parents / guardian signatures that attest to the correctness of all recorded home activities)
- any times you left your newborn with anyone and signatures of the individual(s) who took care of your newborn in your absence, and
- an accurate record of all income and expenses.

Use this diary for any creative writing, such as your feelings when your newborn came into your life, funny things your newborn did, or reactions toward your newborn from other people. Be as creative as possible. You may also include photographs or drawings of your newborn in various activities during the five days.

**B. Required daily activities for newborn: include the following.**

**Bath** Bathe your newborn at least once a day. To bathe your newborn,

- hold your newborn over a bowl of water for **5 consecutive minutes**,
- place a hard candy on the head of the newborn during this time to help you focus your attention. Make sure you return this hard candy at the end of the simulation.

**Diaper** Change the newborn’s diaper 6 times a day, at least 2 hours apart. One change must be done after the 2:00 A.M. feeding.

- Remove a “soiled” diaper and place into the diaper pail.



- A diaper is “soiled” by writing the date and time of removal upon it.
- All “soiled” diapers and the pail will be turned in at the end of the simulation.
- Place a clean diaper on your newborn and securely fasten it.

**Prepare formula** Prepare your newborn’s formula once a day using the following recipe.

- A quart of water must be boiled and divided into 4 equal size portions for use later in the day.

**Feeding** Feed the newborn 4 times a day, at least 3 hours apart, One feeding must be at 2:00 A.M.

- Newborn must be held for 10 minutes with a hard candy on its head.
- Newborn will be “burped” at the end of the feeding. At the end of the feeding remove the hard candy. Remember to return it at the end of the five days.
- Dispose of one-quarter of your formula at each feeding.

**Intellectually stimulate** your newborn at least 1 time a day for 10 continuous minutes.

- Read, talk, and/or sing to your newborn.
  - Carry a book with you to use during this time.
  - Learn some songs you can sing such as “The Itsy Bitsy Spider.”

**Care** for your newborn at all times! The newborn must always be in the presence of you or another responsible person.

- Remember, if another person cares for the newborn, you must get their signature, record the time, and write the circumstances in your diary.

**Cost** Remember to record all costs of your newborn’s care accurately. For this simulation you have the following budget.

You earn \$5.00 per hour. You work 6.5 hours per day for 5 days a week. Therefore, your gross income is \$162.50 for the next five days.

Your expenses are

- diapers @ \$10 per 24,
- formula @ \$20 per week,
- powders and baby lotions @ \$5 per week,
- baby-sitting @ \$2.50 per hour,
- transportation @ \$1.00 per ride (a ride is considered as a one-way trip to school), and
- rent (no one will have free rent for these five days). Your rent for the next five days is estimated at \$90.00.

Remember to record all your income and expenses in your daily diary. How close were you able to remain within your weekly income?

### C. Evaluation Criteria

**Your success in caring for your newborn will be determined by:**

- your diary: daily events recorded and signed when required,
- your return of your original, healthy newborn,
- your diaper- pail with “soiled” diapers (dated and signed),
- your original hard candy,
- your expense account recording all income and expenses, and
- your participation in class activities and discussions.

### 5.3. ACTIVITIES AND ANSWER KEYS

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## Activity 4-2 Resource 2: Newborn (Student Reproducible)

### Letter Home

Dear \_\_\_\_\_,

As part of our Human Biology curriculum we are now studying the Reproduction Unit. Part of this unit discusses conception and birth. It is hard for a student to imagine the responsibilities of parenthood. We will use a week-long simulation to provide some sense of these responsibilities. Your student will adopt a “newborn” and care for it. The original “newborn,” a raw egg, must be returned in a “healthy” state at the end of the week.

To make the simulation as realistic as possible, the “newborn” will need to be bathed, fed, changed, and intellectually stimulated on a scheduled basis. One of the scheduled feeding and changing times is 2:00 A.M. Formula (a quart of boiled water) will need to be prepared daily. The “newborn” must be in the constant presence of its “parent” or another responsible individual. The “parent” will be given an imaginary weekly income and must live within his/her means. The “parent” will keep a daily diary of activities. You will be asked to attest to the truth of activities that took place at your home.

The “newborns” will arrive on \_\_\_\_\_. Your student will receive a sheet detailing specifics before this date. Please let your student be the responsible individual for this activity.

We know that this simulation may disrupt your family schedule, and that is the reason for this advanced warning. We apologize for any inconvenience. However, we feel there is no better way for students to learn about the responsibilities of parenthood.

Sincerely,

---

### Activity 4-2 Newborn

Please complete and return by \_\_\_\_\_ (date).

\_\_\_\_\_  
Student’s name

I have read the above and understand the basics of the simulation.

\_\_\_\_\_  
Parent’s signature

---

## Activity 4-2 Resource 3: Newborn (Student Reproducible)

### Letter to Faculty and Staff

Dear \_\_\_\_\_,

As part of our Human Biology curriculum we are now studying the Reproduction Unit. Part of this unit discusses conception and birth. It is hard for a student to imagine the responsibilities of parenthood. We will use a week-long simulation to provide some sense of these responsibilities. Your student will adopt a “newborn” and care for it. The original “newborn,” a raw egg, must be returned in a “healthy” state at the end of the week.

To make the simulation as realistic as possible, the “newborn” will need to be bathed, fed, changed, and intellectually stimulated on a scheduled basis. Formula (a quart of boiled water) will need to be prepared daily. The “newborn” must be in the constant presence of its “parent” or another responsible individual. The “parent” will be given an imaginary weekly income and must live within his/her means. The “parent” will keep a daily diary of activities.

The “newborns” will arrive on \_\_\_\_\_.

We know that this simulation may potentially disrupt your classroom, and that is the reason for this advanced warning. We apologize for any inconvenience. However, we feel there is no better way for students to learn about the responsibilities of parenthood.

Sincerely,

## CHAPTER

**6****Adolescent Pregnancy -  
Teacher's Guide (Human Biology)****CHAPTER OUTLINE**

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**6.1 PLANNING****6.2 USING ADOLESCENT PREGNANCY – STUDENT EDITION (HUMAN BIOLOGY)****6.3 ACTIVITIES AND ANSWER KEYS**

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## 6.1 Planning

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### Key Ideas

- The U.S. has the highest rate of teenage pregnancy in the developed world. Most teenage pregnancies are unplanned.
- If you engage in sex you risk pregnancy, sometimes even with contraceptive use, which is not foolproof. The only absolute way to avoid pregnancy is to practice abstinence.
- Teenage mothers are often poor, poorly educated, poorly motivated, involved with unhealthy behaviors (alcohol drugs, unprotected sex), and are less likely to receive prenatal care than other mothers. This often result in more complications, premature babies, and babies with problems (addiction, deformities).
- Teenage mothers and father face a difficult future-education is difficult to complete. Jobs are hard to get. Many feel very isolated, lonely, and overwhelmed. Dependency on others because of a lack of education and the inability to sustain oneself through work creates a cycle of poverty.

---

### Overview

This section addresses the specific problems and issues created by teenage pregnancy in this country. Statistics are given on teenage pregnancy, and the statement is clearly made that the only sure way to prevent pregnancy is to abstain from having sex. Students complete an activity in which they examine the reasons that they believe so many teenager get pregnant. This activity is followed by information about and a discussion of the psychology of adolescent pregnancy. Next students look at the hard choices a pregnant teen must make, and they explore the problems that children born to teenage mothers are at an increased risk of having. The section concludes by focusing on the impact of teenage pregnancy on the lives of the mother and father, including education, economic, lack of freedom, and greatly increased responsibility. The final activity deals with how pregnant teens can cope with, or prevent, these problems.

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### Objectives

Students:

- ✓ examine the statistics on teenage pregnancy in this country.
- ✓ identify the special problems teenage pregnancy can create for females.
- ✓ identify the special problems teenage pregnancy can create for males.

---

### Vocabulary

abortions, abstinence, cycle of dependency, malformed, peer group, sexually active

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## Student Materials

### Activity 5-1: Why Do Adolescents Get Pregnant?

- Activity Report

### Activity 5-2: Problems of Being a Mother and Father

- Activity Report
- 

## Teacher Materials

### Activity 5-1: Why Do Adolescents Become Pregnant?

- None required

### Activity 5-2: Problems of Being a Mother and Father

- None required
- 

## Advance Preparation

‘See Activities 5-1 and 5-2 in the Student Edition.

---

## Interdisciplinary Connections

**Language Arts** Role-playing and discussion groups help students develop communication skills and can lead to essay or journal writing.

**Social Studies** Teenage pregnancy has a tremendous impact on society. Issues such as welfare and the costs of medical care can be addressed in social studies.

**Math** Several Mini Activities require calculations.

### Background Information

Teenage pregnancy is a matter of national concern. In theory, any teenager is at risk; in practice, the level of risk varies widely depending on age, socio-economic class, ethnicity, and other factors.

As a consequence, teachers are likely to face very different student audiences. In one class, no student may have gotten pregnant; in another, a quarter may have been through the experience. Obviously how the topic is presented will have to be tailored to the particular circumstances.

No one has yet figured out how to talk teenagers out of getting pregnant. Education is important, but does not seem sufficient in and of itself. Effective programs for the prevention of teen pregnancy usually combine instruction with the ready provision of contraceptives.

## 6.2 Using Adolescent Pregnancy – Student Edition (Human Biology)

Begin by asking the students what they have planned to do for fun this week. Then ask them how their plans would be changed if they were a teenage parent.

Assign the reading on Why Adolescents Become Pregnant and The Psychology of Adolescent Pregnancy.

Conduct *Activity 5-1: Why Do Adolescents Become Pregnant?*

Assign the reading on the effects of Adolescent Pregnancy.

Conduct *Activity 5-2: Problems of Being a Mother and Father.*

End the section by asking students to list all the things they would like to accomplish and all the goals they would like to have reached before becoming parents.



### Mini-Activity

**Teen Pregnancy Rates-A Little Math Work** Students use the numbers in Figure 5.1 to create a bar graph and to calculate how many of the 9 million teenagers who engage in sex, use contraception.

#### What Do You Think?

Since it is so hard for adolescents to raise a child, why do you think many more of them don't give up their babies for adoption?

#### What Do You Think?

Why do you think children of adolescent mothers have a higher chance of becoming teenage mothers themselves? What could prevent this from happening?

## 6.3 Activities and Answer Keys

### Activity 5-1: Why Do Adolescents Become Pregnant?

#### PLAN

**Summary** In this activity students begin to explore the reasons why adolescents get pregnant. Students are encouraged to look beyond obvious reasons.

#### *Objectives*

Students:

- ✓ identify the reasons why adolescent girls get pregnant.
- ✓ explain the reasons why boys get girls pregnant.

#### *Student Materials*

- Activity Report

#### *Teacher Materials*

- None required

#### *Advance Preparation*

None required

**Estimated Time** 30-40 minutes

#### *Interdisciplinary Connections*

This activity has **Health** connections. It can be expanded to include:

**Social Studies** Research statistics from government agencies on teenage pregnancy.

#### *Prerequisites and Background Information*

None required

#### IMPLEMENT

**Introduce Activity 5-1** by asking students to remember a time when something didn't turn out to be quite what they had planned. Ask them to think about a job that turned out to be more difficult than they thought it would. Would they have thought twice about doing the activity or the job if they had known what it would have really been like, even if they thought it was a good idea at the time? Sometimes we do things to please others, because we haven't thought them through, or because we think that they will solve problems that they won't. We can avoid some of these mistakes by thinking carefully about our reasons and making sure we have a realistic understanding of consequences before we proceed. Pregnancy is one of those things that should be very carefully considered, and that's what this activity is about.



**Step 1** Give each student an Activity Report and allow approximately 10 minutes to complete questions 1-3.

**Steps 2-3** Divide class into small groups (4-6). Try to equalize the number of boys and girls. Each group should select a facilitator and a reporter. Members of the group should share their responses with each other, then share the group report with the class.

**Step 4** After the group and class discussion, individuals write their own position statements on adolescent pregnancy.

**Conclude Activity 5-1** by having students read the Student Edition, and then compare their responses with those of the author. In what way are they alike and in what way are they different?

## ASSESS

Use the Activity Report responses and class discussion to assess if students can

- ✓ identify the reasons why girls get pregnant.
- ✓ explain the reasons why boys get girls pregnant.

### What Do You Think

Why is there such a sharp difference between teenage pregnancy rates in this country and those in other industrialized countries?

### What Do You Think?

What would you say to an adolescent who is thinking about getting pregnant because she wants to become an “adult” quickly?



## Mini-Activity

**Role-play: Becoming a Parent** Students role-play a teenager who would like to become pregnant as a way to get respect and be treated as a grown-up and a counselor trying to convince the teenager that parenthood is not the answer.



## Mini-Activity

**Raising Kids-How Much Does It Cost?** Students use the numbers from Figure 5.2 to create a pie chart and to find the average cost per year of raising a child.



## Mini-Activity

**Teen Parents Looking for a Job** Students role-play a teenager interviewing for a job and the prospective employer. They discuss the concerns that the employer might have.

---

## Activity 5-2: Problems of Being a Mother and Father

### PLAN

**Summary** In this activity students begin to explore the problems of adolescent pregnancy. Both the mother and the father will have problems, not only as partners, but problems as individuals as well. Students' consciousness level of the realities of pregnancy will be raised.

#### *Objectives*

Students:

- ✓ identify the special problems teenage pregnancy can create for females.
- ✓ identify the special problems teenage pregnancy can create for males.

#### *Student Materials*

- Activity Report

#### *Teacher Materials*

- None required.

#### *Advance Preparation*

None required.

**Estimated Time** 30-40 minutes

#### *Interdisciplinary Connections*

This activity has **Health** connections. It can be expanded to include:

**Language Arts/Art** Have students design a brochure to educate teens about the problems of adolescent pregnancy. Have students write brief scenarios of various problems and present them in the form of short skits for class discussion.

#### *Prerequisites and Background Information*

None

### IMPLEMENT

**Introduce Activity 5-2** by asking students to imagine what it would be like if they had to go home today and tell their partner and then their parents that they were pregnant or going to be a father? How would life change in an instant? This activity addresses those issues.

**Step 1** Give each student an Activity Report and allow them approximately 10 minutes to complete it.

**Step 2** Divide the class into small groups (4-6). Try to equalize the number of boys and girls in each group.

**Steps 3-4** Each group should select a facilitator and a reporter. Groups will share their individual responses and discuss them. Groups will report their conclusions to the class for further discussion.

**Step 5** Have students take 5 minutes to write their own position statement on the problems of being a teenage mother or father.

**Conclude Activity 5-2** by asking students to think about which of the problems would be hardest for them to face. Remind them that at the beginning of the class you asked them to think about what it would be like to have to tell

the people close to them that they were going to be a parent. Then ask them to think of three positive things that they would rather be able to tell their partner and parents tonight.

## ASSESS

Use the completion of the activity and the responses on the Activity Report to assess if students can

- ✓ explain the effect on girls of adolescent pregnancy.
- ✓ explain the effect on boys of adolescent pregnancy.
- ✓ identify the special problems and challenges of adolescent pregnancy for both the girl and the boy.
- ✓ explain how this activity has or has not changed their attitude about adolescent pregnancy.

### What Do You Think?

If you were the principal of a high school, would you allow or encourage a pregnant teenager to continue attending classes as long as possible? What are your arguments for and against her doing so?

A suggested response will be provided upon request. **Please send an email to [teachers-requests@ck12.org](mailto:teachers-requests@ck12.org).**

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**Look at the *Did You Know?* on page 31. Calculate the monthly cost of raising two children. If you are a parent on welfare receiving the 1990 average monthly payment is your welfare check enough to cover the cost of caring for your children?**

### What Do You Think?

Do you think welfare encourages a cycle of dependency? Should people in need receive help from the government? If so, for how long should they receive it? Would you put restrictions or conditions on those payments (such as finding a job within six months)?



## Mini-Activity

**Looking at Welfare Payments** Students calculate several different figures based on the information on welfare provided in the Did You Know?

## Journal Writing

You are a social worker. It seems that every day you are assigned a new case concerning a pregnant teen who wants to drop out of school, and often you get a case in which young children, some as young as four or five, are left at home alone, while their young mother goes to work or school. How would you try to help these young mothers address their current problems and try to prevent future ones?

---

## Review Questions/Answers

- Sample answers to these questions will be provided upon request. **Please send an email to [teachers-requests@ck12.org](mailto:teachers-requests@ck12.org) to request sample answers.**

1. Why do adolescents get pregnant? List five reasons.

2. What are two predictors of teenage pregnancy? Why?
3. Can you get pregnant even if you use contraceptives during sexual intercourse? What is the only way to not get pregnant or make someone else pregnant?
4. What physical factors might impact a young teenager's pregnancy more than a more mature woman's pregnancy?
5. Name three factors that make teenage parenthood in American society so difficult.
6. What does a cycle of dependency refer to?

### Activity 5-1 Report: Problems of Being a Mother or Father (Student Reproducible)

1. List 5 reasons why you think some adolescents are willing to risk pregnancy even though they do not want to have children.
2. In your text there are several examples of statements people make when they are pressuring another person to have sexual intercourse and risk pregnancy. How should a person who does not want to risk pregnancy respond to these types of statements?
3. Do you think most adolescents completely understand the impact having a child will have on their life? Why or why not?
4. After you have discussed all these questions with your group, write your own position statement on adolescent pregnancy.

I believe \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### Activity 5-2 Report: Problems of Being a Mother or Father (Student Reproducible)

**TABLE 6.1:**

***Problems during Pregnancy***

**The Mother**

- 1.
- 2.
- 3.
- 4.
- 5.

***Problems during Pregnancy***

**The Father**

- 1.
- 2.
- 3.
- 4.
- 5.

**TABLE 6.2:**

***Problems after the Birth of the Baby***

**The Mother**

- 1.
- 2.

***Problems after the Birth of the Baby***

**The Father**

- 1.
- 2.

**TABLE 6.2:** (continued)

<i>Problems after the Birth of the Baby</i> <b>The Mother</b>	<i>Problems after the Birth of the Baby</i> <b>The Father</b>
3.	3.
4.	4.
5.	5.

---

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**CHAPTER 7**

# Family Planning and Abstinence - Teacher's Guide (Human Biology)

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**CHAPTER OUTLINE**

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**7.1 PLANNING**

**7.2 USING FAMILY PLANNING AND ABSTINENCE – STUDENT EDITION (HUMAN BIOLOGY)**

**7.3 ACTIVITIES AND ANSWER KEYS**

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## 7.1 Planning

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### Key Ideas

- Family planning refers to deciding when and how many (if any) children to have. Some of the considerations are population control, careers, financial situation, religious views, and personal preference. Decisions about sexual activity involve taking control of a crucial part of your life.
- The rate of population growth has slowed, but the numbers continue to rise. People are having fewer children at later ages. Having children is a function of culture-most people do it. So if your culture tends to have large families and not practice birth control, the same is apt to apply to you.
- The only absolute way to avoid pregnancy is abstinence. Abstinence means making an active choice which one commits to, just as one commits to any personal goal. It does not mean one will never have, or never has had, sexual intercourse-it means, for now, one is not willing to accept the risks involved in sexual activity.
- Birth control greatly reduces, but does not eliminate the risk, of pregnancy.

---

### Overview

This section focuses on why both adolescents and adults choose NOT to become parents at a particular stage in their life. Individual and societal issues for not having children, such as overpopulation, are addressed. Although 97% of all adults do eventually become parents, some make a conscious choice to never have children. These choices are examined in an activity. The second half of the section addresses abstinence in detail, and makes it clear that abstinence is not a permanent condition, but a conscious choice for a person who does not want to risk pregnancy at a particular time. Reasons for and against abstinence are given, as well as guidelines for how to make sure you remain abstinent if that is your choice. The last activity looks at the societal impact of teenage pregnancy. Students address the issue of what the government should or should not do regarding the issues of adolescent parenting and welfare reform.

---

### Objectives

Students:

- ✓ identify reasons people give for not choosing to have children.
- ✓ identify similarities and differences for the reasons given by gender.
- ✓ examine the societal issues raised by teenage pregnancy.
- ✓ propose solutions or interventions.
- ✓ examine abstinence as the only sure way to not get pregnant.

---

## Vocabulary

abstain, environmental degradation, family planning overpopulation, sexually transmitted disease (STD), zero population growth

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## Student Materials

### Activity 6-1: Reasons for Not Wanting Children

- Activity Report

### Activity 6-2: Who Decides?

- Activity Report

---

## Teacher Materials

### Activity 6-1: Reasons for Not Wanting Children

- None required

### Activity 6-2: Who Decides?

- 5 Activity Reports per class

---

## Advance Preparation

See Activities 6-1 and 6-2 in the Student Edition.

### Activity 6-2: Who Decides?

- Determine if there are certain students you want in specific roles. Decide how you will arrange the room for the hearing. Think about possible resources to which you can direct your students for research.

---

## Interdisciplinary Connections

**Language Arts** Role-playing and discussion groups help students develop communication skills and can lead to essay or journal writing.



**Social Studies** The issues of overpopulation and population control are addressed and can be discussed in more detail. One activity centers on a mock congressional debate.

**Math** Graphs show population growth and can be used to create math problems. A Mini Activity involves calculation and projections.

### **Background Information**

Peer pressure is generally assumed to be the main reason why teenagers have sex. Actually, national surveys do not bear this out. In one representative sample, “peer pressure” accounted for less than 5% of the reasons given for first sexual intercourse. “Affection for the partner” led the list (48% for women, 25% for men). However, studies of teenagers show that sex among young adolescent girls is usually coerced, often by an older male partner. Thus, among girls ages 13 or younger who have had sex, 60% have done so involuntarily. These percentages decline to 10% by the age 16. The element of coercion is thus a critical factor to consider.

## 7.2 Using Family Planning and Abstinence – Student Edition (Human Biology)

Begin by asking students why they believe some people choose to wait until they are in their 30s to have children. Then ask them why they believe some people choose not to have children at all.

Assign the reading of the first half of the section.

Conduct *Activity 6-1: Reasons for Not Wanting Children*.

Ask students how important the goals and accomplishments they listed at the beginning of the last section are to them. Ask them to think about how important it is to them not to become a parent before they have reached their goals. Tell them that the last portion of this section talks about how to make sure they do not get pregnant before they are ready.

Assign the reading on Abstinence.

End the section with *Activity 6-2: Who Decides?*

### What Do you Think?

Why is overpopulation more likely in poorer countries? And why does it in turn keep them poor?

### What Do You Think?

Explain the statement, “Children are both a blessing and a burden.”

- A suggested response will be provided upon request. **Please send an email to [teachers-requests@ck12.org](mailto:teachers-requests@ck12.org).**

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According to figure 6.1, the population remained at a fairly constant level for hundreds of years before it suddenly exploded. What happened? What two elements had to change for the population to increase so dramatically?

### What Do You Think?

Explore the issue of population growth from a quantitative perspective (how many people there are) and from a qualitative perspective (how good your life is). How does one affect the other? What is quality of life? How does one define it?



### Mini-Activity

**Predict Your School Population** Students predict their school population in 50, 75, and 100 years using assumptions about birth and death rates.

- A suggested response will be provided upon request. **Please send an email to [teachers-requests@ck12.org](mailto:teachers-requests@ck12.org).**

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Why would parents who are older when they decide to have children help slow down the growth of populations? How would that work?



## Mini- Activity

**Debate!** Students debate whether or not the government should ask that couples limit family size to two children.

## 7.3 Activities and Answer Keys

### Activity 6-1: Reasons for Not wanting Children

#### PLAN

**Summary** Previous activities have focused on why people have children. Students now turn to the opposite issue and figure out the reasons for not having children.

#### *Objectives*

Students:

- ✓ identify reasons people give for choosing not to have children.
- ✓ identify reasons people give for delaying having children.

#### *Student Materials*

- Activity Report

#### *Teacher Materials*

- None required

#### *Advance Preparation*

Make one copy of the student Activity Report per group.

**Estimated Time** 30-40 minutes

#### *Interdisciplinary Connections*

**Language Arts** Have students write a short story about the observations of a person who is thinking of having a child when he or she visits a couple of young friends who have a two-year-old child. What would the person see and hear to help him/her decide for or against parenthood?

**Social Studies** Have students research countries that are threatened by overpopulation to find out the problems caused by overpopulation and the proposed solutions to these problems.

#### *Prerequisites and Background Information*

None

#### IMPLEMENT

**Introduce Activity 6-1** by telling students that sometimes it's just as important to think about the negative aspects of something as it is the positive when trying to make an important decision. In this activity they will examine reasons for NOT having children.

**Step 1** Allow approximately 10 minutes for the students to complete their individual responses to questions 1-3 on their Activity Report.

**Steps 2-3** Divide the class into small groups (4-6). Each group will select a facilitator and a reporter. Allow about 15 minutes for the group to compare and discuss their answers.

**Conclude Activity 6-1** by reconvening the class and asking each group to present their conclusions. As each group reports, write the most common reasons given by the girls and then by the boys on the board. Compare and contrast the results. Ask what could account for these similarities and differences. After the discussion, ask students to complete **Step 4** by writing an individual position statement.

## ASSESS

Use Activity Report and class discussions to assess if students can

- ✓ explain the reasons why adolescents do not want to have children.
- ✓ explain the reasons for planning when to have children.
- ✓ identify the reasons why some people do not want to have children of their own at any time during their lives.



## Mini-Activity

**Abstinence** Students discuss abstinence.

### What Do You Think?

Why is communication an important part of practicing abstinence?

### What Do You Think?

Why do you think it is so hard to say no to people in some situations? Are some situations easier than others? Explain why?

---

## Activity 6-2: Who Decides?

### PLAN

**Summary** In this activity students role-play participants in a congressional hearing on welfare reform. A panel of “senators” is investigating the high cost of welfare to adolescent parents. “Special interest” groups present testimony favoring their viewpoints.

### Objectives

Students:

- ✓ examine the societal issues raised by teenage pregnancy.
- ✓ propose interventions to reduce pregnancy.

### Student Materials

- Activity Report (one per team)

### Teacher Materials

- 5 Activity Reports per class

## 7.3. ACTIVITIES AND ANSWER KEYS

***Advance Preparation***

Determine if there are certain students you want in specific roles. Decide how you will arrange the room for the hearing. Think about possible resources to which you can direct your students.

***Estimated Time***

Long version:

20-minute introduction and group planning session

2-3 days for groups to do research in or out of class (teacher discretion) 40 minutes to conduct hearing

Short version:

Eliminate research and complete in one 45-minute block

***Interdisciplinary Connections***

This activity has **Social Science** and **Language Arts** connections.

***Prerequisites and Background Information***

None required. However, you may want to talk to your students about the role of Congress.

**IMPLEMENT**

***Introduce Activity 6-2*** by presenting the situation and going over the activity report.

***Steps 1-2*** On day one, select 3-4 students to role-play the senators. They will listen to the testimony and give their decision, with reasons, at the conclusion of the hearing. Divide the remainder of the class into three groups and give each group plus the senators an Activity Report. Each group will present an argument favoring the point of view assigned to them. The points of view are:

The government should

- provide sex education and contraceptive services.
- provide government money to improve the living conditions of adolescent parents and their families.
- provide education to support abstinence.

If you would like, add a fourth group whose position is that the government should do nothing regarding the issue.

***Step 3*** Give the groups 15 minutes on the first day to plan their approach. Allow 2-3 days for the groups to research the point of view of their “special interest” group using current information.

The senators can research the facts about government spending for social programs in the United States. Is money lacking or is the money misappropriated? Would senators gain or lose votes based on the decisions they must make?

“Ground rules” for the presentation of the testimony are

- Back all claims with factual research where possible.
- Prepare visual displays to enhance their presentations to the senators.
- Each group will select two presenters with a limit of 3 minutes testimony per group.
- Allow 2 minutes of questioning by the senators for clarification at the end of the presentation.
- Group members may help their presenters answer questions.
- One senator will act as the facilitator and call each group, in turn, to testify.
- Set up one table at the head of the class for the senators and one table facing the senators for the presenters. Groups sit with their members in a U shape behind their presenters.

While the groups are preparing their testimony the senators can set up the tables and chairs for the hearing.

**Conclude Activity 6-2** by having the senators announce their decision at the conclusion of the hearing as to which plan they will support and the reasons for that decision.

## ASSESS

Use student presentations to assess if students can

- ✓ compare and explain the conflicts between social problems and government spending.
- ✓ identify possible interventions to reduce teen pregnancy that could be both effective and cost-effective.

## *Journal Writing*

What conditions will have to be in place before you will feel like you are ready to become a parent? What will you want to have accomplished first before you take on that responsibility? How will you make sure that you don't become a parent before you are ready?

---

## Review Questions/Answers

- Sample answers to these questions will be provided upon request. **Please send an email to teachers-requests@ck12.org to request sample answers.**
1. What is the difference between personal and societal reasons for not having children? Give an example of each.
  2. What are some examples of family planning?
  3. What are two reasons that adolescents don't want to have children?
  4. What does abstinence mean? List five things that abstinence does not mean.
  5. Why does abstinence make sense as a way to avoid pregnancy and STDs? Name four reasons.
  6. What are four steps in practicing abstinence?

---

## Activity 6-1 Report: Reasons for Not Wanting Children (Student Reproducible)

### 1. Reasons for not having children during adolescence:

- a.
- b.
- c.
- d.
- e.

### 2. Reasons for choosing to have children later, at a “planned” time.

- a.
- b.
- c.
- d.
- e.

**3. Reasons for deciding never to have children.**

- a.
- b.
- c.
- d.
- e.

**4. After your group discussion, write your personal position statement on this topic.**

---

**Activity 6-2 Report: Who Decides? (Student Reproducible)****Instructions**

You are about to give testimony before a congressional committee investigating the high cost of welfare. They are specifically concerned about adolescent parents and their cost to the taxpayers. As you prepare your 3-minute presentation you might consider answers to these questions:

*Group 1*, “Provide more sex education and contraceptive services.”

- a. What, specifically, needs to be taught?
- b. Where would education be offered for those adolescents who have dropped out of school?
- c. What specific contraceptive services would be offered and by whom?
- d. How will this idea save the taxpayers money?

*Group 2*, “Provide government money to improve the living conditions of adolescent parents and their families.”

- a. Will this mean providing better housing, schools, and health services?
- b. Will this include better job training?
- c. How will this idea save the taxpayers money?

*Group 3*, “Provide education to support abstinence.”

- a. What, specifically, needs to be taught?
- b. Does peer pressure influence adolescents to choose or reject abstinence? What needs to be done?
- c. Where would this education be provided for adolescents who do not attend school?
- d. How will this idea save the taxpayers money?

*Senators*: Listen to each of the presenters carefully. At the conclusion of their testimony ask questions based upon what you have heard and based upon the questions on this sheet. The answers you receive should influence your final decision. Try to keep an open mind and base your decision on the testimony you have heard.



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**CHAPTER 8**

# Contraception - Teacher's Guide (Human Biology)

## CHAPTER OUTLINE

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**8.1 PLANNING**

**8.2 USING CONTRACEPTION – STUDENT EDITION (HUMAN BIOLOGY)**

**8.3 ACTIVITIES AND ANSWER KEYS**

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## 8.1 Planning

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### Key Ideas

- A number of barriers prevent many teens from behaving in smart ways when it comes to sex: ignorance, reluctance to think about the consequences of having sex, or lack of good knowledge about how and when pregnancy can occur. In order to make good decisions in intimate relationships, you must accept your sexuality, understand yourself, know what having sex involves, how contraceptives work, and how to communicate with your friends and partners.
- Three types of effective birth control methods exist: preventing the sperm from reaching the egg, preventing ovulation, preventing implantation. Traditional rhythm and withdrawal methods are not reliable. Birth control is part of a sexual relationship that should involve decision making and communication between partners.
- Every kind of contraception involves typical (actual) and ideal failure rates, has specific costs and benefits, and must be evaluated in terms of the user's current lifestyle, needs, and personality.

---

### Overview

Although abstinence is the preferred choice for adolescence, this section examines contraception for those who have chosen, or will choose, to become sexually active. The first activity is about choosing whether or not to become sexually active. The section stresses that in order for contraceptives to be effective they must be used properly, and even then, all methods, other than abstinence, have failure rates. Students are given six steps that they should follow to minimize their chances of getting pregnant should they choose to become sexually active. Barriers to practicing consistent birth control are identified so that students can eliminate them. The types of contraceptives are grouped by how they work. All methods of contraception discussed in the section list side effects, plusses and minuses, ideal effective rates, and typical failure rates. The final activity in the unit is a review of methods in which students create a comparative chart.

---

### Objectives

Students:

- ✓ distinguish between making a positive decision to do something and being swept up by emotion.
- ✓ identify situations that can lead to poor decision making.
- ✓ describe the advantages and disadvantages of different types of contraception.
- ✓ explain why each type of contraception works.
- ✓ compare the failure rates and side effects of each type of contraception.

---

## Vocabulary

barrier methods, birth control, birth control pills, cervical cap, chemical barrier, condom, contraception, diaphragm, fertile, ideal failure rate, Norplant, oral contraception, sexuality, side-effects, spermicides, sterilization, typical failure rate, withdrawal

---

## Student Materials

### Activity 7-1: What Will They Choose?

- Activity Report

### Activity 7-2: Review of Methods

- Activity Report

---

## Teacher Materials

### Activity 7-1: What Will They Choose?

- Activity Report Answer Key

### Activity 7-2: Review of Methods

- Activity Report Answer Key

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## Advance Preparation

See Activities 7-1 and 7-2 in the Student Edition.

### Activity 7-2: Review of Methods

- Decide if you will use this lesson individually, in pairs, or in small groups.

---

## Interdisciplinary Connections

**Language Arts** Debate, role-playing and discussion groups help students develop communication skills and can lead to essay or journal writing.

**Social Studies** The influence of the media is an issue in this unit.

### 8.1. PLANNING

**Background Information**

The best reference for contraception is *Contraceptive Technology* by Robert A. Hatcher, et al. 16th revised edition, Irvington Publishers, New York, 1994. It is clean, concise, and reliable.

## 8.2 Using Contraception – Student Edition (Human Biology)

Begin by reinforcing the message from the last section, that abstinence is the only certain way to ensure that pregnancy will not occur. Explain that if a person chooses to be sexually active, and still does not wish to become a parent, it is essential to practice contraception consistently to minimize the risk.

Assign the reading up to *Activity 7-1: What Will They Choose?*

Conduct *Activity 7-1: What Will They Choose?*

Explain that not all contraceptives are equally effective, or equally appropriate for a particular situation.

Assign the reading of the rest of the section.

Conduct *Activity 7-2: Review of Methods.*

End by asking students what the only certain way to avoid pregnancy is.



### Mini-Activity

**Mixed Messages** Students spend a week evaluating the messages about sex that they come across in one week. They draw conclusions and share with the class.

A suggested response will be provided upon request. **Please send an email to [teachers-requests@ck12.org](mailto:teachers-requests@ck12.org).**

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**What is the difference between an unplanned and an unwanted pregnancy?**

$\xrightarrow[\text{Your}]{\text{Apply}}$  KNOWLEDGE

**What is the difference between contraception and abortion?**

## 8.3 Activities and Answer Keys

### Activity 7-1: What Will They Choose?

#### PLAN

**Summary** In this activity the students read two scenarios in which young couples are about to engage in sexual intercourse. The students consider these topics:

- Who is making the decision?
- What should they know about pregnancy?
- Does the setting influence the decision?
- Do other people influence the decision?
- What is being accomplished?
- What would be the impact of pregnancy?

#### *Objectives*

Students:

- ✓ distinguish between making a positive decision to do something and being swept up by emotion.
- ✓ identify situations that can lead to poor decision making.

#### *Student Materials*

- Activity Report

#### *Teacher Materials*

- Activity Report Answer Key

#### *Advance Preparation*

None required

**Estimated Time** 30-40 minutes

#### *Interdisciplinary Connection*

**Language Arts** Prepare a 30-second explanation to someone explaining why the student does not want to have sex. Write the explanation on an index card, and carry it like a contract in the student's purse or wallet.

#### *Prerequisites and Background Information*

None required

#### IMPLEMENT

**Introduce Activity 7-1** by asking students if it's easier to make a decision when they have time to think or when someone is pushing for an immediate answer. Ask if they've ever made a hasty decision that they regretted. Have

they ever been caught in a situation where there was trouble that they didn't want to be part of, and they wish they hadn't put themselves in that position? Go over the directions in the student text.

**Steps 1-2** Give each student a copy of the Activity Report. Allow them approximately 6-7 minutes to read the two scenarios and jot down some thoughts.

**Step 3** Then divide the class into small groups (4-6 per group). Each group should select a facilitator and a reporter. The groups should discuss each scenario separately.

**Step 4** As the groups report, write the main points of their conclusions on the chalkboard.

**Conclude Activity 7-1** by asking them when they think is the best time to make a decision.

## ASSESS

Use student discussion of the two scenarios and the Activity Report to assess if students can

- ✓ identify who is making a decision.
- ✓ explain what should be known about pregnancy.
- ✓ identify the influences of the settings and of other people.
- ✓ explain what would be gained/lost if these people had sex.

---

## Activity 7-1: What Will They Choose? – Activity Report Answer Key

- Sample answers to these questions will be provided upon request. **Please send an email to teachers-requests@ck12.org to request sample answers.**
1. Have the four teenagers thought ahead if they should or should not engage in sex? Are they making a careful decision, or letting things happen? Are they taking charge of their actions or letting someone decide for them what will or will not happen?
  2. What should all four of these young people know about pregnancy? What information do they need?
  3. What about the settings of these situations make it more or less likely that they will engage in sex?
  4. In what ways are these two couples being influenced by the expectations of others?
  5. What is it that these people are trying to accomplish by having sex?
  6. What would be the impact of pregnancy on the immediate and long-term plans of these four young people?

### What Do You Think?

How does the phrase “Know thyself” relate to avoiding pregnancy?

A suggested response will be provided upon request. **Please send an email to teachers-requests@ck12.org.**

*Apply*  
→ **KNOWLEDGE**  
*Your*

**How many pills are there in the box? Why not less or more?**



## Mini-Activity

**Persuade the Class!** Students debate whether prescription contraceptives should be available to them without parental consent for users under 18 years old.

A suggested response will be provided upon request. **Please send an email to teachers-requests@ck12.org.**

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Not every woman has 28-day cycles. There may be 36 days between two menstrual periods. The length of the cycle may change. But there is almost *always* 14 days between ovulation and the next menstruation. It's the first part of the cycle (days 1-14) that varies.

If a woman has a 36-day cycle, on what day would she be likely to ovulate?

If a woman has a 21-day cycle, on what day would she be likely to ovulate?



## Mini-Activity

**Debate!** Students debate whether condoms should be available in high schools.

A suggested response will be provided upon request. **Please send an email to teachers-requests@ck12.org.**

$\xrightarrow[\text{Your}]{\text{Apply}}$  KNOWLEDGE

For the following two contraceptive methods, give an example of how the contraceptive method might be used incorrectly, thus contributing to the “typical” failure rate:

- condoms
- spermicides

$\xrightarrow[\text{Your}]{\text{Apply}}$  KNOWLEDGE

What are three benefits to using a condom?

What are three drawbacks to using a condom?

What are two benefits to using a spermicide?

What are two drawbacks?

## Activity 7-2: Review of Methods

### PLAN

**Summary** This lesson is a review of contraception. It may also be used as a quiz or a test.

#### Objectives

Students:

- ✓ describe the advantages and disadvantages of different types of contraception.
- ✓ explain why each type of contraception works.

#### Student materials

- Activity Report

#### Teacher Materials



- Activity Report Answer Key

### ***Advance Preparation***

Decide if you will use this lesson individually, in pairs, or in small groups.

***Estimated Time*** 20-30 minutes

### ***Interdisciplinary Connection***

This activity has **Science/Health** connections.

### ***Prerequisites and Background Information***

Students need to know the various methods of contraception, their rates of effectiveness, and the advantages and disadvantages of each method.

## **IMPLEMENT**

***Introduce Activity 7-2*** by explaining that now it is time to show what they have learned about contraception. If this activity is used as a review, encourage students to answer as accurately as they can without using the textbook first, then refer to it after they have tried all the answers. As a review you can also allow them to work together in pairs or in small groups. However, this also works well as a group quiz or test. If this activity is used as a quiz or as a test you can decide if it will be open or closed textbook.

***Steps 1-3*** Monitor students as they work.

***Conclude Activity 7-2*** by having them use the text to check answers.

## **ASSESS**

Use the completed chart to assess if students can

- ✓ identify the rate of failure for each method of contraception.
- ✓ explain the advantages or disadvantages of different contraceptive methods.

---

## **Activity 7-2: Review of Methods – Activity Report Answer Key**

- Sample answers to these questions will be provided upon request. **Please send an email to teachers-requests@ck12.org to request sample answers.**

Complete this chart. Your teacher will let you know whether or not to use your textbook for answers.

**TABLE 8.1:**

<b>Method</b>	<b>Failure Rate</b>	<b>Advantages</b>	<b>Disadvantages</b>	<b>Why It Works</b>
Abstinence				
The pill				
Hormone implant				
Rhythm method				
Withdrawal				

**TABLE 8.1:** (continued)

Method	Failure Rate	Advantages	Disadvantages	Why It Works
Male condom with- out spermicide				
Male condom with spermicide				
Diaphragm or cervi- cal cap with spermi- cide				
Spermicide alone				

### *Journal Writing*

Your friends have been seeing each other for quite awhile, and their physical relationship is getting more intense. They absolutely do not want to become pregnant, but can't seem to bring up the topic of contraception, having sex, or abstinence. Write a letter to your friend suggesting how you think they might handle their situation. Explain what you think they should do.

## Review Questions/Answers

- Sample answers to these questions will be provided upon request. **Please send an email to teachers-requests@ck12.org to request sample answers.**
1. What are the six steps in the preventive behavior sequence?
  2. What are the elements of good birth control?
  3. Why is birth control part of a sexual relationship?
  4. What are three reasons in favor of the pill as a form of contraceptive? What are three reasons against the pill as a form of contraceptive?
  5. What is the difference between chemical barriers and mechanical barriers?
  6. What are two natural birth control methods, and why are they unreliable?
  7. What are three similarities and differences between the condom, diaphragm, and cervical cap?

## Activity 7-1 Report: What Will They Choose? (Student Reproducible)

### Instructions

Here are two scenarios in which adolescents are about to make a choice. Read each scenario carefully and then, with your group, discuss the questions listed at the end of the reading section.

### Scenario 1

M\_\_\_\_\_ is a 15-year-old sophomore in high school. Though quite intelligent, her interest in school goes up and down. She has given some thought about the future, but has a hard time thinking beyond the next couple of years. Going to college seems exciting but she is not sure if it would be worth the money and hard work. She would like to have a family someday, but that is too far off to think about.

At the beginning of the school year, several months ago, M\_\_ met A\_\_. He is fun to be with, but hard to get to know. There is at least one other girl he seems to like and who is clearly interested in him and willing to do what it takes to

be with him.

Over the next several months, M\_\_ begins to really like A\_\_. He is nice to her but she is not sure if he loves her. They spend more and more time together but don't talk much about their feelings. M\_\_ doesn't talk about her feelings with her friends or family.

One afternoon M\_\_ and A\_\_ are at her house alone. M\_\_'s parents work and her sister is away. This has happened several times before. They talk and have a soft drink while they listen to music. A\_\_ reaches over and they hug and kiss. Then his hands begin to explore her and touch other parts of her body. M\_\_ feels excited and flattered that A\_\_ likes her, but she is also confused and frightened by what is happening. And this time A\_\_ is acting like he wants to push on to sexual intercourse. What should M\_\_ do? What might be the results of her decision?

## Scenario 2

B\_\_ is 16. He is a good student and an athlete. No one in his family has gone to college, but he would like to, maybe even get an athletic scholarship. B\_\_ is shy but popular with the girls.

D\_\_ is 16 also. She too is a good student and athlete. College is certainly an option, but D\_\_ would of like to travel upon graduation before she "settles down." She is not ready to take on the responsibilities of work at this young age.

B\_\_ and D\_\_ only have one class together in high school, but because of their common interests they have become friends. Due to conflicts in class schedules they seldom see each other throughout the day.

The annual class ski trip finds B\_\_ and D\_\_ sharing a seat on the bus ride to the ski slopes. They are happy to be able to spend some time together over this weekend.

That night, after skiing all day together, they go to the dance. D\_\_ invites B\_\_ to her room. Her roommates have hit the slopes for some night skiing and the room is theirs for at least an hour.

They soon become sexually aroused. They discover, however, that neither of them have brought a contraceptive because they never anticipated this situation. There might be a contraceptive machine in one of the restrooms in the building, but their emotions are high and time is short. This situation might not present itself again. After all, what could possibly happen just this once?

Both of these scenarios describe a situation in which some young people may engage in sex. These descriptions don't accurately describe all of the feelings, questions, uncertainties, or exchanges that happen. But for purposes of exploring these issues, consider the following questions in your small groups, and then discuss them in class.

1. Have the four teenagers thought ahead if they should or should not engage in sex? Are they making a careful decision or are they letting things happen? Are they taking charge of their actions or are they letting someone decide for them what will or will not happen?
2. What should all four of these young people know about pregnancy? What information do they need?
3. What about the settings of these situations make it more or less likely that they will engage in sex?
4. In what ways are these two couples being influenced by the expectations of others?
5. What is it that these people are trying to accomplish by having sex?
6. What would be the impact of pregnancy on the immediate and long-term plans of these four young people?

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## Activity 7-2 Report: Review of Methods (Student Reproducible)

Complete this chart. Your teacher will let you know whether or not to use your textbook for answers. List both ideal and typical failure rates where applicable.

**TABLE 8.2:**

<b>Method</b>	<b>Failure Rate</b>	<b>Advantages</b>	<b>Disadvantages</b>	<b>Why It Works</b>
Abstinence				
The pill				
Hormone implant				
Rhythm method				
Withdrawal				
Male condom with- out spermicide				
Male condom with spermicide				
Diaphragm or cervi- cal cap with spermi- cide				
Spermicide alone				

## CHAPTER

**9****Interrupting Pregnancy -  
Teacher's Guide (Human Biology)****CHAPTER OUTLINE**

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**9.1 PLANNING****9.2 USING INTERRUPTING PREGNANCY – STUDENT EDITION (HUMAN BIOLOGY)****9.3 ACTIVITIES AND ANSWER KEYS**

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## 9.1 Planning

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### Key Ideas

- The IUD prevents implantation by changing the lining of the uterus or interfering with the fertilized egg. Currently, the IUD carries a risk of infection and commonly causes bleeding.
- Abortion, either forced or by miscarriage, interrupts pregnancy before the fetus can survive outside of the uterus.
- Abortion brings up legal and moral issues, and may cause emotional and psychological distress.

This section looks at a third type of contraception: those methods that interrupt implantation or stop the development of the fertilized egg. The IUD is the first method examined, followed by RU 486, the morning after pill. Abortion interrupts pregnancy before the fetus can survive outside of the uterus. Natural abortion is called a miscarriage. Intentional abortion arouses very emotional responses. The moral and legal aspects are addressed in this section. Facts regarding abortions in this country are presented, as are the two major points of view regarding abortion. The section ends with an activity in which the students support their own views on abortion.

---

### Objectives

Students:

- ✓ distinguish between contraception and abortion.
- ✓ clarify their personal views on abortion.
- ✓ listen respectfully to the views of others.

---

### Vocabulary

abortion, infanticide, intrauterine device (IUD), “morning after” pill (RU486), miscarriage, pelvic inflammatory disease (PID), pro-choice, pro-life

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### Student Materials

#### Activity 8-1: What Are the Issues?

- Activity Report

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## Teacher Materials

### Activity 8-1: What Are the Issues?

- None required if discussion is open to whole class
- One copy of Activity Report per group if students are divided into groups

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## Advance Preparation

See Activity 8-1 in the Student Edition.

### Activity 8-1: What Are the Issues?

- The abortion issue can elicit emotional responses. Decide if you will handle the discussion as a whole class, or by dividing the class into groups. If you divide the class into smaller groups, consider the groupings carefully.
- If needed, define the term “moral issues.”

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## Interdisciplinary Connections

**Language Arts** Debate and discussion groups help students develop communication skills and can lead to essay or journal writing.

**Social Studies** Abortion is a topic that often makes headlines and is part of current events.

### Background Information

Methods of abortion fall in three categories. The first relies on chemicals (such as RU486) to dislodge the implanted embryo; the second relies on mechanical removal of the embryo (such as vacuum aspiration); the third works by inducing labor (such as by injections).

From a purely medical perspective, abortion is a simple procedure especially when done early. So the key problem is not medical but social, ethical, moral, and/or legal.

As a practical matter, the sooner the procedure is performed, the better the outcome, and the risks for the mother are lessened.

## 9.2 Using Interrupting Pregnancy – Student Edition (Human Biology)

Explain that one type of birth control, different from the methods they learned about in the previous section, involves preventing a fertilized egg from implanting in the uterus. This section will examine that method along with abortion, which is the termination of a pregnancy.

Assign the reading of the section. Be prepared for strong reaction to the topic of abortion. Remind students that it is important to listen and speak respectfully during any discussion, especially when the topic provokes strong feelings. They should keep their statements factual and impersonal.

Conduct *Activity 8-1: What Are the Issues?*

### What Do You Think?

Some people argue that these devices are not contraceptives (which prevent fertilization), but are more like agents that cause abortion, or interrupt the progress of the pregnancy. What is your opinion?



### Mini-Activity

**Debate!** Students debate whether the government should pay for abortions for women on welfare who have no insurance.

**Debate!** Students discuss two statements about abortion and debate the issue.

### What Do You Think?

Would you vote for or against a candidate for the Senate based only on his or her position on abortion? How might voting in this manner affect our system of government?



## 9.3 Activities and Answer Keys

### Activity 8-1: What Are the Issues?

#### PLAN

**Summary** This activity is a class discussion about abortion. Students use a combination of ready-made and self-made scenarios to examine the moral and ethical issues of this potentially emotional subject.

#### *Objectives*

Students:

- ✓ clarify their personal views on abortion.
- ✓ listen respectfully to the views of others.

#### *Student Materials*

- Activity Report (one copy per group)

#### *Teacher Materials*

- None if discussion is open to whole class
- One copy of Activity Report per group if group work is selected

#### *Advance Preparation*

The abortion issue can elicit emotional responses. Decide if you will handle the discussion as a whole class or by dividing the class into groups. If you divide the class into smaller groups, consider the groupings carefully.

If needed, define the term “moral issues.”

**Estimated Time** 40-45 minutes

This activity can be extended depending on class interest.

#### *Interdisciplinary Connections*

This activity has **Guidance/Language Arts/Social Science/Science** connections. It can be extended to include:

**Language Arts or Social Studies** Allow 2-3 days for groups to prepare an oral, written, or visual presentation on “Abortion: Is it ever right?” Limit oral presentations to 5 minutes. Groups should use factual information when possible to avoid a purely emotional response.

#### *Prerequisites and Background Information*

None required

#### IMPLEMENT

**Introduce Activity 8-1** by asking the class what they think makes an issue controversial. Can they list some controversial items that have been in the news the last few years? How should people discuss issues when they have

strongly held differing views? Have they seen examples in the news of bad ways of disagreeing? Have they seen examples of positive ways? Review the ground rules for class discussions. Since these are sensitive issues it is recommended that the class be reminded that everyone is entitled to their views and beliefs. People should be understanding and respectful of other people's views. Address the issues-do not attack the person.

**Steps 1-2** Ask the students to respond to the following question: "Is it ever okay to have an abortion?" Then tell them to put their responses away. At the end of the class discussion they can refer back to their papers to see if they have changed their minds and why.

**Step 3** Read the directions to the Activity Report with your students. The introduction to this activity gives these scenarios:

- a. A woman is raped and later discovers she is pregnant.
- b. A pregnant woman feels she is not yet prepared to give birth and raise a child.
- c. The pregnant daughter of an abusive parent was told that she would be beaten "within an inch of your life" if she ever got pregnant.
- d. A doctor warns a pregnant mother that giving birth again could be fatal to her.
- e. A young, pregnant woman is told by her boyfriend that she must get an abortion or he will leave her.

Students are then asked to write at least one realistic scenario involving a pregnant woman. These should be collected and screened for inclusion in the discussions.

**Step 4** Using any or all of these scenarios, lead the class in a discussion of the moral dilemma of abortion. For each scenario, bring the following questions into the discussion:

- a. What are the moral issues involved? Is abortion "right" or "wrong"?
- b. Who decides if something is "right" or "wrong"?
- c. Where does freedom of personal choice stop and responsibility to others start?
- d. Whose interests are at stake? The mother's? That of the fetus? Society? How do these conflicts get solved and by whom?
- e. When does the fetus become a "person"? Who decides? How do they decide?
- f. Do developing fetuses have a right to be born?
- g. Since we are all entitled to our religious and moral beliefs, how do we decide what law must apply to all people?


An alternative to a whole-class discussion is a group discussion. Give each group a scenario to discuss among themselves, each in turn, as the rest of the class listens. The class can then ask the group to respond to their questions at the end of the group discussion. This will extend the class time and focus the attention of the class on a variety of scenarios.

**Conclude Activity 8-1** by allowing the students about five minutes to refer back to the original question they answered. Did they change their minds? Why? This can be their private, quiet time to reflect, and to calm down before their next class period.

## ASSESS

Use student responses during class discussions and the responses on the Activity Report to assess if students can

- ✓ identify the complexity of the issues surrounding abortion.
- ✓ explain the wide range of beliefs.
- ✓ explain why these questions have no "absolute" answers.
- ✓ identify the factors that affect an individual's opinion about abortion.

 *Journal Writing*

Write a letter to someone who is contemplating an abortion. In your letter, discuss your personal views about abortion.

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## Review Questions/Answers

- Sample answers to these questions will be provided upon request. **Please send an email to teachers-requests@ck12.org to request sample answers.**
1. What are two common side effects of the IUD?
  2. At what point in pregnancy do abortions become illegal in this country?
  3. What does pro-life mean? What does pro-choice mean?

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## Activity 8-1 Report: What Are the Issues? (Student Reproducible)

### Instructions

Your teacher will set the “ground rules” for your group discussion on abortion. Then, your teacher will assign your group a scenario involving a pregnant woman who must make a decision regarding abortion.

Think about and discuss the following as they apply to the scenario you are given:

- What are the moral issues involved? By choosing or not choosing to have an abortion is she making the “right” or “wrong” choice?
- Who decides if this choice is “right” or “wrong”?
- Where does freedom of personal choice stop and responsibility to others begin?
- Whose interests are involved? The mother’s? That of the fetus? Society? How do these conflicts get resolved?
- When does the fetus become a “person”? Who decides? How?
- Does this developing fetus have a right to be born?
- Since we are all entitled to our religious and moral beliefs, how do we decide what law must apply to all people?
- Is it ever OK to have an abortion?

There are no easy answers to these questions. Your generation, like the present generation of adults, has to face the challenging issues of abortion. So, give serious thought to these issues now.

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# CHAPTER **10** Making Decisions - Teacher's Guide (Human Biology)

## CHAPTER OUTLINE

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**10.1 PLANNING**

**10.2 USING MAKING DECISIONS – STUDENT EDITION (HUMAN BIOLOGY)**

**10.3 ACTIVITIES AND ANSWER KEYS**

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## 10.1 Planning

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### Key Ideas

- Decision making is a life-long skill that you can use in the simplest or the most complex decisions you need to make.
- Good decisions come from understanding and recognizing all the choices that are available, choosing one that best suits your life at the time, and following through with the decision.
- The most important element in good decision making is confidence in oneself, and that confidence is something you can build through many opportunities to make decisions on your own.

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### Overview

This section presents a decision-making process to students. Obstacles to good decision making are identified and ways of handling those obstacles are addressed. The final activity in this unit focuses on applying the decision-making process to situations in students' lives.

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### Objectives

Students:

- ✓ examine a six-step decision-making process.
- ✓ practice decision-making skills on a real problem.

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### Vocabulary

None required

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### Student Materials

#### Activity 9-1: Effective Decision Making

- Paper and pencil

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## Teacher Materials

### Activity 9-1: Effective Decision Making

- None required

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## Advance Preparation

None required

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## Interdisciplinary Connections

**Language Arts** Discussion groups help students develop communication skills and can lead to essay or journal writing.

**Social Studies** Students can try applying the decision making process to a problem they identify in society.

### Background Information

After all is said and done, the topic of this unit is by far the most difficult to teach. It is also the most difficult for students to implement in their lives. The reason for this is that making decisions is hardly ever purely rational, especially in the case of young people. They often do not know what they want, or they want different things at different times.

As teachers, we can inform, instruct, and guide, but ultimately each person must make their own choices, and we need to respect their right to do so, but also they must be willing to live with the consequences.

## 10.2 Using Making Decisions – Student Edition (Human Biology)

Tell students that you are about to make a very important decision for them about whether they will get a “D” or an “A” in your class. Pretend to toss a coin, then say, “Sorry, it looks like you’re getting the D.” Ask students if that’s how they would like the important decisions in their life to be made. Tell them that this section will give them a systematic way of making good decisions.

Assign the reading of the section.

Conduct *Activity 9-1: Effective Decision Making*.

End the section and the unit by asking students to summarize, either orally or in writing, the most important pieces of information that they have learned, and how they intend to use this information in their own lives.



### Mini-Activity

**Hindsight Has Perfect Vision** Students analyze a bad decision they made in the past.



### Mini-Activity

**Sources of Advice** Students think of five people who might be a good source of advice and then as a class group these people into categories-friend, coach, religious leader, parent, etc.

#### What Do You Think?

Can you think of several situations in which your intuition is a better judge of what to do than a decision process?

#### What Do You Think?

How might you handle a situation in which you reached a decision, after a careful thought process, but it went against the advice given to you by someone you trusted?

## 10.3 Activities and Answer Keys

### Activity 9-1: Effective Decision Making

#### PLAN

**Summary** In this activity students apply the six steps of effective decision making to a real problem of their choice.

#### *Objectives*

Students:

- ✓ identify the six steps in the decision-making process.
- ✓ examine a real problem.
- ✓ analyze a problem and propose a solution to it.

#### *Student Materials*

- Paper and pencil

#### *Teacher Materials*

- None required

**Estimated Time** 40 minutes

#### *Interdisciplinary Connections*

**Language Arts/Drama/Social Studies** Have students prepare and present, in skits, scenarios of common or not so common problems one faces in daily life. The skit pauses at the end of the problem, the class suggests a solution, and the actors build the solution into their skit (impromptu); or the skit ends at the presentation of the problem and the class discusses possible solutions.

#### *Prerequisites and Background Information*

Students have read and discussed the six steps in Section 9.

#### IMPLEMENT

**Introduce Activity 9-1** by going over the six steps used in the effective decision-making process given in their text.

**Steps 1-3** Divide the class into small groups. Each group will select a real problem that is important to solve by asking for suggestions from the group. No one has to share. It is important to emphasize that names should not be used. This can help to keep confidentiality. The focus should be on the problem and not on the individual.

Sample problems:

- a personal problem
- a problem of a friend or an acquaintance



- a school or a community problem

Allow approximately 25 minutes for each group to apply the six steps to their selected problem. They will write a full description of how the problem can be resolved.

**Step 4** Have each group explain the problem they selected. Either the teacher or the class can select two of the problems/solutions for full-class discussion. (If time permits, the class can continue to discuss other selected problems or these discussions can continue for an additional class period.) The class should consider:

- Has the problem been clearly and correctly identified?
- Are the steps followed sequentially?
- Is there anything that the group may have overlooked or not considered?
- Is the recommendation realistic?
- Follow-up: give this recommendation to the person who has the problem.

**Conclude Activity 9-1** by having each group give their recommended solution to the appropriate person. If feasible, ask this person to report back to the class after they have tried the solution to see how effective this recommendation was. What went well and what did not?

## ASSESS

Use student responses on the Activity Report and their description of solutions for a real problem to assess if students can

- ✓ explain how to make good decisions.
- ✓ create a solution for a real problem.

## *Journal Writing*

Describe a situation in which a teenager may have to make a high-risk choice (sex, drugs, drinking) under peer pressure. Then give your suggested solution.

---

## Review Questions/Answers

- Sample answers to these questions will be provided upon request. **Please send an email to teachers-requests@ck12.org to request sample answers.**
1. What are three elements of good decision making?
  2. What are the six steps in good decision making?
  3. What are four obstacles to good decision making?
  4. In identifying your alternatives, what two choices should you identify first to help you think of others?
  5. What does weighing options refer to? Why is it important?

## CHAPTER

**11**

# Additional Resources Reproduction - Teacher's Guide (Human Biology)

## CHAPTER OUTLINE

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**11.1 USING GROUPWORK ACTIVITIES**

**11.2 PROJECTS**

**11.3 ADDITIONAL RESOURCES**

**11.4 REPRODUCTION GLOSSARY**

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## 11.1 Using GroupWork Activities

These GroupWork activities are the same for the three units in HumBio that fall under the heading Adolescent Topics. These three units are titled *Your Changing Body*, *Sexuality*, and *Reproduction*. If you choose to do all three units, we suggest you implement the GroupWork activities after you have completed the last of the three units. If you choose to do only one of the units, such as this one, we suggest you do the GroupWork activities after you have completed this unit. It is not necessary to do all of these units. However, if you choose to do all three units, it is not necessary to do them in any specific order.

Learning science is a process that is both individual and social. Like researchers, engineers, mathematicians or physicians who work in teams to answer questions and to solve problems, students in science classrooms often need to interact with their peers to develop deeper knowledge of scientific concepts and ideas. The GroupWork activities were developed to foster an environment in which groups of students work cooperatively to:

- plan experiments,
- collect and review data,
- ask questions and offer solutions,
- use data to explain and justify their arguments,
- discuss ideas and negotiate conflicting interpretations,
- summarize and present findings,
- and explore the societal implications of the scientific enterprise.

The GroupWork environment is one in which students are “doing science” as a team. Suggestions about when to introduce these group activities are included in the Teacher Activity Notes.

### Format and Organization of GroupWork Activities

Each GroupWork activity includes teacher activity notes, an activity guide, an individual report, resource materials, and at times, data sheets. The activity guide contains instructions for the group’s task and questions to be discussed as students plan for and work on a group product. Resource materials are varied. They might include textual information, visual resources such as photos, drawings, graphs or diagrams, video, or audiotapes. Individual reports by students are an integral part of each activity to be completed in class or as part of a homework assignment. Planning information for the teacher is found on the Teacher Activity Notes page.

Sets of GroupWork activities are organized around a central concept or a basic scientific question—a “big idea.” Ideally, as students rotate to complete these activities, they encounter this central idea, question, or concept in different scientific contexts or in different social settings. These rotations provide students with multiple opportunities to grapple with the material, explore related questions and dilemmas, look at different representations, and think of different applications. Figure 1 shows how students rotate from activity to activity around the “big idea.”

The GroupWork activities were designed to be open-ended to foster the development of higher-order thinking skills. Such open-endedness allows students to decide as a group how to go about completing the task, as well as what the final group product might be. Open-ended group activities increase the need for interaction as students serve as resources for one another, draw upon each other’s expertise and knowledge, and take advantage of their different problem-solving strategies. When groups are heterogeneous and include students with many different intellectual abilities, the repertoire of strategies and previous experiences is rich and diverse. As students interact with their peers, they learn how to communicate effectively, justify their arguments when challenged, and examine scientific problems from different perspectives. Such interaction scaffolds students’ knowledge of scientific concepts and principles.

These GroupWork activities then are quite different from traditional lab activities that include more step-by-step

procedures and are crowded with details. In addition to reading, writing, and computing (the traditional academic abilities), students use many different intellectual abilities to complete their task. They make observations, pose questions, plan investigations; they use and create visual models, access and interpret scientific information from different sources and from different media, and convey scientific findings in diagrams, graphs, charts, or tables. The use of a wide array of resource materials provides students with additional ways to access and use information, as well as with additional opportunities to demonstrate their intellectual competence and be recognized for their contributions. We have included in the Teacher Activity Notes a partial list of some of the multiple abilities students might be observed using in these group activities.

When group activities are open-ended, rich, and intellectually demanding, a single student will not be able to complete the task in a timely fashion by himself or herself. Making students responsible as a group to interpret a challenging task and to design a common product or group presentation increases group interdependence. Teachers know, however, that it is also important to hold each student personally accountable for contributing to the group's success and for mastering the concepts or the big idea of the activity. To do so, students are required to complete individual written reports in which they respond in their own words to key discussion questions and summarize what they have learned in the group activity. These written responses can be useful for teachers in gauging and monitoring student understanding and progress.

**Role of the Teacher** Planning ahead and organizing the classroom for GroupWork is important for the successful implementation of group activities. We suggest that you refer to Elizabeth Cohen's book, *Designing GroupWork: Strategies for Heterogeneous Classrooms*, published by Teachers College Press in 1994. (See also Lotan, R.A, J.A Bianchini, and N. C. Holthuis (1996). "Complex Instruction in the Science Classroom: The Human Biology Curriculum in Action," in R. J. Stahl, (Ed.) *Cooperative Learning in Science. A Handbook for Teachers*, Addison-Wesley Publishing Company)

Many teachers have realized that when students work in groups, direct instruction is no longer practical. The teacher can't be everywhere at once, telling students exactly what to do and how to do it. Thus, teachers delegate authority to students and students take responsibility for their own behavior and their own learning. Rather than constantly turning to the teacher for help, students talk with each other to find out what they should be doing and to solve the challenging problems assigned to them. Teaching students to work collaboratively and to be responsible to one another as a group is an important prerequisite for successful GroupWork. Students also support the smooth operation of groups when they have learned to play different roles in their groups effectively. For example, the facilitator sees to it that everyone in the group knows what has to be done and gets help when necessary. The recorder keeps notes of the group's discussions and checks to see if individual reports have been completed. The materials manager sees to it that the group has all the equipment necessary and that the tables are cleared at the end of the lesson. The reporter presents the findings of the group during wrap-up time. When the activity involves hazardous materials, a safety officer might be needed. Every student must have a role to play, and roles rotate so students learn how to perform each role competently.

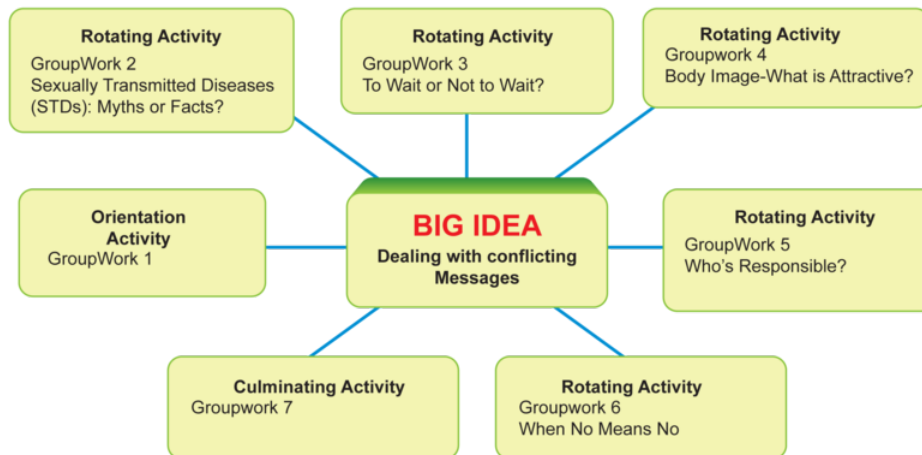
Delegating authority doesn't mean that the teacher Withdraws from the class or completely stays out of the action. Instead of being the focal point of the classroom, the teacher carefully observes the students as they work in the groups, stimulates and extends their thinking, and provides specific feedback.

**Equalizing Participation among Members of the Group** Making sure that all members of the group have access to the materials and that one group member doesn't take over or dominate the group while another withdraws are among the principal challenges of GroupWork. Teachers can increase participation of students by explaining how the different intellectual abilities are relevant to the successful completion of the task. The teacher states that while no one group member has all the abilities, everyone in the group has some of the intellectual abilities necessary to complete the task successfully. Furthermore, after careful observation of the students' work in groups, the teacher can publicly acknowledge those students who have made relevant contributions and explain specifically how these contributions made the group move forward and become more successful. It is important that the teacher be able to notice the intellectual contributions of students who have low academic or peer status, and who are frequently left out of group interactions. These strategies are particularly relevant in untracked classrooms, where students have a wide range of previous academic achievement (mainly in reading) or where significant proportions of students are

English-language learners. Teachers, classmates, and the low-status students themselves need to understand that when many different intellectual abilities are necessary to complete a task successfully, everybody's contribution becomes critical to the success of the group. As more previously low-achieving students feel and are expected to be competent, their participation in the group increases, and subsequently their learning achievements increase as well.

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**Figure 1** Activity Rotation in GroupWork

### GroupWork Contents

**TABLE 11.1:**

Activity	Duration	Materials	Activity Summary
1. Orientation Activity:	30 minutes	None required	Students analyze decisions made by teenagers in popular TV shows about sexually related issues.
2. Sexually Transmitted Diseases (STDs): Myths or Facts?	50 minutes	Art supplies, props, costumes	Students learn about STDs by identifying and distinguishing the facts about STDs from commonly held beliefs about STDs.
3. To Wait or Not to Wait?	50 minutes	Art supplies, props, and costumes	Students learn about the pros and cons of abstaining from sexual intercourse by analyzing quotes and statistics that show contradictions between what teenagers say and what they do.

**TABLE 11.1:** (continued)

<b>Activity</b>	<b>Duration</b>	<b>Materials</b>	<b>Activity Summary</b>
4. Body Image-What Is Attractive?	50 minutes	Art supplies, props, and costumes	Students learn about society's varying perceptions of body image by examining magazines and medical charts. They can then determine their personal definition of attractiveness.
5. Who's Responsible?	50 minutes	Individual surveys, props, and costumes	Students analyze their own and their peers' perceptions of gender roles often associated with sexual relationships between men and women by performing role-play that attempts to break down gender stereotypes.
6. When No Means No	50 minutes	Audio tape, props, and costumes	Students learn about the prevalence of and attitudes or stereotypes towards acquaintance rape by analyzing a poem and data. Then the students write and perform a role-play in which they recommend prevention strategies for their peers.
7. Culminating Activity	50 minutes	Poster paper, marking pens, crayons, or colored pencils	Students learn how to make decisions based on varying opinions and advice by assuming the role of an interest group and recommending strategies for students who are dealing with conflicting messages about sex.

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## GroupWork 1: Teacher Activity Notes - Orientation Activity

### Big Idea: Dealing with Conflicting Messages

#### PLAN

**Summary** As a class, students analyze decisions made by teenagers about sexually related issues in popular TV shows. After discussing the various perspectives and decisions of the teens, students create their own definition of the term “conflicting messages.”

**Group Size** 4 to 5 students

**Objectives**

Students:

- define the term “conflicting messages.”
- analyze and demonstrate the decision-making process.
- explain their own personal values and opinions on sexually related issues.

**Student Materials**

- None required

**Estimated Time** 30-minute period

**Multiple Abilities**

- Retelling a situation, explaining clearly and fully, using words precisely (communication skills)
- Considering multiple perspectives, making connections between ideas/concepts, logically analyzing the problem, applying previous knowledge (reasoning skills)

**Suggested Use**

- This set of activities works well at the end of the unit.

**IMPLEMENT**

- This activity is intended to set the stage for the rest of the GroupWork activities in this unit. The TV programs are used because it seems that students often find it easier to express their feeling and/or opinions when it appears that they are talking about someone else.
- After the activity you may want to share with your students the common steps for making decisions. You can refer students to Section 8 in the HumBio unit *Reproduction* and the end of Section 8 in the unit *Sexuality*.

**Assessment**

Use the group discussion to assess if students can

- clarify the problem, generate options or alternatives, decide on a plan of action, and predict the consequences.
- identify the conflicting messages presented on sexually related issues.
- explain their own personal values and opinions on sexually related issues.

**Extension Questions**

- Some people believe that television and movies have a very strong influence over adolescents and their behavior, and therefore should promote only a safe and positive perspective regarding sex. Do you feel that you and your friends are heavily influenced by the media? Do you think the media has a responsibility to promote positive messages about sex to adolescents?

**GroupWork 1 Activity Guide: Orientation Activity (Student Reproducible)**

**Big Idea: Dealing with Conflicting Messages**

**11.1. USING GROUPWORK ACTIVITIES**

## Introduction

Someday you'll have to make decisions about whether or not to become sexually active. When you do, you need to carefully consider all of the information that is available, your options, and the consequences of your behavior in order to make an informed decision. You can make a plan of action ahead of time, so you won't have to make a last-minute decision about such an important issue.

## Materials

- None required

## Procedure

1. Brainstorm a list of TV shows you have seen recently that involve teenagers, Describe the situations that focused on the topics of sexual relationships, abstinence, birth control, sexually transmitted diseases, or unwanted pregnancy.
2. With your group, discuss the following questions.
  - What was the situation in the TV program?
  - What options were available to the characters in making a decision about sex?
  - What people or things influenced the characters as they tried to decide what to do?
  - What decisions did the characters on the show make about sex?
  - How did the characters arrive at their decision?
  - What were the consequences of the decisions that they made?
  - Does your group agree or disagree with the decisions made by the characters on the show? Why or why not?
3. As a group, identify and list the various messages related to sexual issues with which teenagers are bombarded on TV and in the movies.
  - Who is the source of each of these messages?
  - Why might the source of the messages want to send these messages to teenagers?
4. Based on what you've discussed, create a definition for the phrase "conflicting messages."

---

## GroupWork 2: Teacher Activity Notes - Sexually Transmitted Diseases (STDs): Myths or Facts?

### Big Idea: Dealing with Conflicting Messages

### PLAN

**Summary** Students learn about STDs by identifying and distinguishing the facts about STDs from commonly held beliefs about STDs.

**Group Size** 4 to 5 students

### Objectives

Students:

- distinguish between myths and facts about STDs.
- identify the conflicting messages presented on the topic of STDs.



- analyze information on STDs with a critical eye.
- explain their own personal values and opinions on the prevention of STDs.

### ***Student Materials***

- Resource
- Individual Report
- Art supplies, props, and costumes

### ***Multiple Abilities***

- Clearly articulating a position, explaining clearly and fully, using words precisely, being persuasive (communication skills)
- Making connections between ideas/concepts, applying previous knowledge, considering multiple perspectives, logically analyzing the problem (reasoning ability)
- Creating a role-play, taking the role of another person, expressing emotions, imagining an experience you have never experienced (creative/dramatic ability)

***Estimated Time*** 50-minute period

### ***Suggested Use***

- This set of activities works well at the end of the unit.

## **IMPLEMENT**

- a. It is important for students to read information about STDs, such as Sections 6 and 7 of the unit titled *Sexuality*. These sections provide valuable background information for students. You may wish to assign the reading as homework, or ask students to read the section in groups during class. Provide these sections as resources during the activity.
- b. You may wish to divide students into single-sex groups for this activity. The material is very sensitive and students may feel more comfortable with members of their own gender.

### **Assessment**

Use the group role play, individual report, and group discussion to assess if students can

- distinguish between myths and facts about STDs.
- identify the conflicting messages presented on the topic of STDs.
- research the sources of material to determine the reliability of the information.
- analyze information on STDs with a critical eye.
- explain their own personal values and opinions on the prevention of STDs.

### **Extension Questions**

- What kind of symptoms might lead a person to suspect that they have an STD?
- How can a person avoid contracting an STD?

## **GroupWork 2 Activity Guide: Sexually Transmitted Diseases (STDs): Myths or Facts? (Student Reproducible)**

### **Big Idea: Dealing with Conflicting Messages**

#### **11.1. USING GROUPWORK ACTIVITIES**

## Introduction

Often people don't feel comfortable talking about sex. This is especially true for the topic of sexually transmitted diseases (STDs). Therefore, the boundary between myths and facts about STDs becomes blurred. A sexually transmitted disease is an infection caused by microorganisms (bacteria or viruses) transmitted through the exchange of bodily fluids, typically through sexual contact. What are the facts about STDs and how can we distinguish the facts from the myths?

## Materials

- Resource
- Individual Report
- Art supplies, costumes, props, and written materials about STDs

## Procedure

1. How can you tell the difference between a myth and a fact?
2. Analyze the statements about STDs found on the Resource. Using as many sources of information as you can, decide which statements are facts and which are myths. Discuss the following question.

What are myths about STDs?

3. Your team was hired by a popular music video channel to create a TV commercial aimed at a young audience. As a group, create a script for a role-play that dramatizes the conflicting messages relating to the myths and facts about STDs. Be sure to include several examples from your resource materials, and advise the audience on how to deal with these conflicting messages.
4. Present your role-play to the class using costumes and/or creative props.

## GroupWork 2 Resource: Sexually Transmitted Diseases (STDs): Myths or Facts? (Student Reproducible)

### Big Idea: Dealing with Conflicting Messages

Using as many sources of information as you can, decide which of the following statements are facts and which are myths (and not true).

- a. "I take birth control pills, so I don't have to worry about STDs."
- b. "She looks so healthy, I couldn't possibly get AIDS from her."
- c. "The best way to protect myself against AIDS is not to have sex now at all."
- d. "I would know it if I had an STD."
- e. "Since Anna has AIDS, her unborn baby can also get AIDS."
- f. "I never swim at the community swimming pool because someone there might have AIDS."
- g. "Although my blisters have disappeared, I will never get rid of herpes."
- h. "My boyfriend and I practice safe sex-we use the withdrawal method."
- i. "If it's true love, I won't get STDs."
- j. "I've only had sex once. I won't get AIDS."
- k. "My first thought that I might have syphilis is that I have a rash all over my body."
  1. "It doesn't matter if I get an STD-they're all easily treated by a doctor."
- m. "I'm too young to get an STD."
- n. "I know that a condom doesn't guarantee that I won't get AIDS, but it's the best birth control method to protect me besides not having sex at all."

## GroupWork 2 Individual Report: Sexually Transmitted Diseases (STDs): Myths or Facts? (Student Reproducible)

### Big Idea: Dealing with Conflicting Messages

1. What were the different messages and the sources of messages you included in your role-play?
2. What strategies do you recommend for dealing with the conflicting messages?
3. What would you say to someone who said, “I’ve only had sex with one person, so I know I won’t get AIDS.”?

---

## GroupWork 3: Teacher Activity Notes - To Wait or Not to Wait?

### Big Idea: Dealing with Conflicting Messages

#### PLAN

**Summary** Students learn about the pros of abstaining from sexual intercourse by analyzing quotes and statistics that show contradictions between what teenagers say and what they actually do.

**Group Size** 4 to 5 students

#### Objectives

Students:

- identify conflicting messages on the topic of abstinence.
- explain their own personal values and opinions on abstinence.

#### Student Materials

- Resources 1 and 2
- Individual Report
- Art supplies, props, and costumes

#### Multiple Abilities

- Clearly articulating a position, explaining clearly and fully, using words precisely, being persuasive (communication skills)
- Making connections between ideas/concepts, applying previous knowledge, considering multiple perspectives, logically analyzing the problem (reasoning ability)
- Creating a role-play, taking the role of another person, expressing emotions, imagining an experience you have never experienced (creative/dramatic ability)
- Analyzing data, constructing bar graphs, making inferences about the data (calculating ability)

**Estimated Time** 50-minute period

#### Suggested Use

- This set of activities works well at the end of the unit.

### 11.1. USING GROUPWORK ACTIVITIES

## IMPLEMENT

- a. It is helpful to have students read information about the choice of abstaining from sexual intercourse, such as Section 6 of the unit titled *Reproduction* or Sections 4, 7, and 8 of the unit titled *Sexuality*. You may wish to assign the reading as homework or ask students to read the section in groups during class.
- b. You may wish to divide students into single-sex groups for this activity. The material is very sensitive and students may feel more comfortable with members of their own gender.

### Assessment

Use the group role-play, individual report, and group discussion to assess if students can

- list reasons to abstain from sexual intercourse.
- analyze and present data in graphical format.
- identify the conflicting messages on the topic of abstinence.
- explain their own personal values and opinions on abstinence.

### Extension Questions

- How can you avoid making a rushed decision about whether or not to have a sexual relationship?
- What are the most common reasons adolescents choose abstinence?

## GroupWork 3 Activity Guide: To Wait or Not to Wait? (Student Reproducible)

### Big Idea: Dealing with Conflicting Messages

#### Introduction

There is an overwhelming amount of evidence that shows that abstinence is a healthy decision for a young person. Abstinence means choosing not to have sexual intercourse for the immediate future. Your values and/or personal choice are factors that help you to decide to wait. The decision to abstain from sexual intercourse prevents the risks of an unwanted pregnancy and the transmission of STDs, including AIDS. Why are there so many people who are NOT waiting? How do *you* deal with these conflicting messages?

#### Materials

- Resources 1 and 2
- Individual Report
- Art supplies, props, and costumes

#### Procedure

1. Using the resource materials, create bar graphs to illustrate the rates of pregnancies, venereal diseases, and AIDS.
2. What patterns do you see in the graphs for:
  - teenage pregnancies?
  - venereal diseases?
  - AIDS?

Discuss possible explanations for these patterns.

3. On Resource 2, middle school students gave reasons for being responsible in making decisions about sex. How would you explain the contradiction between what students *say* and the trends shown in the *data*?

4. Your brother or sister is seeking your advice about whether or not to have sex. As a group, create a script for a role-play that dramatizes the discussion between two siblings and the conflicting messages related to making this decision. Be sure to include all the viewpoints presented in your resource materials and demonstrate the strategies you would suggest to your sibling for dealing with these conflicting messages.

Present your role-play to the class using costumes and/or creative props.

### GroupWork 3 Resource 1: To Wait or Not to Wait? (Student Reproducible)

#### Big Idea: Dealing with Conflicting Messages

**TABLE 11.2: Table 1: Birth Rates from 1983 to 1991 (per 1,000 women)**

	1983	1984	1985	1986	1987	1988	1989	1990	1991
10 to 14 years old	1.1	1.2	1.2	1.3	1.3	1.3	1.4	1.4	1.4
15 to 19 years old	51.4	50.6	51.0	50.2	50.6	53.0	57.3	59.9	62.1

**TABLE 11.3: Table 2: Disease Reported from 1970 to 1992**

	1970	1980	1985	1987	1988	1989	1990	1991	1992
AIDS	N/A	N/A	8,249	2,107	31,001	33,722	41,595	43,672	45,472

**TABLE 11.4: Table 3: Reported Disease from 1970 to 1992 (per 1,000 people)**

	1970	1980	1985	1987	1988	1989	1990	1991	1992
Gonorrhea	600	1004	911	781	720	733	690	620	501
Syphilis	91	69	68	87	103	111	134	129	113

Statistics are from *Statistical Abstract of the United States 1994*, U.S. Department of Commerce, Economic and Statistics Administration, Bureau of the Census, 114th Edition, pages 76 and 138.

### GroupWork 3 Resource 2: To Wait or Not to Wait? (Student Reproducible)

#### Big Idea: Dealing with Conflicting Messages

I want to be responsible in making decisions about sex because . . .

- “Sex could change your life because if you get your partner pregnant, then she won’t be able to go to college, and you’ll be paying child support.” (male)
- “I want to live a long life.” (female)
- “When I get older I’m planning to go to college and get a lot of money, and I don’t want anything to interfere.” (female)
- “I want to be responsible for my decisions about sex, because if I do the wrong decisions I could get AIDS or something.” (male)
- “I need to decide when I’m ready to do sex.” (male)
- “I want to make sure I love the boy and don’t catch an STD.” (female)
- “I don’t want to get pregnant or catch any type of disease.” (female)

- “I don’t want to have to deal with a baby.” (male)

*Quotes are from students at a middle school in California.*

### GroupWork 3 Individual Report: To Wait or Not to Wait? (Student Reproducible)

#### Big Idea: Dealing with Conflicting Messages

1. How would *you* explain the contradiction between what students say and the trends shown in the data?
2. How can you avoid making a rushed decision about whether or not to have a sexual relationship?
3. How would you complete the following phrase?

I want to be responsible in making decisions about sex because. . .

### GroupWork 4: Teacher Activity Notes - Body Image-What Is Attractive?

#### Big Idea: Dealing with Conflicting Messages

#### PLAN

**Summary** Students learn about society’s varying perceptions of body image by examining magazines and height/weight charts. They can then determine their personal definition of attractiveness.

**Group Size** 4 to 5 students

#### Objectives

Students:

- define the term attractiveness.
- identify the conflicting messages relating to the issue of body image.
- explain their own personal values and opinions on the issue of attractiveness.

#### Student Materials

- Resource
- Individual Report
- Art supplies, props, and costumes, magazines containing pictures of male and female models

#### Multiple Abilities

- Clearly articulating a position, explaining clearly and fully, using words precisely, being persuasive (communication skills)
- Analyzing visuals, detecting subtle messages, making connections between ideas/concepts, applying previous knowledge, considering multiple perspectives, logically analyzing the problem (reasoning ability)
- Creating a role-play, taking the role of another person, expressing emotions, imagining an experience you have never experienced (creative/dramatic ability)

**Estimated Time** 50-minute period

#### Suggested Use

- This set of activities works well near the end of the unit.

## IMPLEMENT

- Have students bring in popular magazines with many pictures of male and female models approximately 2-5 days before the day of the activity.
- Have students read Sections 6, 7, and 8 of the unit *Your Changing Body*. You may wish to assign the reading as homework or ask students to read the section in groups during class time.
- You may wish to divide students into single-sex groups for this activity, as the material is very sensitive and students may feel more comfortable with members of their own gender.

### Background Information

Sections 6, 7, and 8 of the unit *Your Changing Body*

### Assessment

Use the group role-play, individual report, and group discussion to assess if students can

- define the term “attractiveness.”
- identify the conflicting messages relating to the issue of body image.
- explain their own personal values and opinions on the issue of attractiveness.

### Extension Questions

- In your opinion, why have doctors developed these types of charts?
- Where do you think the magazine images fit into the chart?

This is a wonderful time to reinforce for students that there are healthy ways to make changes to your appearance through the use of a nutritious diet and exercise.

## GroupWork 4 Activity Guide: Body Image-What Is Attractive? (Student Reproducible)

### Big Idea: Dealing with Conflicting Messages

#### Introduction

During adolescence your body is growing and changing. This usually changes your own perception of your body. This is also the time that you become acutely aware of how other people perceive you. We all want to be attractive, but what does it mean to be attractive? In this activity, you determine what it means to you to be attractive.

#### Materials

- Resource
- Individual Report
- Art supplies, props, and magazines that include pictures of male and female models

#### Procedure

- What is “attractiveness”? With your group, brainstorm a list of qualities that defines an attractive male and an attractive female. How did the list for females compare with the list for males?
- Discuss the following questions with your group.
  - How do the magazine images in the resource materials compare to your group’s definition of attractiveness?
  - How do the magazine images compare to an average person as defined by the medical charts?
  - Why have the magazines selected these types of body images? What messages are being sent in these images?

### 11.1. USING GROUPWORK ACTIVITIES

- Imagine that a good friend is seeking your advice about his or her body image. As a group, create a script for a role-play that dramatizes the conflicting messages related to body image. Be sure to include all the viewpoints presented in your resource materials and demonstrate the strategies you would suggest to your friend for dealing with these conflicting messages.
- Present your role-play to the class using costumes and/or creative props.

### GroupWork 4 Resource: Body Image-What Is Attractive? (Student Reproducible)

#### Big Idea: Dealing with Conflicting Messages

#### Height VS. Weight Chart displayed at doctor's offices, fitness clubs

**TABLE 11.5: Women's Weight/Height Chart**

Height Feet/Inches	Small Frame	Medium Frame	Large Frame
4'10"	102-111	109-121	118-131
4'11"	103-113	111-123	120-134
5'0"	104-115	113-126	122-137
5'1"	106-118	115-129	125-140
5'2"	108-121	118-132	128-143
5'3"	111-124	121-135	131-147
5'4"	114-127	124-138	134-151
5'5"	117-130	127-141	137-155
5'6"	120-133	130-144	140-159
5'7"	123-136	133-147	143-163
5'8"	126-139	136-150	146-167
5'9"	129-142	139-153	149-170
5'10"	132-145	142-156	152-173
5'11"	135-148	145-159	155-176
6'0"	138-151	148-162	158-179

**TABLE 11.6: Men's Weight/Height Chart**

Height Feet/Inches	Small Frame	Medium Frame	Large Frame
5'2"	128-134	131-141	138-150
5'3"	130-136	133-143	140-153
5'4"	132-138	135-145	142-156
5'5"	134-140	137-148	144-160
5'6"	136-142	139-151	146-164
5'7"	138-145	142-154	149-168
5'8"	140-148	145-157	152-172
5'9"	142-151	148-160	155-176
5'10"	144-154	151-163	158-180
5'11"	146-157	154-166	161-184
6'0"	149-160	157-170	164-188
6'1"	152-164	160-174	168-192
6'2"	155-168	164-178	172-197
6'3"	158-172	167-182	176-202
6'4"	162-176	171-187	181-207



## GroupWork 4 Individual Report: Body Image-What Is Attractive? (Student Reproducible)

### Big Idea: Dealing with Conflicting Messages

1. Which resource contained the most appealing message for your group? Why?
2. How did the images make you feel about your own body?
3. According to the medical chart, what is your weight range for your specific height and frame?
4. Why do you think some people (girls and guys) go to extreme measures such as eating disorders to attain an ideal body image?

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## GroupWork 5: Teacher Activity Notes - Who's Responsible?

### Big Idea: Dealing with Conflicting Messages

#### PLAN

**Summary** Students analyze their own and their peers' perceptions of gender roles that are often associated with sexual relationships between men and women by performing a role-play that attempts to break down gender stereotypes.

**Group Size** 4 to 5 students

#### Objectives

Students:

- describe stereotypes about gender roles that may exist in their peer group and/or society.
- identify the conflicting messages on the topic of gender roles.
- explain the need for equality between males and females in all steps of a relationship, from dating, to issues of intimacy, sex, and birth control, to parenting.

#### Student Materials

- Data Sheet
- Individual Report
- Props, costumes

#### Multiple Abilities

- Clearly articulating a position, using words precisely, explaining clearly and fully (communication skills)
- Making connections between ideas/concepts, analyzing data, considering multiple perspectives (reasoning ability)
- Creating a role-play, expressing emotion, assuming the role of another person (creative/dramatic ability)

**Estimated Time** 50-minute period

#### Suggested Use

- This set of activities works well near the end of the unit.

### 11.1. USING GROUPWORK ACTIVITIES

## IMPLEMENT

- a. It would be helpful to have the following sections from the text available to students during this activity. You may also wish to assign Section 2: Dating and Romantic Feelings, Section 4: Adolescent Sexual Behavior, and Section 5: Sexual Abuse and Coercion in the unit *Sexuality*, as well as Section 3: Pregnancy and Childbirth in the unit *Reproduction* as reading for homework before completing this activity.
- b. Keep students' surveys as each group completes this activity, so that students can analyze and compare the responses of girls and boys once there are enough surveys to see trends.

### Assessment

Use the group role-play, individual report, and group discussion to assess if students can

- describe stereotypes about gender roles that may exist in their peer group and/or society.
- identify the conflicting messages on the topic of gender roles.
- explain the need for equality between males and females in all steps of a relationship, from dating, to issues of intimacy, sex, and birth control, to parenting.

### Extension Questions

- What is one gender stereotype in your group that was counteracted by completing this activity?
- Students could give the survey to other students at school and their parents, comparing their results and analyzing variables in their subjects such as gender, age, or year in school.

## GroupWork 5 Activity Guide: Who's Responsible? (Student Reproducible)

### Big Idea: Dealing with Conflicting Messages

#### Introduction

Across cultures and throughout history, there has been a wide variation in the way people think about the roles of men and women in romance, reproduction, and parenting. We develop ideas about what men and women are supposed to do, depending on the messages we get from society, our parents, our friends, and each other. In this activity you identify and break down some of the common messages/attitudes/stereotypes held by men and women about who is responsible for issues surrounding sex.

#### Materials

- Individual Report
- Props, costumes

#### Procedure

1. Each person in the group should fill out the Individual Survey on "Who's Responsible?" without discussing it.
2. After all group members have finished their surveys, compare your survey answers using the following guidelines.
  - In what ways were your answers similar to one another? In what ways were they different? Was there a difference between male and female responses?
  - Why did each of you answer the way you did? What experiences or people in your life influenced your answers to the survey?
  - What would you like members of the opposite sex to know about who's responsible for these issues? This is your chance to educate each other!

3. As a group, choose one of the issues from the “Individual Survey on Who’s Responsible?” Create a script for a role-play that dramatizes and breaks down the stereotypes or misperceptions that men and women might have about that issue. Be sure to include all the viewpoints presented in your resource materials. Make sure you consider realistic situations and provide/demonstrate strategies on how men and women can share responsibility for issues surrounding dating, sex, and parenting.
4. Present your role-play to the class using costumes and or creative props.

### GroupWork 5 Individual Report: Who’s Responsible? (Student Reproducible)

#### Big Idea: Dealing with Conflicting Messages

#### Individual Survey on Who’s Responsible?

Put a check mark in the appropriate column for who you think is responsible for each action.

TABLE 11.7:

	Male	Female
<b>DATING</b>		
1. Making the first move (or asking someone out)		
2. Deciding where you will go and what you will do on the date		
3. Paying for the date		
4. Initiating physical contact		
5. Deciding how intimate you will become		
6. Proposing a more serious relationship or marriage		
<b>REPRODUCTION</b>		
7. Initiating conversation about whether or not to have sexual intercourse		
8. Bringing up the subject of birth control in your conversation		
9. Deciding whether or not you have sexual intercourse		
10. Finding out about purchasing birth control devices		
11. Making decisions about an unwanted pregnancy		
<b>PARENTING</b>		
12. Taking care of the child, or deciding what kind of child care you will use		
13. Financially supporting the child		
14. Helping a child with school-work		
15. Teaching life skills to a child		

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## GroupWork 6: Teacher Activity Notes - When No Means No

### Big Idea: Dealing with Conflicting Messages

#### PLAN

**Summary** Students learn about the prevalence of and attitudes/stereotypes towards acquaintance rape by analyzing a poem and data. They then write and perform a role-play recommending prevention strategies for their peers.

**Group Size** 4 to 5 students

#### Objectives

Students:

- define what is meant by “acquaintance rape” or “date rape.”
- describe gender stereotypes associated with acquaintance rape.
- explain how confidence and awareness can prevent acquaintance rape from happening to them.

#### Student Materials

- Resources 1 and 2
- Individual Report
- Props, costumes

#### Multiple Abilities

- Clearly articulating a position, using words precisely, explaining clearly and fully (communication skills)
- Making connections between ideas/concepts, analyzing data, considering multiple perspectives (reasoning ability)
- Creating a role-play, expressing emotion, assuming the role of another person (creative/dramatic ability)

**Estimated Time** 50-minute period

#### Suggested Use

- This set of activities works well near the end of the unit.

#### IMPLEMENT

- a. You may wish to divide students into single-sex groups for this activity, as the material is very sensitive and students may feel more comfortable with members of their own gender.
- b. Have students read Section 5: Sexual Abuse or Coercion in the unit *Sexuality* as preparation for this activity.
- c. According to the statistics, it is very likely that some of your students are rape victims. Be very sensitive to any jokes or stereotypes about rape in the classroom. You may wish to offer an alternative assignment to anyone who feels very uncomfortable completing this activity or for anyone who behaves inappropriately.
- d. You may want to continue a discussion on this issue, making sure not to alienate the boys in the classroom. Young men are a common target for rape just as women are, and boys should not be made to feel accused or responsible for violence against women unless they encourage it.

#### Assessment

The group role-play, individual report, and group discussion can be used to assess whether students can

- describe gender stereotypes associated with acquaintance rape, such as blaming the victim, and their own misconceptions about what kind of person gets raped, and what kind of person rapes another.
- identify ways to communicate their feelings about sexual intercourse to peers.
- explain how confidence and awareness can prevent acquaintance rape from happening to them.

### Extension Questions

- Imagine you are a member of the opposite sex. How would your view of acquaintance rape change?

## GroupWork 6 Activity Guide: When No Means No (Student Reproducible)

### Big Idea: Dealing with Conflicting Messages

#### Introduction

Young men and women receive conflicting messages about sex not only from the media and other sources, but also from each other. How can you tell if someone is interested in you? How can you tell someone that you are interested in him or her without feeling embarrassed? How do you let someone know what behaviors you DON'T like? In this activity you analyze quotes and statistics about acquaintance rape. This will allow you to identify and combat some commonly held beliefs and attitudes about how this tragedy occurs and how to prevent it.

#### Materials

- Resources 1 and 2
- Individual Report
- Props, costumes

#### Procedure

1. Read your Resources carefully, taking turns reading the quotes aloud, and discuss the following questions:

Analyze the information reported in Resource 1.

- What does the poem “Date Rape” tell you about how the girl felt?
- How does this poem illustrate the idea of informed consent?
- Could a boy have written this poem? Why or why not?

Analyze the information reported in Resource 2.

- What are the three most important messages that you found in these quotes?
- How did your group decide what was more or less important?
- From your understanding of the information, what rules of behavior would you follow when you are interested in someone? What rules of behavior would you follow when you are not interested in someone?

2. You are the columnist for a newspaper advice column for teens. The poem “Date Rape” was sent to you in a letter asking for advice. Write a response letter with advice to your readers on how both males and females could prevent a similar situation from happening.

3. Present your work to the class by summarizing the poem “Date Rape” in your own words and then reading your advice letter.

## GroupWork 6 Resource 1: When No Means No (Student Reproducible)

### Big Idea: Dealing with Conflicting Messages

#### 11.1. USING GROUPWORK ACTIVITIES

## Voices Speaking about Date Rape

### Date Rape

It was the night of the prom

The evening of romance

I knew he would want sex

So all I did was prance

When the time did come

I was no longer sure

“No” is what he heard

Cuz “No” is what I said

But “Yes” is what he wanted

Yet “No” is what I flaunted

Cuz “No” is what I meant

And “No” is what I fought

But “Yes” is what he got

*-8th grade student*

### Other Voices:

“Why should I have to be afraid to go places? It’s not right! Why should I be the one to give up doing what I want, just because there are a few jerks around?”- *Annie’s Promise*.

“I hate it that when I walk around at night, women start to walk faster and look scared when they see me. I’m a good person! I want to walk up to them and tell them, Hey, I’m not a monster, I’m just a guy. Not all men are rapists.”- *adult male*

“I know it when someone wants to have sex with me even if they don’t say it. You can just tell. They dress a certain way, they act a certain way- It’s obvious that they want it.” - *adult male*

## GroupWork 6 Resource 2: When No Means No (Student Reproducible)

### Big Idea: Dealing with Conflicting Messages

#### Facts About Sexual Assault

“Adolescent victims (less than 20 years old) were more likely to be assaulted by an acquaintance or relative and to delay medical evaluation than were women 20 years of age and older.”

*[Obstetrics and Gynecology, 1994]*

“A study of 114 women college students showed that 28% acknowledged that they were victims of rape or attempted rape, and the majority reported multiple victimizations. Of 108 men college students, 17% admitted to committing acts that meet the legal definition of sexual assault, and about 30% admitted that they continue to make sexual advances even after a woman says no.”

*[Social Work, 1992]*

“Of a mostly heterosexual sample of 204 college men, 34% reported that they had experienced incidents of coercive sexual contact since age 16: 24% from women, 4% from men, and 6% from both sexes. In 88% of the incidents, sexual contact was pressured by tactics of persuasion, intoxication, threat, promise of love, withdrawal, and bribery.

In 12% of the cases, contact was forced through physical restraint, physical intimidation, threat of harm, or harm.”

*[Archives of Sexual Behavior, 1994]*

“In the evaluation of a sexual assault prevention program, it was found that the program was effective in decreasing the incidence of sexual assault for women without a sexual assault history. The program also led to a decrease in dating behaviors found to be associated with acquaintance rape and an increase in knowledge about sexual assault.”

*[Journal of Consulting and Clinical Psychology, 1993]*

“In a study about acquaintance rape and high school students, 20% of students reported they had experienced forced sex. Of those students, only *half* had told about the experience.”

*[Journal of Adolescent Health, 1993]*

“Advocates of self-defense training assert that this kind of training will help to prevent future violence by developing traits such as assertiveness and confidence in individuals. There is evidence that women who convey such characteristics are less likely to be victimized.”

*[Journal of American College Health, 1992]*

“Sexual assault continues to represent the most rapidly growing violent crime in America. Vital legal reforms are underway, but statistics prove a persistent rise in rape incidence with poor conviction rates. This knowledge, along with the vast multitude of emotional crises that come with rape and the self-perceived inferior legal status of women, results in a high percentage of unreported cases.”

*[Obstetrical and Gynecological Survey, 1993]*

“Estimates are that one in four women will be sexually assaulted at some time during her life.”

*[Primary Care, 1993]*

## GroupWork 6 Individual Report: When No Means No (Student Reproducible)

### Big Idea: Dealing with Conflicting Messages

1. Why do you think people sometimes have differing views about how acquaintance rape occurs?
2. Why do *you* think date rapes occur?
3. Imagine you are a member of the opposite sex. How would your view of acquaintance rape change?
4. Based on what you learned from this activity, what rules of behavior would you personally follow when you are interested in someone? When you are not interested in someone?

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## GroupWork 7: Teacher Activity Notes - Culminating Activity

### Big Idea: Dealing with Conflicting Messages

#### PLAN

**Summary** Students learn about and analyze different viewpoints regarding what students should learn about sex. They assume the role of an interest group and develop strategies for students to deal with the conflicting messages about sex.

**Group Size** 4 to 5 students

#### Objectives

#### 11.1. USING GROUPWORK ACTIVITIES

Students:

- describe the controversial issues that arise when developing a sex education course.
- identify each interest group's viewpoint on the topic of sex education.
- demonstrate the decision-making process by synthesizing various viewpoints.

### ***Student Materials***

- Resources 1, 2, 3, 4, 5, and 6
- Individual Report
- Paper, marking pens, crayons, or pencils

### ***Multiple Abilities***

- Clearly articulating a position, using words precisely, explaining clearly and fully (communication skills)
- Making connections between ideas/concepts, analyzing data, considering multiple perspectives (reasoning ability)

***Estimated Time*** 50-minute period

### ***Suggested Use***

- This set of activities works well near the end of the unit.

## **IMPLEMENT**

1. Use this activity as an opportunity to make sure students understand the topics under discussion—abstinence, birth control, the reproductive system, fetal development, AIDS, and other sexually transmitted diseases. The units *Reproduction* and *Sexuality* contain information on all these topics which students could read as background. They could also research in detail the topic their Task Force group chooses.

2. This activity is structured as a jigsaw activity that follows these phases.

- Phase 1: Students begin in “expert groups” where they learn about one perspective on the issue of sex education in depth. Assign each group an interest group to represent: A) Planned Parenthood, B) School nurses/Health care providers, C) Students, D) Teachers/Administrators, E) Representatives from local religious groups, F) Parents. Emphasize that they will need to explain their perspective to others in the next phase, and so they should make sure they are well versed on their group's expert point of view.
- Phase 2: Have students form new groups composed of one representative from each of the expert groups. You may want to tell students to form groups including one person with each letter A-F.

### **Assessment**

Use the group role-play, individual report, and group discussion to assess if students can

- describe the content of various controversial issues that can be included in a sex education course.
- identify each special interest group's viewpoint on the topic of sex education.
- explain the decision-making process that is required to make important life decisions: gathering, evaluating, and synthesizing information from various sources to come to a conclusion.
- develop strategies to use when faced with making decisions about sexually related issues.

### **Extensions**

- What is the policy about sex education in your school district?
- How can you find out about who decided what content would be included in your sex education curriculum? How was this decided?



## GroupWork 7 Activity Guide: Culminating Activity (Student Reproducible)

### Big Idea: Dealing with Conflicting Messages

#### Introduction

Teenagers, parents, teachers, health care providers, and religious leaders might all have different views about sex. These different views send very different messages to young people about what they should see, hear, and learn about sex. In this activity you analyze the perspectives represented by different groups and make suggestions about what *you* think students should learn.

#### Materials

- Blank paper, marking pens, crayons, pencils

#### Procedure

The topic of “What Should Our Students Learn in Sex Education?” will be discussed at the upcoming board meeting in your school district. The following groups are organizing to present their opinions on them topic.

- A) Planned Parenthood volunteers
- B) School nurses/Health care providers
- C) Students
- D) Teachers/Administrators
- E) Representatives from local religious groups
- F) Parents

#### Phase 1

You represent one of these groups. Review your resources and discuss the following.

- Why does it seem your group is interested in what students learn in sex education?
- What does your group feel is important about each of the following issues? (If the information does not address an issue directly, what can you infer from what is available?)
- Teaching young people about abstinence
- Teaching young people about other birth control methods (e.g., condoms)
- Teaching young people about pregnancy, fetal development, and abortion
- Teaching young people about AIDS and people who are HIV positive

#### Phase 2

Rearrange groups to form Task Force committees. Make sure each interest group is represented. Pick one issue from those listed above and create a pamphlet to distribute to students in your district. The goals of the pamphlet are to:

- identify the varying viewpoints represented in your group regarding the issue you’ve chosen, and
- offer strategies for students to use when faced with making decisions about that issue.

## GroupWork 7 Resource 1: Culminating Activity (Student Reproducible)

### Big Idea: Dealing with Conflicting Messages

#### Planned Parenthood Clinics

#### Planned Parenthood Is Here for You

#### We’re Here for Your Health

Taking care of yourself shouldn't be a financial burden. We offer all of our services at a cost you can afford.

### **Birth Control**

We can explain all available birth control methods clearly so that you can understand and choose the one that's right for you. Our flexible appointment schedule offers morning, daytime, and evening appointments. Many services are available on a drop-in basis, and some are offered on Saturdays as well. We provide exams, services, and supplies for most methods including:

- Birth control pills
- Diaphragms
- IUDs
- Foam, inserts, jellies
- Cervical caps
- Condoms
- Depo Provera
- Natural family planning
- Sterilization for women

### **Testing and Treatment for Infections and STDs**

We provide medical exams to check for infections and sexually transmitted diseases (STDs) such as herpes, gonorrhea, chlamydia, and genital warts. If you have an STD, we can treat it for you and we teach you how to protect yourself from future infections.

### **HIV (AIDS) Testing**

We do anonymous HIV testing. You get one-on-one consultation at the time of your test and when you return for your results.

### **Exams, Preventive Care, and Treatment**

- Pap smears
- Breast exams
- Mammography referral
- Blood pressure screening
- Testicular/Prostate exams
- Cervical cancer screening
- Treatment of precancerous conditions
- Colon cancer screening
- Tests for tuberculosis, diabetes, anemia, and cholesterol level

### **Pregnancy Testing**

We will test you as soon as you've missed a period. Make an appointment or drop in during pregnancy testing hours, and we can give you same-day results.

### **We're Here to Support Your Choices**

#### **Pregnancy Options Counseling**

When you need help making a decision about your pregnancy, we will discuss your options with you so that you understand each of them, and you can decide what's best for you.

#### **Abortion**

If you decide not to continue your pregnancy, we provide safe abortion services during the first 14 weeks of your pregnancy. Your decision will be kept confidential. We will give you complete care after your abortion as well.

## Adoption Referral

If you are considering adoption, we can put you in touch with organizations that can give you complete information.

## Prenatal Care

We can provide medical services and referrals to help you have a healthy baby. We also have a wide range of counseling services to help you when you're expecting a baby or when you're a new parent. Our full-service clinics provide complete care for pregnant women, including medical exams, ultrasound, health education, and counseling.

## We're Here for Teens

### Expanded Teen Counseling Program (ETCP)

As a teen visiting any of our clinics you can get extra counseling and support to help you cope with problems at home, at school, or in relationships, and to help you take positive steps for your health and future.

## GroupWork 7 Resource 2: Culminating Activity (Student Reproducible)

### Big Idea: Dealing with Conflicting Messages

#### School Nurses and Health Care Providers

**The following is a copy of the Table of Contents from the booklet, "A Doctor Discusses What Teenagers Want to Know," provided by doctors and pediatricians for teens asking for information about sex and related issues.**

This book does not take the place of your doctor. Different people react differently to the same treatment, test, or procedure. You should always consult your doctor before undertaking any course of treatment.

Neither the author nor the publisher take responsibility for any possible consequences of any course of action suggested in this book. Always call your doctor if you have a question.

Harpe, Shideler, in consultation with Wesley W. Hall, MD. 1992. *A Doctor Discusses What Teenagers Want to Know*.

Budlong Press Co.: Chicago, Illinois

Human Biology Project/Stanford University

March 2, 1995

## GroupWork 7 Resource 3: Culminating Activity (Student Reproducible)

### Big Idea: Dealing with Conflicting Messages

#### Students

The following are responses to a survey about sex education in a seventh grade science class, right after their study of sex education.

"I learned about sex from my sister. But I learned a lot from sexed this year compared to last year, and I understand more now."

- 7th grade boy

"I learned about sex mostly from my friends in school."

- 7th grade girl

"I think students felt pretty comfortable asking questions in sex ed."

- 7th grade boy

"If I had questions about sex, there is one teacher I would talk to. She's really cool."

## 11.1. USING GROUPWORK ACTIVITIES

- 7th grade boy

“I don’t like the way sexed is taught. You don’t explain it right. You don’t tell us what it’s really like. If we ask a question, you don’t answer the whole thing, only bits of it.”

- 7th grade girl

“I don’t really feel like there is any adult here at school that I could talk to about sex.”

- 7th grade girl

“Kids should get sex education in school at about 1st or 2nd grade.”

- 7th grade girl

“I think teachers should talk about sexed with students in third grade. Kids need to hear about the facts early.”

- 7th grade boy

“I think condoms should be available here at school.”

- 7th grade boy

“I think kids should be able to get condoms from the school nurse.”

- 7th grade girl

### GroupWork 7 Resource 4: Culminating Activity (Student Reproducible)

#### Big Idea: Dealing with Conflicting Messages

##### Teachers and Administrators

The following is a letter sent out by the principal, school nurse, and science teachers of a middle school one week before they implemented their school’s Family Life unit in the science classes.

##### Dear Parents of 7th and 8th Grade Students,

We are pleased to inform you that your son/daughter will participate in the Family Life Education Program in his/her science class this year. This unit has been developed through a process involving parents, teachers, nurses, administrators, and board members. The goal of this unit is to provide students with the information, decision-making skills, and resources that will encourage thoughtful and responsible behavior, as well as to reinforce the values of home and family.

Five key areas are emphasized:

- a. Drug, Alcohol, and Tobacco Education
- b. Decision Making
- c. Self-esteem
- d. AIDS and Personal Safety
- e. Growth/Development and the Reproductive System

The teacher will respond to questions raised by the students. We encourage you to participate at home by talking about these important issues with your son/daughter.

We are providing an opportunity for parents to preview films and materials used in this program. Please check one line of the form below and sign it. This form must be returned to your child’s science teacher.

\_\_\_\_\_ Principal \_\_\_\_\_ School Nurse

To: Science Teacher

Student's Name \_\_\_\_\_ Room and Grade \_\_\_\_\_

\_\_\_\_\_ I would like my child to participate.

\_\_\_\_\_ I do NOT want my child to participate.

Parent's Signature \_\_\_\_\_

### GroupWork 7 Resource 5: Culminating Activity (Student Reproducible)

#### Big Idea: Dealing with Conflicting Messages

#### Representatives from Religious Groups

The following is a graphic from an article in a newspaper called, "Religion's Viewpoint on Sexuality."

B = Blessed

A = Morally acceptable in most cases

N = Neutral or no clear position

U = Morally unacceptable

C = Condemned

**TABLE 11.8:**

	Buddhism	Catholic	Methodist	Mormon	Muslim	Jewish (Reform)
Teenage Sex	U	C	C	C	U	U
Premarital Sex	A	C	U	C	C	A
Divorce	A	C	A	U	N	A
Masturbation	B	U	N	U	A	N
Abortion	N	C	N	U	N	U
Contraceptives	B	C	B	B	B	A
Homosexual Orientation	B	N	A	U	C	A
Homosexual Acts	A	C	C	C	C	C

"American Search for New Sexual Ethic." *San Francisco Chronicle*, November 29, 1994.

### GroupWork 7 Resource 6: Culminating Activity (Student Reproducible)

#### Big Idea: Dealing with Conflicting Messages

#### Parents

"I will remove my child from class during the sex education unit. I want to personally teach my son about reproduction and the values and morals our family holds dear."

- Parent of 7th grader

"I want my child to learn the facts about how her body works in her science class. The more she understands about puberty and reproduction, then more comfortable she will be when making decisions that affect her health."

- Parent of 5th grader

#### 11.1. USING GROUPWORK ACTIVITIES

“I don’t want anyone else pushing their values about sex on my child. If she has any questions, I want her to come to me to talk about them.”

- *Parent of 6th grader*

“I haven’t had time to talk to my son about these issues, it just never seems like the right time. So I rely on the schools to teach him what he needs to know.”

- *Parent of 7th grader*

“I’m glad my child has the chance to learn about reproduction because I learned from my friends . . . and a lot of the information I got was unclear and unreliable.”

- *Parent of 6th grader*

“There is no need to discuss these issues at this time in my child’s life. This is premature. All you’re doing is encouraging sexual experimentation.”

- *Parent of 7th grader*

“I want my child to be able to discuss these issues with her peers in a fact-based environment because so often kids are curious about sex and give each other the wrong information.”

- *Parent of 7th grader*

“I don’t see any need for this sex education course. All a girl has to say is no.”

- *Parent of 8th grader*

### **GroupWork 7 Individual Report: Culminating Activity (Student Reproducible)**

#### **Big Idea: Dealing with Conflicting Messages**

1. What were the conflicting viewpoints surrounding the issue your Task Force chose to focus on in Phase 2 of the activity?
2. How did your group synthesize the different viewpoints to create your pamphlet?
3. What did you learn in your group’s decision-making process that you can use when confronting these issues personally?

## 11.2 Projects

The following Projects are an assortment of long-term activities that can be completed individually, in groups or as a class. We have provided starting points for research and development; you and the students can work together to create a more detailed plan of action. Consider the following two recommendations. First, because of the amount of work involved in a Project, students should choose one of great interest to them. Second, to encourage excellence and promote student-student learning, students should present their finished projects to the rest of the class, to the school and to the community, if appropriate.

### Project 1: Research Questions and Action Projects

Project 1 differs from the others: it is a list of possible research topics organized according to some key ideas and addressed to students.

In assigning a Research Question or Action Project, we ask that you allow students to choose their topic- either one provided or one of their own. You might also:

- a. Specify length of piece.
- b. Make clear the purpose and the audience.
- c. Suggest sources and ideas for information.
- d. Provide in-class time for compiling information and writing.
- e. Require students to exchange papers and provide written feedback.
- f. Provide a breakdown of due-dates for the following stages: choice of topic, outline, rough draft and final draft.
- g. Permit students to supplement a written report with a skit, a piece of artwork, a piece of music, a dance, a video, or a multimedia presentation.

### ASSESS

Provide the students with evaluation criteria that include:

- accuracy of the content based on guiding questions.
- clarity of writing.
- effective organization of main ideas.
- use of detailed examples or citing evidence to support their conclusions.

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### Project 1: Teacher Activity Notes - Research Questions

#### PROJECT #1 Research and Action Projects

The following projects are an assortment of long-term activities focused on research and action. You may want to assign them as research topics for individuals or group research projects. Encourage students to present their research products as a culmination of their work to their classmates.

1. **Sexual and Asexual Reproduction.** Reproduction occurs continuously all around us. Research the two different types of reproduction: sexual and asexual (see evolution and genetics units). Use examples from animals, plants, single cell organisms. *Science, Language Arts*
2. **Childbearing: A Historical Perspective.** Bring in examples of art from different cultures and over time to reflect changing and/or different views of pregnancy, childbirth, and parenthood. *Social Studies, Visual Arts*

- 3. Learning the Truth about Sex: A Parent’s Perspective.** Question your parents about who told them “the truth,” and any myths they grew up believing or hearing. *Language Arts, Social Studies*
- 4. Medical Tests During Pregnancy.** Research tests done during pregnancy to detect possible complications:
- For baby:
- Ultrasound
  - Amniocentesis
  - CVS: chorionic villi sampling
- Tests done to mother to ensure a healthy pregnancy and normal delivery:
- Ultrasound, ultrasound stress and nonstress tests
  - sugar in urine-possible diabetes
  - blood pressure
  - weight
- 5. Physicians vs. Midwives.** Research the changing views and medical treatments of pregnancy. When did physicians begin to replace midwives as primary caregivers? How did their treatments differ from midwives? Where did your great grandmother give birth? Your grandmother? Your mother? Who delivered their babies? *Science, Social Studies, Language Arts*
- 6. Prenatal Care Brochure.** Write a prenatal care brochure for young teenage mothers who might not have the money to receive prenatal care from a physician. *Science, Social Studies, Language Arts*
- 7. Childbirth: A Historical Perspective.** How have attitudes towards childbirth and methods of delivery changed over the years in this country? Is there any such thing as a typical delivery in terms of time, discomfort, or medication? *Social Studies, Science*
- 8. Issues in Childbirth.** Choose one or two of the following topics to explore.
- What is natural childbirth? Describe some of the training methods and explain their logic and success.
  - Research the history and use and common reasons for Cesarean sections.
  - What is a midwife? Under what circumstances can they be used in your state?
  - What is a birthing center? In what ways does it differ from a hospital delivery?
  - What are the medical costs of having a baby? What is a neonatal unit? What is the daily cost of keeping a child in one for a day/week/month? Who should bear the cost? Is there any point at which the cost is too great? *Social Studies, Science, Health*
- 9. Witness A Birth.** Call a local animal shelter, or ask around the school-can the class visit any local pets during the birth of their babies? *Science*
- 10. Life Experiences.** Visit a neonatal unit in the hospital, bring in a newborn and mother to talk to and observe, invite an OB/GYN or midwife to visit class. Write about your reactions to experience. *Language Arts, Science*
- 11. Adoption.** Research the different kinds of adoption available to couples: open, closed, public, private, international. How many children are adopted every year? Finish this project with a debate about the merits of open and closed adoptions. *Social Studies, Language Arts.*
- 12. Looking At Child Labor Laws.** Research the development of child labor laws, and get a feel for why children worked, and how people took advantage of them. Bring to class any photos, art or music that reflect the history of this public policy issue. What do the laws of your state say about: minimum age to work, hours per week, kinds of tasks, compensation. Finish this project with a debate on some controversial topic your class found interesting. *Social Studies, Language Arts, Visual Arts.*
- 13. Teenage Pregnancy: A Historical Perspective.** Explore some historical examples of how society handled



young pregnant adolescents. Use any art forms to illustrate your findings. You might want to make a collage of your findings.

- young women sent away to have their babies
- reputations tarnished
- banished from families and communities forever

*Social Studies, Language Arts, Visual Arts*

14. **A Family: How Much Does It Cost?** Research the cost of raising a family. How you will support yourself and your child for one year. Make some assumptions about parents/father, wages, and cost of childcare. Try some different variables to see what you would have to do to survive. *Math, Social Studies*

15. **Birth Defects: What Is Being Done?** Research local agencies such as the March of Dimes to see what is being done to fight birth defects. *Social Studies, Science, Health*

16. **Population Control Efforts: China and Germany.** Research the population control policies in China and former East Germany. In China, births are restricted to one child per couple-what are the implications of this policy? How are people responding? In former East Germany, the population is declining so rapidly, the government is offering rewards for couples who have more than one child. What is happening there, how do people feel? Why aren't they having children? *Social Studies, Health, Language Arts*

17. **Make A Poster.** Design a poster for your local Planned Parenthood office or community center about responsible parenting, to help prevent unwanted pregnancies, unwanted children, child abuse, or a related topic of your choosing. *Health, Science, Language Arts, Visual Arts*

18. **Sexuality: A Historical Perspective on Changing Values.** Research sexual themes in art and music in this country over last several hundred years. Bring in examples and put together a portfolio of pieces that support your view of how sexual attitudes have changed. *Language Arts, Performing Arts, Social Studies*

19. **Abortion: The Legal Debate.** Investigate the 1973 Roe v. Wade Supreme Court case and subsequent abortion cases: What do they say? Understand how Supreme Court cases affect public policy, but judges supposed to be impartial. How do judges promote their views without sacrificing integrity of job: interpreting the Constitution. *Social Studies, Health, Language Arts*

20. **Abortion in Your State.** Investigate: What are the laws in your state? If you wanted an abortion, where could you go, how much would it cost, and who would pay for it? *Social Studies, Health, Science*

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## Project 2: Teacher Activity Notes - Multicultural Perspective: Issues of Reproduction

**Summary** The process of reproduction is universal, but the experiences of pregnancy, childbirth, and parenting vary from culture to culture. In this project students choose a culture and research the ways in which attitudes and behaviors toward this subject vary from ours. If you had your students do the multicultural project in the unit on Your Changing Body you may want them to continue with researching the same country. If this is a new project for you and your class, suggested cultures to study include: Israel, Iran, India, China and/or Japan, an African nation, Mexico, or students could choose a culture from their heritage.

**Estimated Time** 3-5 weeks depending on length of time you have available to spend on the unit

### **Student Materials**

Access to the library and, if possible, access to the internet

### **Students develop**

## 11.2. PROJECTS

- a portfolio of research on multicultural differences related to reproductive issues
- a display board showcasing what they have found
- a presentation to the class summarizing their observations.

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## IMPLEMENT

- Ask students to choose a country to research. They may work alone, in pairs, or in small groups at your discretion.
  - Have each group keep a portfolio of the information they gather to save and share at the end. Designate bulletin board space for students to display their work as the unit progresses.
  - As background, have students locate their country on a map, and research some basic facts, such as population, size of country, type of economy (what kind of work do most people do), and any interesting historical or current facts.
  - Assign the specific research questions listed below as you come to the sections in this unit that cover the topic.
  - At the end of the unit ask students to share what they have discovered with other members of the class by doing any or all of the following: create a display on the bulletin board, make an oral presentation, create a comparison chart, submit a written report.
- **Pregnancy.** Research treatment of pregnancy in the countries you selected. What is prenatal care like? Do women commonly get tests done to monitor the health of the baby and progression of the pregnancy? How is a pregnant woman viewed? Do women continue to work throughout their pregnancies?
  - **Childbirth.** What is a common birth experience for women in the countries selected? Are babies born in hospitals or at home? Do men attend the births? Who cares for the baby in the weeks following the birth? Who delivers babies? Who cares for the mother during pregnancy and childbirth? How long do they rest after delivery?
  - **What Are Families Like?** How large is the average family? Do extended family live together? What is the rate of divorce? Average age of becoming a first-time parent? Average number of children?
  - **Teen pregnancy.** Look at teen pregnancy. Compare attitudes, rates, and what most teens do (do they keep their babies, put them up for adoption?) Is teen pregnancy related to educational or financial status as it is here?
  - **Effects of Adolescent Pregnancy.** Explore the physical, emotional, social and financial effects of being a teenage parent in your selected culture.
  - **Population Trends.** Research birth and death rates in your country, for 200 years ago, 100 years ago, and today. What population trends do you see? Research historical examples of war, disease, and famine in these countries that wiped out large numbers of people, and changed their societies.
  - **Contraceptive Use.** What percentage of the population uses contraceptives? What contraceptive methods are most commonly used? What is the prevailing attitude toward contraception?
  - **Abortion.** What are the views about and laws for abortion in the countries selected? How many abortions are performed a year? On teenagers?

## 11.3 Additional Resources

### Books

#### Fiction

Blume, Judy, *Just As Long As We're Together*, Dell Publishing, New York, 1987.

Three friends explore the issues of puberty and adolescence together, including tests of their friendship.

Blume, Judy, *Tiger Eyes*, Bradbury Press, Scarsdale, New York, 1981.

A young teenager moves to a new town and a new school, and there must figure out how she fits in and who she is.

Bode, Janet, *New Kids on The Block*, Franklin Watts, New York, New York, 1989.

Adolescents who have recently immigrated to this country talk about their lives here compared to their native countries. They present a wonderful multicultural view of adolescence.

Childress, Alice, *Rainbow Jordan*, Coward, McCann #38; Geoghegan, Inc., New York, 1981.

A black girl learns about what her values really are as she faces difficult decisions in school, at home, and with her friends.

Cormier, Robert, *The Chocolate War*, New York: Coward, McCann #38; Geoghegan, Inc., 1974.

A powerful book about a young boy who dares to defy the school bully, and a school-wide power struggle ensues.

Cosby, Bill, *Fatherhood*, New York: Berkley Publishing Group, 1987.

A humorous account of parenthood by Bill Cosby, written primarily for adults.

Crew, Linda, *Children of the River*, Delacorte Press, New York, 1989.

A young Vietnamese teen struggles with the conflicting pressures of her traditional home, a non-Vietnamese boyfriend, and her developing self concept.

Doherty, Berlie, *Dear Nobody*, Orchard Books, New York, 1991.

A poignant account of a pregnant young girl and her relationship that resulted in her getting pregnant. The Story is old from the standpoints of the girl writing to her unborn child, and from the boy writing to the girl.

Fine, Anne, *Flour Babies*, Little, Brown and Co., Boston, 1992.

A class of boys choose to do a parenthood simulation activity, during which a young boy learns how strong the ties and feelings of parenthood can be.

Frank, Anne, *The Diary Of A Young Girl*, Bantam Books, New York, 1967.

A poignant diary of a young Jewish girl, most of it written while hiding from the Nazis in Germany during the 1940s. Her thoughts range from family, puberty, boys, and life within the confines of their hiding place, to the world outside and being Jewish.

L'Engle, Madeleine, *Camilla*, Thomas Y. Crowell Company, New York, 1965.

A young teen explores her impressions of her parents, her emerging sense of self, through her experiences with friends who offer a different perspective.

L'Engle, Madeleine, *Wrinkle In Time*, New York: Farrar Straus #38; Giroux, Inc., 1962.

A teenage girl, her brother, and a school friend go in search of her father. Part of finding him means she must come to terms with her feelings of being different from her peers, and understanding what is most important to her in her

life and in her relationships with family and friends. A wonderful science fiction adventure.

Levitin, Sonia, *Annie's Promise*, Atheneum, New York, 1993.

A Jewish girl goes to camp where she learns about self-reliance and resourcefulness and begins to understand her family.

Townsend, Sue, *The Secret Diary of Adrian Mole, Aged 13  $\frac{3}{4}$* , Avon Books, New York, 1982.

A wonderful, funny, lighthearted diary of a boy coming of age. He worries about all the things adolescents worry about-acne, his yearnings for the things he can't have, the contradictions of adulthood and childhood, his feelings for girls, and more.

Wolff, Virginia Euwer, *Make Lemonade*, Scholastic, Inc., New York, 1993.

A girl takes a baby-sitting job for a single mom with two children. Together they learn about the difficulties of single parenthood and what it takes to survive.

Wolff, Virginia Euwer, *The Mozart Season*, Scholastic, Inc., New York, 1991.

A gifted violinist prepares for a statewide Mozart competition, and in the process learns about her family, and how she must bring out the art of performance and music.

### **Non-fiction**

Bell, Ruth, *Changing Bodies, Changing Lives*, Vintage Books, NY, 1981.

An excellent resource book for teens (geared to high school students, but also appropriate for junior high/middle school students), full of quotes from peers around the country. Well-written and well-organized, this book talks frankly about the changes and challenges of adolescence and sexuality.

Fenwick, Elizabeth, and Walker, Richard, *How Sex Works*, Dorling Kindersly, New York, 1994.

An excellent overview of puberty, sexuality and issues in adolescence. Great use of illustrations and quotes.

Harris, Robie, *It's Perfectly Normal*, Candlewick Press, Cambridge, MA, 1994.

Written to the junior high school level, this book reviews the changes of puberty, sexuality and sexually transmitted diseases. The hand-drawn illustrations provide a warm tone and informal presentation.

Katchadourian, Herant, *The Biology Of Adolescence*, 1977.

An excellent overview of the biology of adolescence-good background material for units on puberty. It is currently out of print, however, so must be found in a library.

Parker, Steve, *The Body Atlas*, Dorling Kindersley, New York, 1993.

Beautiful full-color illustrations of the body's inner workings, organized by sections of the body and body functions. Not only does this book review how things work, but also offers fun anecdotes about body parts, some history, and some fun facts to know.

Stein, Sara, *The Body Book*, Workman Publishing, New York, 1992.

An energetic review of how the body works. It is written for the lay person-a light hearted, but very detailed look at how the body functions. Middle school students would appreciate the tone, but would need some guidance on the detailed content.

**World Almanacs:** Excellent sources of information about population demographics around the world, and interesting facts about world countries and cultures. Published annually.

### **Multimedia Resources:**

It's hard to recommend the most up to date resources, when they change so quickly. Below we list a few favorites, but suggest that you subscribe to a catalogue that will keep you up-to-date on resources available to you. Some good catalogues include:

**Educorp**

7434 Trade Street  
San Diego, CA 92121-2410

**Enhance**

1-800-777-ENHANCE

This catalogue also publishes some good articles on using computer technology and educational software.

**Sunburst**

101 Castleton Street  
PO Box 100  
Pleasantville, NY 10570-0100

1-800-321-7511

**Educational Resources**

1-800-624-2926

**Internet resources:**

SchoolHouse Mac: A resource tool for K-12 teachers that use Macs in the classroom. It offers some good ideas about teaching tools and programs available to teachers for free on the Internet, and offers teachers a way to communicate with each other. SchoolHouse Mac, 5326 Coats Grove Rd., Hastings, MI, 49058. On the Internet, charlie@938aol.com

You might also explore the possibility of subscribing to America-On-Line, which offers a lot of good resource listings and public domain (freeware or shareware) material on various topics. The cost runs about \$10 per month.

**Video**

Miracle of Life, NOVA,

I have AIDS: A Teenager's Story. 3-2-1 CONTACT Extras, Children's Television Workshop

A Child Is Born, Lenart Nielsson.

**Videodisc**

Anatomy and Physiology, Videodiscovery and HarperCollins, 1-800-548-3472. Appropriate for high school and college students. An in-depth exploration of body functions and anatomy. More detailed than you need, but would help students visualize what they are learning about.

**Software/CD ROM Programs**

World Geograph (MECC)

MacGlobe or PCGlobe (Broderbund)

Countries of the World (CDRom from the State Department)

A.D.A.M. Essentials, A.D.A.M. Software, \$119.95 School edition. (1-800-777-3642) Interactive exploration of the human body.

3-D Body Adventure: Knowledge Adventure, 1-818-542-4200.

Interactive, guided tours of the body and its functions. Great graphics, easy to use.

The Human Body, National Geographic (1-800-624-2926) Uses pictures and sound effects to explore the human body.

Body Scope, MECC, School version, 1-800-777-3642. Self-directed exploration of the body systems, and good

**11.3. ADDITIONAL RESOURCES**

feedback on questions.

### **Miscellaneous**

**Center For Early Adolescence**, University of North Carolina at Chapel Hill.

Provide excellent resource materials, information services, training, and publications for parents and people working with young adolescents.

Center for Early Adolescence

School of Medicine

University of North Carolina at Chapel Hill

D-2 Carr Mill Town Center

Carrboro, North Carolina 27510

919/966-1148 FAX 919-966-7657

**Don't be S.A.D.: A Teenage Guide to Handling Stress, Anxiety and Depression.** Susan Newman. Messner, 1992, 122 pp., \$12.98

This book reviews strategies for coping with stressful situations and difficult outcomes. Using real-life scenarios, this book offers preventive strategies as well as suggestions on how to take apart a situation or problem to make it more manageable.

**Postponing Sexual Involvement:** Grady Memorial Hospital. Teen leaders from senior high schools work with 8th graders to identify and talk about pressures that lead to sexual involvement. Peer counseling has been very effective in a variety of programs around the country.

Marion Howard

Grady Memorial Hospital

Box 26158

80 Butler Street, SE

Atlanta, GA 30035

### **ETR Associates**

P.O. Box 1830

Santa Cruz, CA 95061-1830

Publishes numerous excellent brochures and catalogues about issues in adolescence and puberty. Titles include: Puberty Facts, Growing Older: Facts and Feelings, Abstinence.

### **Community Organizations**

Planned Parenthood

Churches

Overeaters Anonymous

Alcoholics Anonymous

Teen Hot Line

Yellow Pages of the phone book

Local, State, and Federal representatives

District school offices

Parents

Teachers

Library

## 11.4 Reproduction Glossary

**abortion** interruption (termination) of pregnancy.

**abstain** refrain from doing something such as having sexual intercourse.

**abstinence** refraining from sexual intercourse altogether.

**adolescence** the period of psychological and social development between childhood and adulthood.

**adopt** become legal parents of a child whose biological parents (the individuals who physically conceived and delivered the child) cannot or choose not to keep the child.

**amniotic fluid** the fluid in which the fetus grows that provides extra protection against physical injury.

**artificial insemination** the injection of semen into the vagina or uterus by a method other than sexual intercourse in order to cause pregnancy.

**barrier methods** ways to prevent pregnancy by blocking the union of sperm and egg.

**birth control** preventing pregnancy.

**birth control pill** contraceptive pill that prevents ovulation, or the release of an egg from the ovary.

**bladder** a bag of tissue that holds urine flowing from the kidneys.

**cervical cap** a contraceptive device that fits snugly against the cervix.

**cervix** the opening of the uterus to the vagina.

**chemical barrier** a form of contraception using a chemical that through chemical action prevents pregnancy.

**circumcision** surgical removal of the foreskin from the penis.

**clitoris** a highly sensitive, erectile organ of the female, external sex organ.

**condom** a sheath often made of latex that covers the penis.

**contraception** using various effective methods of preventing pregnancy.

**contractions** tightening of muscles in the uterus that force the baby out during labor and delivery.



**corpus luteum** (“yellow body”) empty follicle.

**cycle of dependency** a cycle of relying on others such as family or government funds for support.

**diaphragm** a thin latex dome fitted to cover a woman’s cervix and prescribed by a physician. The diaphragm is used with spermicidal jelly.

**egg** the female equivalent of the male sperm, known also as an ovum.

**embryo** growing fertilized egg implanted in the endometrium.

**endocrine glands** structures that produce the male hormone testosterone.

**endometrium** the uterine wall.

**environmental degradation** the breakdown of the environment.

**epididymis** long ducts attached to each testicle that transport sperm.

**erection** the hardening and enlarging of a penis caused by increased blood flow into the penis.

**estrogen** hormone that helps develop and maintain the female reproductive system.

**Fallopian tubes** tubes that lead from the ovaries to the uterus through which ova (eggs) pass.

**family planning** determining when to have a child, and how many, by taking active steps, rather than letting it just happen.

**fertile** able to reproduce.

**fertility rate** the number of children born to a couple in a given society.

**fertilization** the process in which a sperm unites with an egg.

**fetus** the name given to an embryo after eight weeks.

**follicle** a group of cells in the ovary that contain an egg surrounded by fluid.

**foreskin** skin covering the glans or head of the penis.

**genitals** external sex organs.

**glans** head of the penis.

**hormones** internally produced chemical substances that control certain body functions.

**hymen** a thin ring of tissue that partially covers the vaginal opening.

**ideal failure rate** the number of women who will become pregnant using a birth control method when the method is used absolutely correctly and consistently.

**infanticide** the killing of children.

**infertile** the inability to produce offspring.

**in vitro fertilization** fertilizing the mother's eggs (or a donor's eggs) with the father's sperm (or a donor's sperm) outside the body in a special dish.

**IUD, or intrauterine device** contraceptive device about the size of a small paper clip that a physician inserts in the uterus.

**labor** contraction of the uterus during childbirth.

**major lips (labia majora)** the outer folds of skin that protect the vaginal opening.

**maternal mortality rate** the number of women who die as a result of pregnancy.

**menstrual period** the period of time (28 days) during which the egg develops and is discharged.

**minor lips (labia minora)** the inner folds of skin that protect the vaginal opening.

**miscarriage** natural interruption of pregnancy.

**“morning after” pill** chemical or hormone taken after sexual intercourse that interrupts the pregnancy. The latest drug (called RU 486) will interrupt pregnancy in most cases if taken within 10 days of a missed period and then is followed by an injection of progesterone.

**Norplant** thin matchstick-like rods containing progestin that are placed under a woman's skin by a doctor where they stay for up to five years providing 99% protection from pregnancy.

**oral contraception** birth control taken by mouth.

**orgasm** the pleasurable culmination of sexual arousal in both sexes (accompanied by ejaculation in the male).

**ovary** the organ in which eggs are formed and stored.

**overpopulation** a situation in which the number of people in the world is more than the resources available can successfully sustain them.

**ovulation** release of an egg through the ovary wall.

**peer group** people who are the same age or in the same grade.

**pelvic inflammatory disease (PID)** a serious infection of the reproductive tract often leading to infertility.

**penis** the male organ through which sperm is delivered and urination occurs.

**placenta** the part of the uterus that sustains the life of the fetus.

**premature** babies born before eight months or that weigh less than 5 pound 8 ounces (2,500 grams).

**prenatal care** medical care during pregnancy.

**pro-choice** in favor of abortion as an option for all women.

**pro-life** opposed to abortion.

**progesterone** hormone which, with estrogen, helps develop and maintain the female reproductive system.

**prostate gland** the organ that contributes fluid to the content of semen.

**puberty** period of physical and sexual development during which males and females become sexually mature and able to produce children.

**pubic hair** the hair surrounding the external sex organs or genitals.

**reproduction** the process of producing young.

**scrotum** the pouch containing the two testes of the male.

**semen** the thick, white fluid containing the male sperm.

**seminal vesicle** a reservoir-like structure containing fluid that empties during ejaculation.

**sex organs** the parts of the reproductive system.

**sexual intercourse** the act involving the male inserting his penis into the female's vagina (penis and vagina are male and female sex organs).

**sexually active** engaging in sexual intercourse.

**sexuality** your sense of yourself as a sexual being.

**sexually transmitted diseases (STDs)** infectious diseases that are acquired through sexual activities.

**side-effects** negative consequences.

**sperm** the male reproductive cell.

**spermicides** a contraceptive with chemicals that kill sperm.

**sterile** inability to produce sperm (male) or eggs (female).

**sterilization** the process by which males are made incapable of producing sperm and females incapable of producing eggs.

**surrogate mother** a woman who becomes pregnant through artificial insemination and then bears the child for the couple.

**testes** the organs where sperm cells are produced.

**testosterone** a hormone essential for the development of sperm and male characteristics.

**trimester** each three-month period during pregnancy.

**typical failure rate** the average number of women using a birth control method such as the birth control pill who will become pregnant as a result of human error.

**umbilical cord** the fetus's lifeline to the mother that connects the circulatory system of the fetus to that of the mother through the placenta.

**urethra** the tube that carries urine, and in the case of the male, also semen, to the outside of the body.

**urethral opening** opening to the urethra.

**uterus** the internal sexual organ in women in which the embryo, and then the fetus, grows.

**vagina** the passage leading from the uterus to the outside of the female body, the female organ of sexual intercourse.

**vas deferens** the tube that carries the sperm to the penis.

**viability** the ability to survive outside the mother's body.

**withdrawal** removal of the penis from the vagina before ejaculation.

**zero population growth** the situation in which the number of children born is no larger than the number of people who die during the same period of time.

