


CHAPTER 17 pp. 448–475	Standards		Skills and Activities
	National	State/Local	
	National Health Education Standards 1.1, 5.6, 7.1		<b>HEALTH QUIZ</b> , p. 449 <b>TIME</b> health news Secrets of a Long Life, p. 472 <b>BUILDING HEALTH SKILLS</b> <i>Practicing Healthful Behaviors</i> Coping With the Highs and Lows of Puberty, pp. 470–471
<b>Lesson 1</b> <b>The Beginning of Life</b> pp. 450–454	National Health Education Standards 3.1		
<b>Lesson 2</b> <b>Heredity and Environment</b> pp. 455–459	National Health Education Standards 1.1, 1.3, 1.4, 7.2, 8.1, 8.3		<b>HEALTH SKILLS ACTIVITY</b> <i>Accessing Information</i> Your Family's Health History, p. 457 <b>Connect To... SCIENCE</b> Treatment of a Premature Infant, p. 458
<b>Lesson 3</b> <b>From Childhood to Adolescence</b> pp. 460–465	National Health Education Standards 1.2, 2.5, 5.6, 8.1		<b>HEALTH SKILLS ACTIVITY</b> <i>Stress Management</i> Coping with Mood Swings, p. 464
<b>Lesson 4</b> <b>Adulthood and Aging</b> pp. 466–469	National Health Education Standards 1.1, 1.2, 2.6, 6.2, 6.3, 6.4, 8.1, 8.2		<b>DEVELOPING GOOD CHARACTER</b> <i>Respect</i> , p. 467

## PACING THE CHAPTER

Lesson 1 45 min	Lesson 4 45 min	Chapter Review 45 min
Lesson 2 45 min		TIME health news 20 min
Lesson 3 45 min	Building Health Skills 30 min	

## BLOCK SCHEDULING

For block scheduling, assign students Building Health Skills feature *Coping with the Highs and Lows of Puberty*, pages 470–471, and Guided Reading and Writing. 

# Planning Guide

**Student Works** Plus

Glencoe Exclusive!  
**Teacher Works™**  
All In One Planner and Resource Center

Reproducible Resources	Assessment	Media and Technology
<p><b>Chapter FAST FILE Resources</b></p> <p>Chapter Summaries and Activities <b>REVIEW</b></p> <p>Building Health Skills Activity <b>TEACH</b></p> <p>Performance Assessment Activity <b>EXTEND</b></p> <p>Universal Access Activities <b>TEACH</b></p> <p>Parent Letter and Activities</p> <p> <b>Student Activities Workbook</b> <b>TEACH</b></p> <p> <b>Reading Tutor</b> <b>TEACH</b></p>	<p>Building Health Skills Activity, pp. 470–471</p> <p>Chapter 17 Assessment, pp. 474–475</p> <p><b>Chapter FAST FILE Resources</b></p> <p>Performance Assessment Activity, p. 4</p> <p>Chapter 17 Test, p. 7</p> <p> <i>ExamView® Assessment Suite</i></p>	<p><b>TeacherWorks</b> includes:</p> <ul style="list-style-type: none"> <li>• Interactive Teacher Edition</li> <li>• Lesson Planner with Calendar</li> <li>• Access to all blackline masters</li> <li>• Correlations to standards</li> <li>• Links to <a href="http://health.glencoe.com">health.glencoe.com</a></li> </ul> <p> StudentWorks™ Plus</p> <p> Online Student Edition</p> <p>Dinah Zike's Teaching Health with Foldables™</p>
<p><b>Chapter FAST FILE Resources</b></p> <p>Concept Mapping Activity 17-1 <b>REVIEW</b></p> <p>Cross-Curriculum Activity 17-1 <b>EXTEND</b></p> <p>Enrichment Activity 17-1 <b>EXTEND</b></p> <p>Lesson Plan 17-1</p> <p>Guided Reading and Writing 17-1 <b>TEACH</b></p> <p>Reteaching Activity 17-1 <b>REVIEW</b></p>	<p>Lesson 1 Review, p. 454</p> <p> Vocabulary PuzzleMaker</p> <p> <i>ExamView® Assessment Suite</i></p>	<p> Vocabulary PuzzleMaker</p> <p> <i>ExamView® Assessment Suite</i></p> <p> StudentWorks™ Plus</p> <p> Transparency 17-1</p> <p> <b>Health Online</b></p>
<p><b>Chapter FAST FILE Resources</b></p> <p>Concept Mapping Activity 17-2 <b>REVIEW</b></p> <p>Cross-Curriculum Activity 17-2 <b>EXTEND</b></p> <p>Enrichment Activity 17-2 <b>EXTEND</b></p> <p>Lesson Plan 17-2</p> <p>Guided Reading and Writing 17-2 <b>TEACH</b></p> <p>Reteaching Activity 17-2 <b>REVIEW</b></p>	<p>Lesson 2 Review, p. 459</p> <p> Vocabulary PuzzleMaker</p> <p> <i>ExamView® Assessment Suite</i></p>	<p> Vocabulary PuzzleMaker</p> <p> <i>ExamView® Assessment Suite</i></p> <p> StudentWorks™ Plus</p> <p> Transparency 17-2</p> <p> <b>Health Online</b></p>
<p><b>Chapter FAST FILE Resources</b></p> <p>Concept Mapping Activity 17-3 <b>REVIEW</b></p> <p>Health Lab 17-3 <b>EXTEND</b></p> <p>Enrichment Activity 17-3 <b>EXTEND</b></p> <p>Lesson Plan 17-3</p> <p>Guided Reading and Writing 17-3 <b>TEACH</b></p> <p>Reteaching Activity 17-3 <b>REVIEW</b></p>	<p>Lesson 3 Review, p. 465</p> <p> Vocabulary PuzzleMaker</p> <p> <i>ExamView® Assessment Suite</i></p>	<p> Vocabulary PuzzleMaker</p> <p> <i>ExamView® Assessment Suite</i></p> <p> StudentWorks™ Plus</p> <p> Transparency 17-3</p> <p> <b>Health Online</b></p>
<p><b>Chapter FAST FILE Resources</b></p> <p>Concept Mapping Activity 17-4 <b>REVIEW</b></p> <p>Decision-Making Activity 17-4 <b>EXTEND</b></p> <p>Enrichment Activity 17-4 <b>EXTEND</b></p> <p>Lesson Plan 17-4</p> <p>Guided Reading and Writing 17-4 <b>TEACH</b></p> <p>Reteaching Activity 17-4 <b>REVIEW</b></p>	<p>Lesson 4 Review, p. 469</p> <p> Vocabulary PuzzleMaker</p> <p> <i>ExamView® Assessment Suite</i></p>	<p> Vocabulary PuzzleMaker</p> <p> <i>ExamView® Assessment Suite</i></p> <p> StudentWorks™ Plus</p> <p> Transparency 17-4</p> <p> <b>Health Online</b></p>

## Chapter and Lesson Resources

The *Teen Health* resources are designed for differentiated learning abilities. You may want to use the coded items in this way:

**REVIEW** —activities to review or reinforce content

**TEACH** —activities to teach basic concepts

**EXTEND** —activities to extend or enrich lesson content



## OUT OF TIME?

Use Health Skills Activities *Your Family's Health History*, page 457, and *Coping with Mood Swings*, page 464, or *Developing Good Character*, page 467.

### Community Service Opportunities for Teens

One of the developmental tasks of adolescence is becoming interested in and caring about the community. By performing community service, teens not only improve their community, they also meet new people, develop their values, experience different roles, and sample a variety of career choices. Studies have shown that volunteering positively affects students' academic achievement and social health. Community service and volunteering are popular activities for students.

Service opportunities for teens take many forms, from one-time events to ongoing commitments. Community-specific resources, available through the local United Way or other service organizations, can provide a starting place for teens who want to serve as a community volunteer.

Explain that community service is a chance to further explore areas of interest. For example, a teen who is considering a teaching career might volunteer as a tutor or in the children's section of the library. When you discuss community service with your students, have students consider their interests and abilities. Many online resources are available to help teachers promote community service to their students.

### Strategies for Teaching Heredity

More than 2 million children in the United States are adopted. One-half million children in the United States are in foster care. For these students, and for other students who do not live with their biological families, heredity and genetics can be sensitive issues. The following strategies can help teachers to be sensitive to all family types during the study of heredity:

- **Avoid assignments that use a family tree to show how a particular trait is passed from parent to child.**
- **Avoid questions such as “What traits did you inherit from your parents?” or “In what ways do the members of your family look alike?”**
- **Avoid making assumptions about a student's family based on a student's traits—for example, “Your parents must have blue eyes, too.”**
- **Use pictures of families from magazines to illustrate the concept of family resemblance.** Never ask students to use their own family photographs for this type of activity.
- **When an assignment calls for family history, such as the family medical history activity in this chapter, make an alternative assignment available to all students.** Do not single out individual students.
- **Point out the ways that families influence our interests and abilities.** Although these are not biological traits, these are characteristics that family members often share.
- **Use inclusive and unbiased language when describing various types of families.**



# Support for Teaching Reading



**Academic Integration** For additional academic integration strategies, visit the Teacher Center at [health.glencoe.com](http://health.glencoe.com).

## Reading Preview

**Activating Background Vocabulary** Ask students what comes to mind when they hear the terms *heredity* and/or *puberty*. Write student responses separately on the board. Guide students in a discussion of each term, including the differences between those characteristics that are family traits and those brought about by hormonal changes.

**FOLDABLES™ Study Organizer** Dinah Zike's *Reading and Study Skills for Teen Health* provides interactive graphic organizers that help students comprehend and retain health concepts as they read. Use the Foldable™ on page 449 or find more Foldables™ activities for the chapter on **Growth and Development** in the separate booklet, available in the TCR.

### Lesson 1 The Beginning of Life

**Select, Teach, Activate, Review, and Revisit (STARR)** Select important vocabulary terms from **The Beginning of Life**, and have students write the terms on note cards. Teach the terms to the students prior to reading. Activate the terms by discussing them in context as students read. Review the terms often. Revisit the terms over the next few weeks.

### Lesson 2 Heredity and Environment

**Directed Reading/Thinking Activity (DR/TA)** Have students divide a paper into four parts, titled *What I know*, *What I think I know*, *What I think I'll learn*, and *What I know I learned*. Have students skim the lesson, discuss what they know about the differences between heredity and environment, and fill in the first three columns of the chart. Direct students to finish the chart as they read the lesson.

### Lesson 3 From Childhood to Adolescence

**SQ3R** Guide students to: 1) Survey—scan the title and headings of the lesson. 2) Question—restate each heading in the form of a question. Rerword “**Stages of Development**” to “What are the stages of development?” 3) Read—find out about the stages of childhood, adolescence, and adulthood. 4) Recite—record information about the stages of development in a notebook. 5) Review—go over notes and summarize each section.

### Lesson 4 Adulthood and Aging

**Think Aloud** 1) Ask students to predict what **Stages of Adulthood** will be about. 2) Model images you form while reading—“I see people working, getting married, having kids.” 3) Link the reading to your experience—“This reminds me of when my grandpa retired from his job.” 4) Note questions—“I don’t understand this part about measuring age”—and model strategies to clarify—“I think I’ll reread this page to clarify this issue.”

## Post Reading

**Nonverbal Presentations** Direct students to use movement, placement, gestures, facial expressions, and other nonverbal cues to convey meaning to an audience in a presentation interpreting the stages of life, from the beginning of life, through childhood and adolescence, to the stages of adulthood and aging.

## Key for Using the Teacher Wraparound Edition

Use this key to help you identify the different types of prompts found in the Teacher Wraparound Edition.





- R** **Reading Strategies** activities help you teach reading skills and vocabulary.
- C** **Critical Thinking** strategies help students apply and extend what they have learned.
- U** **Universal Access** activities provide differentiated instruction for students learning to speak English, along with suggestions for teaching various types of learners.
- HS** **Health Skills Practice** activities reinforce Health Skills concepts and help students apply these skills in their everyday lives.
- W** **Writing Support** activities provide writing opportunities to help students comprehend the text.
- AL** **Active Learning** strategies provide a variety of activities for presenting lesson content, including Quick Demos and engaging classroom projects that get students actively involved.

## Key to Ability Levels

Teaching Strategies and activities have been coded for ability level and appropriateness.

- AL** Activities for students working above grade level
- OL** Activities for students working on grade level
- BL** Activities for students working below grade level
- EL** Activities for English Learners

## Symbols

-  Transparencies
-  CD-ROM
-  [health.glencoe.com](http://health.glencoe.com)
-  Print Resources

## Growth and Development

### Chapter at a Glance

**Lesson 1** identifies the difference between an organ and a system, explains how a single cell develops into a baby, describes the stages of birth, and explains how to access information about the physical and emotional changes a pregnant female experiences.

**Lesson 2** explains how characteristics are passed from parent to child, identifies factors that could cause birth defects, and explains the importance of prenatal care.

**Lesson 3** explains Erikson's stages of life, identifies some developmental tasks facing adolescents, describes the stages of childhood, and explains the importance of practicing stress management skills to help students cope with mood swings.

**Lesson 4** identifies the three stages of adulthood; explains the difference between chronological, biological, and social age; and describes how the health triangle can be maintained during later years.

### R Reading Strategy

**Interpreting the Photo** Have students examine the photo. Ask: What can you learn by interacting with friends and family members who are in various stages of life? **Sample answers:** *I can learn the responsibilities of different life stages. I can learn how to relate to many different people.* **OL**

## Growth and Development



### Chapter Preview

<b>Lesson 1</b> The Beginning of Life.....450	<b>Building Health Skills</b> .....470
<b>Lesson 2</b> Heredity and Environment.....455	<b>Time health news</b> .....472
<b>Lesson 3</b> From Childhood to Adolescence ..... 460	<b>Chapter Reading Review</b> .....473
<b>Lesson 4</b> Adulthood and Aging ..... 466	<b>Chapter Assessment</b> .....474

#### ▲ Working With the Photo

**R** Your teen years are just one of several life stages you will go through. **Can you think of three other stages of life?**



### Universal Access

**Differentiated Learning** Glencoe provides teacher support and student materials for all learners in the health classroom.

- Spanish Glosario and chapter summaries assist English Language Learners.
- *Reading Tutor* and related worksheets support reluctant readers.
- Universal Access strategies throughout the Teacher Wraparound Edition and Fast Files help you present materials for gifted students, at-risk students, physically impaired students, and those with behavior disorders or learning disabilities.

## Start-Up Activities

### Before You Read

What do you already know about growth and development? Take the short Health Quiz on this page. Keep a record of your answers.

**HEALTH QUIZ** Answer *true* or *false* to each of the following statements:

1. All human life begins as a single cell.
2. Your eye color is inherited from your parents.
3. Physical changes are not common in adolescence.
4. Late adulthood is the time most people start families.

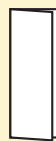
ANSWERS: 1. true; 2. true; 3. true; 4. false

### FOLDABLES™ Study Organizer

#### As You Read

Make this Foldable™ to help you organize what you learn in Lesson 1 about the beginnings of life. Begin with a plain sheet of  $8\frac{1}{2}'' \times 11''$  paper.

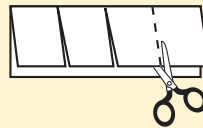
**1** Fold the sheet of paper along the long axis, leaving a half-inch tab along the side.



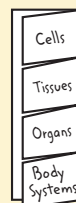
**2** Turn the paper, fold it in half, and then fold it in half again.



**3** Unfold and cut the top layer along the three fold lines. This makes four tabs.



**4** Turn the paper vertically and label the tabs as shown.



Under the appropriate tab, write down major concepts related to cells, tissues, organs, and body systems.

#### Health Online

Visit [health.glencoe.com](http://health.glencoe.com) and use the e-flashcards to preview Chapter 17 vocabulary terms.

## HEALTH QUIZ

**Stages of Life** Have students make a written record of their responses to the Health Quiz. Then have students form small groups to discuss their answers. Remind students that they will have a chance to review and revise their answers after they have completed the chapter.

## No Child Left Behind

### Classroom Management

Group work is an effective way to integrate struggling learners in the health classroom. When dividing the class into small groups, be certain to include students of varied abilities in each group. Explain to students that group work is a chance for each student to contribute and show his or her strengths. Walk around the room to monitor group work in progress, and offer positive feedback to groups that are demonstrating effective teamwork.

#### Health Online

Have students visit [health.glencoe.com](http://health.glencoe.com) and use the e-flashcards for Chapter 17.

### FOLDABLES™ Study Organizer

#### Dinah Zike Foldables™

**Organizing Main Ideas** As students read the lesson, have them record the main ideas, supporting details, and related terms about cells, tissues, organs, and body systems on the correct tab of the

Foldable™. On the back of the Foldable™, have students write a short paragraph that explains how cells, tissues, organs, and body systems are related. Remind students to review their Foldable™ as they prepare for the chapter assessment. **BL**

# FOCUS

## Activating Prior Knowledge

**What I Know** Ask students to define the term *body system*. Then have students identify human body systems, which were discussed in Chapter 16.

### Guide to Reading

#### BUILDING VOCABULARY

- Have students skim the lesson to find the meanings of the terms *embryo* and *fetus*. Have students write a sentence that compares and contrasts these terms.
- Use Vocabulary PuzzleMaker to reinforce vocabulary terms.

#### READING STRATEGY

**FOLDABLES™ Study Organizer** Have students use their Foldables™ as they read Lesson 1.

- **Analyzing a Graphic** Have each student write his or her summary as a series of bullet points. Explain that summarizing and sequencing the steps of a process can help to clarify how the steps are related.

### Quick Write

Ask volunteers to share their completed Quick Writes with the class. Use the students' responses to assess their prior knowledge of fertilization and development.

# The Beginning of Life

## Guide to Reading

### Building Vocabulary

Write the terms below in your notebook. As you read the lesson, write down their definitions.

- fertilization (p. 450)
- egg cell (p. 450)
- sperm cell (p. 450)
- uterus (p. 452)
- embryo (p. 452)
- fetus (p. 452)
- placenta (p. 453)
- umbilical cord (p. 453)
- cervix (p. 454)

### Focusing on the Main Ideas

In this lesson you will learn to

- **identify** the building blocks of life.
- **explain** how a single cell develops into a baby.
- **describe** the stages of birth.
- **access** information on the physical and emotional changes a pregnant female experiences.

### Reading Strategy

**Analyzing a Graphic** Using Figure 17.2 on page 452, summarize the process that a fetus goes through during the months before its birth.

**FOLDABLES™ Study Organizer** Use the Foldable™ on p. 449 as you read this lesson.

### Quick Write

Write a short paragraph explaining why you think some twins are identical and others are not.

## Building Blocks of Life

The cell is the basic unit of life. The human body is composed of trillions of cells, each with its own job to do. Cells that do similar jobs come together to form tissues. Tissues combine to form organs, and organs group together to form body systems. **Figure 17.1** illustrates how cells organize themselves into body systems.

### Fertilization

Your body started as a single fertilized cell. **Fertilization** is the joining together of a male sperm cell and a female egg cell, to form one cell. The reproductive cell from the female that joins with a sperm cell to make a new life is called an **egg cell**. The cell from the male that enters the egg cell during fertilization is called a **sperm cell**.

Fertilization takes place in the mother's reproductive system. The egg cell is fertilized in one of her two fallopian tubes. As soon as a sperm cell meets the egg cell, a film is produced around the egg. This prevents any additional sperm cells from entering the egg cell. Once fertilization takes place, a new life begins to grow.

## Lesson 1 Resources

- **Chapter FAST FILE Resources**
  - Guided Reading and Writing 17-1
  - Concept Mapping Activity 17-1
  - Cross-Curriculum Activity 17-1
  - Reteaching Activity 17-1
  - Enrichment Activity 17-1
  - Lesson Quiz 17-1

### Technology

- Transparency 17-1
- Audio Summaries
- ExamView
- Vocabulary PuzzleMaker
- StudentWorks™ Plus

▼ FIGURE 17.1

**R FROM CELL TO SYSTEM**

Cells work together in the body to create tissues, organs, and systems.

**Can you name some of the body's organs?**

**AL****1. Cells**

Cells are the basic building blocks of life. There are many different kinds of cells. Some cells come from the stomach where they play a role in digestion. Other kinds of cells in the body include heart, skin, and nerve cells.

**U****2. Tissues**

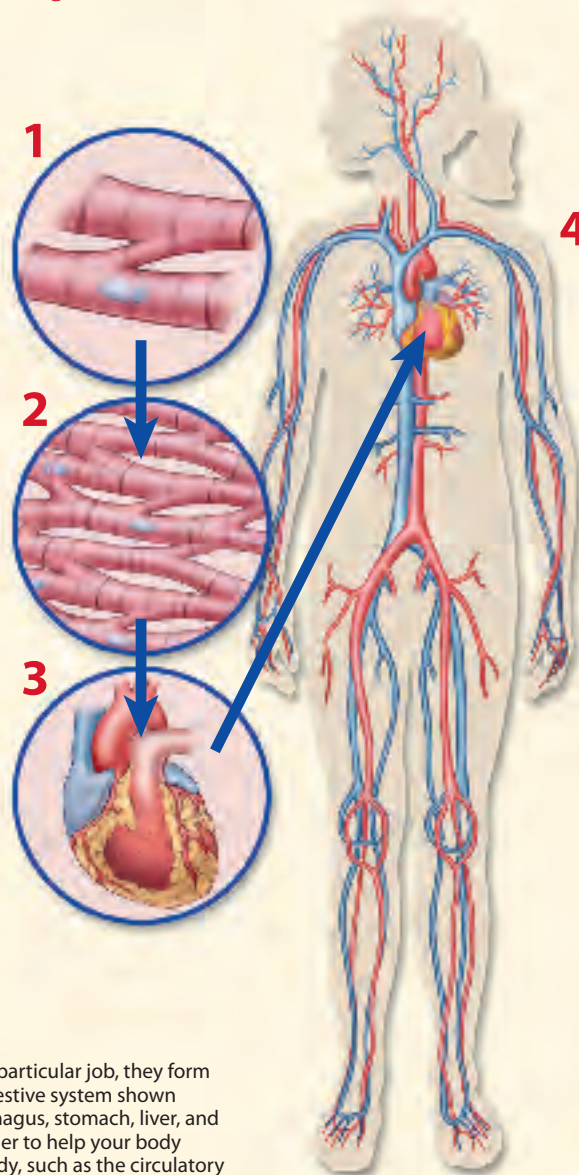
When cells get together to do similar jobs, tissues are created. There are many kinds of tissues in the body, including muscle tissue and brain tissue.

**3. Organ**

When tissues combine to form a structure designed to do a particular job, an organ is created. Examples of organs in your body include the heart, kidneys, lungs, and brain.

**4. Body System**

When organs work together to do a particular job, they form a body system. For example, the digestive system shown here is made up of the mouth, esophagus, stomach, liver, and intestines. These organs work together to help your body digest food. Other systems in the body, such as the circulatory system, have their own jobs. Systems cooperate with one another to keep your body balanced and running smoothly.



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**TEACH****R Reading Strategy**

**Analyzing a Graphic** Have students examine Figure 17.1. Ask: Name two organs in the human body that contain muscle tissue. **Sample answers:** *heart, stomach* How are organs related to body systems? **Organs make up body systems.** **OL**

**AL Active Learning**

**Quick Demo** Show students a hard-boiled chicken egg. Explain that the egg represents a single cell. Remind students that cells have different sizes and shapes, which are related to the cell's function. **OL**

**U Universal Access**

**Reluctant Readers and Writers** Have students work in four groups. Assign each group one of the levels of organization shown in the figure. Challenge students to become experts in their assigned topic. Ask each group to teach the other members of the class about its assigned topic. **BL**

**HEALTH LITERACY**

**Homeostasis** Cells, tissues, organs, and body systems are involved in maintaining balance, or *homeostasis*, in the human body. Hormones produced by the endocrine system regulate many activities of many of the body's tissues, organs, and systems.

Hormone secretions are controlled by feedback mechanisms. Have students research positive and negative feedback mechanisms in the human body and write a paragraph summarizing their findings. **OL**

**Caption Answer**

**Photo Caption** heart, kidneys, lungs, brain



**AL Active Learning**

**Time Line** Have students work in pairs. Provide each pair of students with a long piece of paper. Ask each pair of students to make a time line that describes the nine months of development before birth. Display the completed time lines in the classroom. **OL**

**R Reading Strategy**

**Analyzing a Graphic** Direct students' attention to Figure 17.2. Ask: At what point can a developing fetus hear? *At the end of the sixth month of development.* About how much growth occurs between the end of the fourth month and the end of the fifth month of development? *The fetus gains about 6 ounces in weight and about five inches in length.* **OL**

**Growth During Pregnancy**

Once an egg cell is fertilized it travels from the fallopian tube to the uterus. The **uterus** (YOO-tuh-ruhs) is a *pear-shaped organ inside a female's body where the embryo is protected and nourished.* The egg cell begins to divide into a group of cells called a *cluster of cells.* This cluster of cells is an **embryo**—*the developing organism from fertilization to about the eighth week of its development.* The embryo attaches itself to the inside wall of the mother's uterus. Once the embryo is attached to the uterus, the cells continue to

**AL** divide into cells that do specific jobs.

Over time, cells combine to form tissues. Tissues that do similar jobs combine to form organs, and organs combine to form body systems. By the end of the eighth week, the embryo's organs have started to develop. The embryo is now called a **fetus**—*the developing organism from the end of the eighth week until birth.* The fetus will continue to grow and develop for about nine months.

**Figure 17.2** shows how the embryo and fetus develop during those months.

**FIGURE 17.2**

**R NINE MONTHS OF DEVELOPMENT**

In just nine months, a single cell develops into a full-grown baby. **How big is the fetus at the end of the fifth month?**

**End of First Month**

The heart, brain and lungs of the embryo are forming. It is about one-third of an inch long.

**End of Second Month**

The heart of the fetus begins to beat, and all other organs are developing. It is about 1 inch long.



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**End of Third Month**

The fetus begins to move around. It weighs about 1 ounce and is about 3 inches long.

**End of Fourth Month**

The facial features of the fetus are well developed and its mother can feel it move. It weighs about 6 ounces and is about 5 inches long.

**End of Fifth Month**

The eyelashes and nails of the fetus appear and its heartbeat can be heard. It weighs about 1 pound and is just under 10 inches long.

**Caption Answer**

**Figure Caption** At the end of the fifth month, the fetus weighs about 1 pound and is just under 10 inches long.

**TECHNOLOGY AND HEALTH**

**Assisted Reproductive Technologies** There are many conditions that can cause a couple to be unable to conceive a child, including untreated STDs. Some technologies that are used to overcome infertility, including in vitro fertilization (IVF) and gamete intrafallopian transfer (GIFT), require both the

egg and the sperm to be manipulated in a medical laboratory. In other techniques, such as intrauterine insemination, only the sperm is manipulated in the medical laboratory. In these techniques, fertilization occurs in the female's body.

## Growth Inside the Uterus

In order for a fetus to develop, it must get food from its mother. The fetus receives nourishment through the placenta. The **placenta** (plu·SEN·tuh) is a thick, rich tissue that lines the walls of the uterus during pregnancy and that nourishes the fetus. The fetus gets food and oxygen through a blood vessel in the **umbilical cord** (uhm·BIL·i·kuhl), a tube that connects the mother's placenta to the fetus. The umbilical cord also carries away the wastes produced by the growing fetus.

Substances such as tobacco, alcohol, and other drugs can do harm to a fetus. For that reason, females should avoid using harmful substances when they are pregnant.



Reading Check

**Compare** What is the difference between an embryo and a fetus?

Health Online

Visit [health.glencoe.com](http://health.glencoe.com) and complete the Interactive Study Guide for Lesson 1.

## U Universal Access

**English Learners** Have students use index cards or science glossaries to record definitions for each of the lesson vocabulary terms. Have students work in pairs with English-proficient students to practice pronouncing the lesson vocabulary terms. **EL**

## W Writing Support

**Expository Writing** Have students use the information in the text to write expository paragraphs about fetal growth and development. Remind students that expository writing is used to share knowledge or to teach others. Have students review their work to check for proper capitalization, spelling, and grammar. **OL**



Reading Check

**Answer** *Embryo* is the term used to describe a developing organism from fertilization to eight weeks of development. *Fetus* is the term for the developing organism from the end of eight weeks until birth.

### End of Sixth Month

The fetus can hear, kick, swallow, and open and close its mouth. It weighs about 1.5 pounds and is about 12.5 inches long.

### End of Seventh Month

The fetus can open its eyes and move its arms and legs freely. It weighs about 2 to 2.5 pounds and is about 14.5 inches long.

### End of Eighth Month

The fetus's hair is getting longer and its skin becomes smoother. The fetus weighs about 4 pounds and is almost 18 inches long.

### End of Ninth Month

The baby's organs are all ready to work on their own. It weighs 7 to 9 pounds and is 18 to 20 inches long.



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## HEALTH LITERACY

**Premature Infants** Premature birth can occur for a number of reasons, including alcohol and drug use, infections or medical conditions of the mother, a multiple pregnancy, or abnormalities of the mother's uterus. In the United States, approximately

10 percent of babies are born prematurely. Premature babies are at risk for many health problems related to underdeveloped body systems. However, premature babies who have a birth weight of two pounds or more have a 90 percent chance of survival.




### Caption Answer

**Photo Caption, page 454**  
Contractions are strongest in stage two of birth.


## ASSESS

## Assessment Resources


## Lesson Review Quiz

-  ExamView
-  Fast Files Activities
-  Online Quizzes and Activities

## Reteaching

- Assign Concept Map 17-1 or Reteaching Activity 17-1 in the Fast Files. 
- Have students make a graphic organizer that shows how cells, tissues, organs, and body systems are related.

## Enrichment

- Assign Enrichment Activity 17-1 in the Fast Files. 
- Have students research differentiation, the process by which cells assume different structures to perform different functions in the body. Have each student write a paragraph that explains differentiation.

## CLOSE

Ask a volunteer to describe the function of the umbilical cord. Then ask students to explain why it is important for pregnant females to avoid alcohol, tobacco, and drugs.



## Stages of Birth

After growing and developing for about nine months inside its mother's body, a fetus is ready to be born. Birth occurs in three stages:

- **Stage One.** The muscles in the uterus begin to squeeze and release gently. These muscle movements, called contractions, mean that birth is starting. At this point, *the entry to the uterus*, called the **cervix**, begins to *dilate*, or open.
- **Stage Two.** The cervix continues to dilate, preparing for the baby to pass through. Contractions become very strong, helping to push the baby through the cervix, down the birth canal, and out of the mother's body.
- **Stage Three.** Once the baby is born, the placenta is no longer needed. The muscles of the uterus keep contracting until the placenta is pushed out of the mother's body.

▲ Nine months after becoming pregnant, a woman gives birth to her baby. **In which stage of birth are contractions the strongest?**

## Reading Check

**Recall** What happens during stage two of birth?

## Lesson 1 Review

## After You Read

Review this lesson for new terms, major headings, and Reading Checks.

## What I Learned

1. **Vocabulary** Define *fertilization*.
2. **Identify** What structure carries food and oxygen from the mother's body to her developing fetus?
3. **Recall** How is an organ different from a body system?

## Thinking Critically

4. **Analyze** How does a woman know that her baby is ready to be born?

5. **Apply** Janice is thinking about having a baby, but she likes to smoke cigarettes. Based on what you learned in this lesson, what advice would you give her?

## Applying Health Skills

6. **Accessing Information** A pregnant woman experiences many physical and emotional changes. Use reliable sources to learn more about these changes. Make a list of some of the physical and emotional changes that occur during pregnancy.

## Lesson 1 Review Answers

1. Fertilization is the joining together of two special cells, one from each parent, to form one cell.
2. The umbilical cord carries food and oxygen to a developing fetus.
3. Organs are formed from tissues. Body systems are groups of organs that work together.
4. A pregnant female knows her baby is ready to be born when she has muscle contractions.
5. Janice should stop smoking before she becomes pregnant because tobacco harms the fetus.
6. Help students locate reliable sources to use for their research.

## Lesson 2

## Heredity and Environment

## Guide to Reading

**Building Vocabulary**

Review the terms below. See if you can determine which terms are related to heredity and which terms are related to environment.

- heredity (p. 455)
- chromosomes (p. 456)
- genes (p. 456)
- genetic disorder (p. 456)
- environment (p. 456)
- prenatal care (p. 457)
- birth defects (p. 458)

**Focusing on the Main Ideas**

In this lesson you will be able to

- **explain** how characteristics are passed from parent to child.
- **identify** factors that could cause birth defects.
- **explain** the importance of prenatal care.
- **access** information on your family's health history.

**Reading Strategy**

**Finding the Main Idea** Read the main headings in this lesson. For each heading, write one sentence that describes the main idea.

## The One and Only You

Each and every person is a one-of-a-kind individual. This means that no two people share exactly the same looks, personality, or abilities. Many factors influence the way a person develops. Some factors are related to heredity, and others are environmental factors.

## Heredity

**Heredity** is the passing of traits from parents to their children. Traits include characteristics such as eye color, hair color, and body shape. Inherited traits can also include talents and abilities. Children can also inherit a tendency to develop certain diseases and other health problems.

- ▶ The genetic information passed from parent to child can mean that they look a lot alike. **What are some of the physical traits that this parent and child share?**



455

**Quick Write**

What steps should a pregnant woman take to care for herself and her developing baby?

## Lesson 2

## FOCUS

## Activating Prior Knowledge

**What I Know** Ask students to explain why medical care is important for all people. Tell students that this lesson includes information on specific medical care for pregnant females and explain why medical care is important for a healthy environment for developing babies.

## Guide to Reading

**BUILDING VOCABULARY**

- Explain that the word part *pre-* means "before" and the word part *-natal* means "birth." Have students relate this to the meaning of the term *prenatal care*.
- Use Vocabulary PuzzleMaker to reinforce vocabulary terms.

**READING STRATEGY**

- **Finding the Main Idea** After students have completed the Reading Strategy activity, have them work in pairs to review the main ideas of the lesson.

**Quick Write**

Have volunteers share their completed Quick Writes with the class. Ask students to identify steps named in the Quick Writes that would be good health advice for everyone, not only pregnant females.

## Lesson 2 Resources

- Chapter FAST FILE Resources**
- Guided Reading and Writing 17-2
- Concept Mapping Activity 17-2
- Cross-Curriculum Activity 17-2
- Reteaching Activity 17-2
- Enrichment Activity 17-2
- Lesson Quiz 17-2

**Technology**

- Transparency 17-2
- Audio Summaries
- ExamView
- Vocabulary PuzzleMaker
- StudentWorks™ Plus

## TEACH

**AL** Active Learning

**Game Show** Have students work in small groups to develop five game-show style questions about heredity and genetics. Give each group a turn to ask its questions of the class. Allow students to keep score if they would like.

**OL****R** Reading Strategy**Comparing and Contrasting**

Have students compare and contrast traits that can be passed from parents to children with those that are due to environmental factors. Ask students to identify traits from each category, and record their responses in two lists on the board. Explain to students the phrase *nature versus nurture*. Have a class discussion of the ways in which heredity and environment affect every individual's characteristics.

**OL****Reading Check**

**Answer** Genes are the basic unit of heredity.

**Caption Answer**

**Photo Caption, this page** through the umbilical cord

**Caption Answer**

**Photo Caption, p. 455** skin color, hair color, and eyes are similar



▲ A fetus needs nourishment to grow. **How does a fetus receive the food and oxygen it needs?**

for traits such as eye color and height. Each child inherits different combinations of chromosomes and genes from his or her parent. This means that even children with the same parents do not look exactly the same, or have the same personality.

**Genetic Disorders**

When the genes from one or both parents are abnormal or changed in some way a baby can be born with a **genetic** (juh-NE-tik) **disorder**. This is *a disorder caused partly or completely by a defect in genes*. A defect is a flaw or the absence of something needed.

Genetic disorders can occur when a fertilized egg has more or fewer than 46 chromosomes. For example, people with Down syndrome have an extra chromosome that causes them to have certain facial features and learning disabilities.

Other genetic disorders are caused by abnormal or defective genes. Sickle-cell anemia is a blood disorder caused by an abnormal gene. People with this disorder have abnormally shaped red blood cells that can block blood vessels and cause pain in the bones and joints.

**Reading Check**

**Explain** What role do genes play in heredity.

**Environment**

As a fetus develops, its health is affected by its environment. **Environment** is the *sum total of a person's surroundings*. A fetus's environment is its mother's uterus. If the mother is unhealthy or engages in harmful activities, the fetus can be affected. A healthy mother is more likely to have a healthy baby.

**HEALTH LITERACY**

**Mitosis and Meiosis** Human body cells are formed by the process of mitosis, in which a cell's chromosomes duplicate before the cell divides. This process results in new cells with two sets of chromosomes in each. Egg cells and sperm cells are formed by the process of meiosis. In this process,

a cell with 46 chromosomes duplicates its chromosomes, divides, and then divides again without undergoing chromosome duplication. In this way, egg cells and sperm cells that contain 23 chromosomes are formed.



## Health Skills Activity

### Accessing Information

#### Your Family's Health History

Researching your family's health history will let you know if you are at risk for developing certain diseases. It will also help you make healthy decisions that can prevent or lower your risk of disease. One way to learn about the health histories of family members is to create a questionnaire and ask them to fill it out. You will want to know what diseases or other health problems your family members have now or have had in the past.

#### On Your Own

Brainstorm a list of questions to include on a health history questionnaire. Create the questionnaire and give it to your parents, their siblings, and—if possible—your grandparents. Also ask your grandparents about diseases or other health problems their parents may have had.

### Prenatal Care

When a female learns that she is pregnant, it is important that she begin prenatal care right away. **Prenatal care** (pree-NAY-tuhl) includes *steps taken to provide for the health of a pregnant female and her baby*. Prenatal care includes regular visits to an obstetrician (ahb-stuh-TRI-shuhn). This is a doctor whose specialty is the care of a pregnant female and her unborn child. During a regular visit, the obstetrician may look at the baby using ultrasound. This technology uses sound waves to form a picture of the fetus in its mother's uterus. Doctors use these pictures to check the growth of the fetus and to detect any problems that might exist. A good prenatal program also includes the following positive health behaviors:

- Eating healthful foods
- Participating in moderate exercise
- Getting plenty of rest
- Avoiding alcohol, tobacco, and other drugs
- Talking to a doctor or other health care provider before taking any medicines

**AL**


#### Reading Check

**List** Name two health behaviors that are part of a good prenatal program.

## Dealing with Sensitive Issues

**Students with Genetic Disorders** Due to the large number of genetic disorders that affect humans, it is likely that one or more students in your class will have a genetic disorder. When discussing genetic disorders, use sensitive and correct

terminology. While some genetic disorders vary in prevalence between cultural or racial groups, it is never appropriate to categorize a particular disease as a problem solely for those of a particular group.

## Health Skills Activity

### Accessing Information

#### Your Family's Health History

Use the following strategies to help students complete the activity:

- Help students develop questions that will allow them to discover their family's health history.
- Be sensitive to students who are not in a traditional family, and those who may have no access to their family's medical history. Have an alternative assignment available for any student who cannot complete the survey.
- Caution students to keep personal family information private. The health history questionnaire should be for use at home and not to be turned in to the teacher. **OL**

### AL Active Learning

**Infomercials** Have students work in small groups to make infomercials that describe positive health behaviors that can help mothers have healthy babies. If possible, have each group prepare a video of its infomercial. Ask students to present their infomercials to the class and to other students at the same grade level. **OL**



#### Reading Check

**Answer** Good prenatal care includes regular medical checkups, moderate exercise, plenty of rest, eating healthful foods, and avoiding harmful substances.

Connect To...  
ScienceTreatment of a  
Premature Infant

After students have read the feature, point out that developments in medical technology have improved the chances that a baby born prematurely will survive and grow to be a healthy child. Lead a class discussion of changes in medical technology that have positively affected human health. **OL**

**HS** Health Skills  
Practice

**Accessing Information** Have students use print or online resources to research the effects of drugs, alcohol, and tobacco on developing fetuses. Remind students of the characteristics of reliable health information found online or in print. Have each student prepare either a written paragraph or brief oral report summarizing his or her findings. **OL**

## Caption Answer

**Photo Caption, this page**  
Sample answer: Prenatal care and genetic factors are two factors that determine if a baby will be born healthy.

## Caption Answer

**Photo Caption, p. 459**  
Sample answer: Medicines, alcohol, nutrition, infections, and STDs can all affect the health of an unborn child.

Connect To...  
ScienceTreatment of a  
Premature Infant

When a baby is born premature, he or she may be taken to the neonatal intensive care unit of the hospital. Here, sick and extremely premature infants will receive additional treatment, depending on the nature of their medical condition. Babies who need help breathing are given a ventilator or oxygen tube. Some require medication, and sometimes even surgery.

- ▼ Using alcohol during pregnancy can result in premature birth and low birth weight. **What factors help determine whether or not a baby will be born healthy?**



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## Birth Defects

**Birth defects** are abnormalities present at birth that cause physical or mental disability or death. Good prenatal care can help prevent birth defects. Some birth defects, however, are caused by genetic disorders or problems with the fetus's environment. For example, certain infections during pregnancy can cause birth defects.

The following are six kinds of environmental factors that can contribute to a birth defect:

## Poor Nutrition

One way a mother can make sure she has a healthy baby is to eat well while she is pregnant. While in the uterus, the fetus relies on its mother for all of its needs. If a mother has an unhealthy diet, her baby could be born prematurely, or too soon. The baby may also have a low birth weight and is at risk of developing physical and mental problems.

## Alcohol Use

Everything a pregnant woman drinks is carried in her blood to the fetus. Alcohol makes it difficult for the baby to get the oxygen and nourishment it needs for cell development. If a woman drinks during pregnancy, her baby may develop fetal alcohol syndrome (FAS). Children born with FAS may have physical problems and learning disabilities. Women who are pregnant, or want to become pregnant, should avoid using alcohol.

**HS**

## Medicine and Other Drugs

Medicines and other drugs affect both the mother and her baby. Pregnant women should take only medicines that are approved by a doctor or other health care provider. If a pregnant woman takes certain illegal drugs or prescription drugs, her baby may be born with a drug addiction.

## Infections

When a pregnant woman develops an infection, it can sometimes cause serious harm to the fetus. For example, if a woman develops Rubella (German measles) during pregnancy, her baby might be born deaf or suffer from other health problems. To avoid serious problems, women should be vaccinated against certain diseases before they become pregnant.

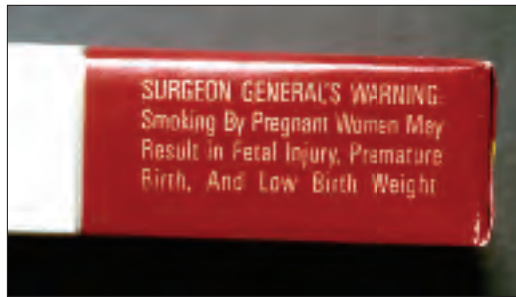
## HEALTH LITERACY

## Pregnancy and Secondhand Smoke

According to researchers, secondhand smoke exposure causes fetal damage almost identical to the damage caused by maternal smoking. Babies born to mothers who were exposed to secondhand smoke are also more likely to have a low birth

weight, which indicates slow fetal growth. Ask students to use this information in a letter to the editor encouraging cities and businesses to provide smoke-free areas for those who wish to avoid secondhand smoke.

- ▶ Smoking during pregnancy can negatively affect a fetus's health. **What other behaviors during pregnancy affect the health of the unborn child?**



### Tobacco

When a pregnant woman smokes or spends time around smokers, she risks damaging the health of her unborn child. Tobacco can have a negative effect on a fetus's growth and cause it to be born prematurely. Babies whose mothers smoke while pregnant are also at risk of having a low birth weight.

HS

### STDs

Certain sexually transmitted diseases (STDs) can be passed from a mother to her fetus causing serious health problems. Herpes and syphilis are two examples. A mother infected with herpes or syphilis may not even know it because there may be no visible symptoms. STDs can cause brain damage, blindness, and even death. A pregnant woman who thinks she might have an STD should talk to her doctor immediately.

Visit [health.glencoe.com](http://health.glencoe.com) and complete the Interactive Study Guide for Lesson 2.

## Lesson 2 Review

### After You Read

Review this lesson for new terms, major headings, and Reading Checks.

#### What I Learned

- Vocabulary** Define *prenatal care*.
- Identify** What are the structures in the nucleus of every cell that carry genetic information?
- Give Examples** List two substances that could harm a fetus if its mother takes them into her body while she is pregnant.

#### Thinking Critically

- Analyze** Why should a pregnant female be concerned if she gets sick before she has her baby?

- Apply** Cynthia's aunt just learned that she is pregnant. Cynthia knows that her aunt wants to do everything she can to have a healthy baby. What could Cynthia do to help her aunt stay healthy?

#### Applying Health Skills

- Advocacy** Create a brochure that will encourage pregnant women to practice positive health behaviors during their pregnancies. Include actions they can take to stay healthy as well as behaviors they should avoid.

For more review questions for Lesson 2, go to [health.glencoe.com](http://health.glencoe.com).

Lesson 2: Heredity and Environment 459

## ASSESS

### Assessment Resources

Lesson Review Quiz

ExamView

Fast Files Activities

Online Quizzes and Activities

### Reteaching

- Assign Concept Map 17-2 or Reteaching Activity 17-2 in the Fast Files.
- Have students work in pairs to discuss how heredity, chromosomes, and genes are related and how they can impact a person's life. Call on several pairs of students to share their responses.

### Enrichment

- Assign Enrichment Activity 17-2 in the Fast Files.
- Have students interview a doctor, nurse, or other medical professional to find out more about good health care for pregnant females. Have students prepare written summaries of their interviews.

## CLOSE

Ask volunteers to identify environmental factors that can contribute to birth defects.

## Lesson 2 Review Answers

- Prenatal care includes steps a pregnant female takes to provide for her own health and the health of her baby.
- Chromosomes are the structures that carry genetic information.
- Sample answers:* drugs, tobacco, alcohol, and over-the-counter medicines
- Sample answers:* Certain infections can harm the baby.
- Sample answers:* offering to exercise with her, helping her to prepare healthy foods, encouraging her to get plenty of rest
- Have students review the lesson to find information to use in their pamphlets.



# FOCUS

## Activating Prior Knowledge

**What I Know** Ask students to describe physical, social, and mental/emotional characteristics of toddlers and preschoolers.

### Guide to Reading

#### BUILDING VOCABULARY

- Point out that a *task* is a duty or a job that needs to be done. Have students relate this to the meaning of the term *developmental tasks*.
- Use Vocabulary PuzzleMaker to reinforce vocabulary terms.

#### READING STRATEGY

- **Predicting** Ask volunteers to share their questions and answers with the class.

### Quick Write

After students have completed their lists, ask them to classify the differences as positive or negative. For example, a positive difference might be that an adolescent has more freedom than a child.

## Academic Vocabulary

**Establish** Page 461 states that young adults try to establish close personal relationships. Have a volunteer define the term *establish* for the class. Then have students list synonyms for the word *establish*. (start, institute) **OL**

# From Childhood to Adolescence

## Guide to Reading

### Building Vocabulary

In your own words, write the definition of each of the following terms. Check to see if you are correct as you read the lesson.

- developmental tasks (p. 460)
- infancy (p. 462)
- toddlers (p. 462)
- preschoolers (p. 462)
- puberty (p. 463)

### Focusing on the Main Ideas

In this lesson, you will learn to

- **explain** Erikson's stages of life.
- **identify** some developmental tasks facing adolescents.
- **describe** the stages of childhood.
- **practice** stress management to help you cope with mood swings.

### Reading Strategy

**Predicting** Look over the headings in this lesson. Write a question that you think the lesson will answer. When you are finished reading the lesson, see if your question has been answered.

### Quick Write

Make a list of all the ways you think adolescence is different from childhood.

## Stages of Development

From the day a baby is born, he or she begins to develop in all three areas of the health triangle. The process of developing from a baby to an adult is often explained in stages or steps. According to psychologist Erik Erikson, there are eight stages in the human life cycle. Each stage has its own **developmental tasks**. These

are *events that need to happen in order for you to grow toward becoming a healthy, mature adult*. The eight stages of life and their developmental tasks are illustrated in **Figure 17.3**.

When people master the developmental tasks in one stage and move on to the next stage, they improve their emotional and social health. They build confidence and are better able to relate to others.



- ◀ One developmental task of adolescence is to find and express your unique self. **What makes you unique?**

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## Lesson 3 Resources



### Chapter **FAST FILE** Resources

- Guided Reading and Writing 17-3
- Concept Mapping Activity 17-3
- Health Lab 17-3
- Reteaching Activity 17-3
- Enrichment Activity 17-3
- Lesson Quiz 17-3

### Technology

- Transparency 17-3
- Audio Summaries
- ExamView
- Vocabulary PuzzleMaker
- StudentWorks™ Plus

▼ FIGURE 17.3

**R** ERIKSON'S STAGES OF LIFE

In each stage, there is a developmental task that involves relating to other people. **What is the developmental task for late childhood?**

**1** Infancy

**Birth to 1 year**

**Characteristic of stage:** child must depend on others to meet every need

**Developmental task:** learn to trust

**2** Early Childhood

**1 to 3 years**

**Characteristic of stage:** child is learning to do things on his or her own

**Developmental task:** to develop the ability to do things for oneself

**3** Middle Childhood

**3 to 5 years**

**Characteristic of stage:** child begins to make decisions and to think of and carry out tasks

**Developmental task:** to develop initiative — ability to create one's own play

**4** Late Childhood

**6 to 11 years**

**Characteristic of stage:** child explores surroundings and masters more difficult skills

**Developmental task:** to develop interest in performing activities

**5** Adolescence

**12 to 18 years**

**Characteristic of stage:** adolescent searches for his or her own identity

**Developmental task:** to develop a sense of who one is

**6** Young Adulthood

**19 to 30 years**

**Characteristic of stage:** young adult tries to establish close personal relationships

**Developmental task:** to develop intimacy — a strong relationship with another person

**7** Middle Adulthood

**31 to 60 years**

**Characteristic of stage:** adult focuses on accomplishment in workplace and is concerned with the well-being of others

**Developmental task:** to develop the sense of having contributed to society

**8** Maturity and Old Age

**61 years to death**

**Characteristic of stage:** person reflects on and tries to understand meaning of own life

**Developmental task:** to develop a sense of satisfaction with one's life

**Stages of Childhood**

The physical and mental/emotional growth that occurs during childhood can be grouped into four stages. These stages are called infancy, early childhood, middle childhood, and late childhood.

Lesson 3: From Childhood to Adolescence 461

**TEACH****R** Reading Strategy

**Analyzing a Graphic** Ask students to review the contents of Figure 17.3 in small groups. Have students discuss in their groups how they could help younger family members or neighbors master developmental tasks. Ask: How could a student your age help a child between the ages of 1 and 3 years to develop self-confidence? **Sample answer:** *I could show patience as the child learns to do things on his or her own.* **OL**

**HS** Health Skills Practice

**Goal Setting** Ask each student to record some of his or her long-term goals. Ask students to identify the stage of life during which they hope to achieve the identified goals. Then have students write down steps that they could take now in order to achieve their long-term goals.

**OL**

**Caption Answer**

**Figure Caption, this page** to develop interest in performing activities

**Caption Answer**

**Photo Caption, p. 460**  
**Sample answer:** Things that make me unique include my ability to sing, my love of movies, and my ability to play basketball well.

**Promoting Coordinated School Health**

**Counseling and Health Services** The school nurse and guidance counselor are excellent resources for students who have questions about their physical, emotional, or social development during adolescence. Invite the school nurse or guidance counselor to

speak to the class about the health services offered at the school. Be certain that students know the procedure for making an appointment with the nurse or guidance counselor if they have questions they would like to discuss.

**U Universal Access****Gifted Students: Enrichment**

Have students use print or online resources to research the changes that the human brain undergoes as it grows and changes during childhood. Have students use presentation software to share their findings with the class. **AL**

**R Reading Strategy****Organizing Information**

Have students use index cards to organize the information about the stages of childhood. Have students label a separate index card for each stage. Then have students record three or more bulleted statements on each card, summarizing the information in the text. Students can use their index cards as study aids when they prepare to take the chapter assessment. **OL**



- ▲ Creativity plays an important role in a child's development. **Why do you think it is so important for young children to be proud of their creative projects?**

**Infancy**

The first year of life is called **infancy**. During infancy, a child doubles in height and triples in weight. A child begins to move around and to explore the world during the first year of life. When an infant's needs are met in a loving and consistent way, he or she learns to trust people and feel safe.

**Early Childhood**

**Toddlers** are children between the ages of one and three who are learning to walk and talk. This is an exciting time for children. They are learning to do things on their own. They are also running into stumbling blocks along the way. As children explore and test their abilities, they learn a lot from their failures as well as their successes.

**Middle Childhood**

Children between the ages of three and five are often called **preschoolers**. This age is a time of curiosity when children ask a lot of questions and use their imaginations. They often enjoy pretending to be adults, so how adults behave around them is important. Preschoolers need lots of encouragement and praise for trying new things. This praise helps them feel good about themselves and builds positive self-esteem. An adult or older sibling who is critical or impatient can lower a child's self-esteem.

As preschoolers grow, they develop better physical coordination. They like to use their bodies in active play, such as drawing pictures and jumping rope.

**Late Childhood**

Between the ages of six and eleven, school becomes an important part of most children's lives. At school they practice social skills, make friends, and discover a whole world outside their families. At this stage, children's physical growth is a little slower and steadier. This is a creative time, and many children put a lot of energy into artistic projects such as drawing and building.

**Adolescence**

Adolescence is a time when you are no longer a young child, but are not yet an adult. During adolescence, you will experience many physical, mental/emotional, and social changes. These changes will help prepare you for adulthood.

**Caption Answer**

**Photo Caption** *Sample answers:* When children are proud of their creative work, it helps them to build self-esteem.

**What Teens Want to Know**

**What should I know before I babysit an infant?** Being familiar with the characteristics and developmental needs of infants can help teens prepare to be good babysitters. Explain that, because infants rely on their caregivers to meet all of their needs, babysitting an infant requires

training and a high level of maturity. Provide students with information about Red Cross babysitter-training programs that are available in your community, or work with faculty and staff to develop a babysitter-training program at the school.

## Physical Development

After infancy, the second-fastest period of physical growth is adolescence. These physical changes are the result of puberty. **Puberty** is the time when you start developing physical characteristics of adults of your gender. Puberty usually starts between the ages of 8 and 14. Most girls typically begin puberty earlier than boys do, but this is not always the case. Each individual grows and develops at his or her own rate. Many of the physical changes that males and females go through during puberty are listed in **Figure 17.4**. These changes are the result of hormones produced by the body's endocrine system.

▼ FIGURE 17.4

### R PHYSICAL CHANGES DURING PUBERTY

Males and females go through a variety of changes. **How are they similar and how are they different?**



Female	Both	Male
<ul style="list-style-type: none"> <li>• Female hormone production increases.</li> <li>• Breasts develop.</li> <li>• Hips get wider.</li> <li>• Uterus and ovaries enlarge.</li> <li>• Ovulation occurs.</li> <li>• Menstruation begins.</li> <li>• Body fat increases.</li> </ul>	<ul style="list-style-type: none"> <li>• Growth spurt occurs.</li> <li>• Acne may appear.</li> <li>• Perspiration increases.</li> <li>• Pubic hair appears.</li> <li>• Underarm hair appears.</li> <li>• External genitals enlarge.</li> <li>• Most permanent teeth have come in.</li> </ul>	<ul style="list-style-type: none"> <li>• Male hormone production increases.</li> <li>• Facial hair appears.</li> <li>• The larynx enlarges and the voice gets deeper.</li> <li>• Shoulders broaden.</li> <li>• Muscles develop.</li> <li>• Sperm production begins.</li> <li>• Breasts can become tender and enlarged temporarily.</li> </ul>

Lesson 3: From Childhood to Adolescence 463

### R Reading Strategy

**Analyzing a Graphic** Have students examine Figure 17.4. Ask: The physical changes of puberty happen at different ages in different people. How can differing rates of development cause stress for teens? **Sample answer:** *A teen who develops much earlier or later than his or her peers might feel embarrassed or stressed.* What is a positive way to deal with stress or questions about physical development? **Sample answer:** *talk to a parent, guardian, or the school nurse*

OL

## Cultural Perspectives

**Age Variation in the Onset of Puberty** In the United States, the age at which females begin the physical changes of puberty has declined over the past few decades. Results of a study published in the journal *Pediatrics* indicate that some American

females show physical signs of the early onset of puberty by age 9. Scientists attribute the difference to a combination of genetic and environmental factors, and some consider obesity to be one of the factors.

### Caption Answer

**Photo Caption** *Sample answer:* Males and females both undergo growth spurts; only males develop facial hair.

## Health Skills Activity

### Stress Management

#### Coping with Mood Swings

Use the following strategies to help students complete the activity:

- Have students discuss with small groups the bulleted suggestions for dealing with mood swings. Challenge students to identify other healthful ways for dealing with mood swings.
- Have each student complete a poster as directed in the text. Ask students to include some of their original tips on their posters.

### Reading Check

**Answer, p. 465** Approaching life like an adult and establishing a sense of independence are two developmental tasks of adolescence.

## Health Skills Activity

### Stress Management

#### Coping with Mood Swings

The mood swings you experience during your teen years can feel like you are on an emotional roller coaster. Below are some tips for dealing with mood swings in healthful ways.

- **Do something nice for yourself.** For example, listen to your favorite music or get together with a friend.
- **Be creative.** Write about what you are feeling or express your emotions through painting or another form of artwork.
- **Get moving.** Physical activities help the body stay in balance. They will also help take your mind off whatever is bothering you.
- **Get some help.** When you are sad or angry it is easy to feel alone. Talk to friends, family, or other trusted adults about what you are feeling.
- **Get some rest.** With all the changes going on in your body, extra rest can really help. Try taking a nap or just relaxing with a book or magazine.
- **Eat well.** Help your body through its many changes by eating nutritious foods.

#### On Your Own

Create a poster for teens listing healthful ways to cope with mood swings. Include the tips described above and other suggestions you can think of. With permission, hang your posters where other students can see them.

### Emotional Development

Emotional changes are a normal part of adolescence. The hormones that control your physical growth and development can also affect your thoughts and feelings. You begin to think and act more independently. You are aware of how your opinions and actions affect others. You might have mood swings, where you are happy one minute and sad the next. Mood swings can be confusing and unpleasant, but they are a normal part of adolescence.

You cannot control your hormones or the emotional changes they cause. You can, however, control your response to these changes. Express your emotions in healthy ways. Talk about your feelings with others. Do activities that help you relax. Listen to music, play sports, take a walk, or spend time with family and friends. Managing your emotions in a healthy way will help you build strong emotional health.

## HEALTH LITERACY

**Emotions and Adolescence** A recent study found that teens read facial expressions differently than adults do. In the study, teens aged 12 to 17 correctly identified faces showing fear only 25 percent of the time (compared with 100 percent for adults). Instead, the teens thought the fearful faces

showed anger, confusion, or sadness. MRI scans revealed that the teens used a different part of the brain to process the information than adults normally do. Study authors think that teen brains may not be fully mature and able to process emotions in an adult way until they are in their twenties.

## Social Development

As you make the transition from child to adult, you face developmental tasks. These tasks help you develop your self-concept, or the view you have of yourself. They also help you grow socially, by helping you relate to others in a positive way. As you master these developmental tasks, you are preparing for a successful transition to adulthood. Here are some of those tasks:

- Establish independence from your parents and other adults.
- Spend time alone and learn more about yourself.
- Consider what is important to you in life.
- Approach life like an adult, using your intelligence and reason to solve problems.
- Accept your body and its characteristics.
- Form mature relationships with people of both genders.
- Become interested in your community and show that you care about it.

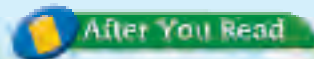


**Identify** What are two developmental tasks associated with adolescence?

**Health Online**

Visit [health.glencoe.com](http://health.glencoe.com) and complete the Interactive Study Guide for Lesson 3.

## Lesson 3 Review



Review this lesson for new terms, major headings, and Reading Checks.

### What I Learned

1. **Vocabulary** Define *puberty*.
2. **Identify** What are the four main stages of childhood?
3. **Give Examples** List three physical changes that females experience during puberty, and three that males experience.

### Thinking Critically

4. **Analyze** Why is it important for adults to support and encourage children?
5. **Apply** Kottiya seems to be on an emotional roller coaster every day. She was

cheerful and talkative this morning, but she felt sad and grumpy at lunchtime. All of these emotions leave her feeling confused and worried. What advice would you give Kottiya to help her understand and cope with her mood swings?

### Applying Health Skills

6. **Analyzing Influences** Look at several teen magazines. In what ways do the articles, advertisements, and photos try to influence teens? Give an example of a positive influence and an example of a negative influence.

**Health Online** For more review questions for Lesson 3, go to [health.glencoe.com](http://health.glencoe.com).

Lesson 3: From Childhood to Adolescence 465

## ASSESS

### Assessment Resources

Lesson Review Quiz

ExamView

Fast Files Activities

Online Quizzes and Activities

### Reteaching

- Assign Concept Map 17-3 or Reteaching Activity 17-3 in the Fast Files.
- Have students work in pairs to write sentences that summarize each of Erikson's eight stages of life.

### Enrichment

- Assign Enrichment Activity 17-3 in the Fast Files.
- Have students work in small groups to create video presentations about the stages of childhood. Ask each group to share its video with the class.

## CLOSE

Ask students to identify developmental tasks of adolescence. Ask for examples of how teens succeed in this developmental task.

## Lesson 3 Review Answers

1. Puberty is the time when teens begin to develop the physical characteristics of adults of their gender.
2. infancy, early childhood, middle childhood, late childhood
3. *Sample answers: females:* menstruation, breast development, ovulation *males:* muscle development, facial hair, sperm production
4. Children need encouragement in order to develop self-esteem.
5. *Sample answer:* Mood swings are a normal part of growing up.
6. Provide teen magazines for students to use for their research.

# FOCUS

## Activating Prior Knowledge

**What I Know** Ask students to think about the lives of the adults they know. Then have students identify aspects of being an adult that they are looking forward to.

### Guide to Reading

#### BUILDING VOCABULARY

- Have students make a graphic organizer to show how the lesson vocabulary terms are related.
- Use Vocabulary PuzzleMaker to reinforce vocabulary terms.

#### READING STRATEGY

- **Organizing Information** Have students create a chart with three column headings: *Early Adulthood*, *Middle Adulthood*, and *Late Adulthood*. Students can add to their charts as they read the lesson.

### Quick Write

After students have completed their Quick Writes, have them identify reasons why older adults are excellent sources of advice.

## Academic Vocabulary

**Predictable** The text explains that some people move through the stages of adulthood in a predictable sequence. Explain that *predictable* means “able to be known in advance.”

# Adulthood and Aging

## Guide to Reading

### Building Vocabulary

Chrono is the Greek word for “time.” Choose the term from the list below that you think describes a person’s age by the number of years lived. Write down what you think the definitions are for the other two terms. Check your definitions as you read.

- chronological age (p. 468)
- biological age (p. 468)
- social age (p. 468)

### Focusing on the Main Ideas

In this lesson, you will learn to

- **identify** the three stages of adulthood.
- **explain** the difference between chronological, biological, and social age.
- **describe** how to keep your health triangle in balance during your later years.

### Reading Strategy

**Organizing Information** Create a chart that is divided into three parts. Describe one of the stages of adulthood in each of the three parts.

### Quick Write

Pretend that you are an older person. Write a letter to the person you are now. What kinds of stories or advice would the older you want to share with the younger you?

## Stages of Adulthood

Like childhood, adulthood can be divided into stages. These stages are early, middle, and late adulthood. Each stage is marked by certain milestones such as starting a career, raising children, retiring, and so on. While many people go through these stages in a predictable way, some do not. For example, some adults choose to marry later in life or not at all. Some adults retire early, while others continue working as long as they can.



- ▶ For many people, establishing a career is an important part of early adulthood. **What do you think your goals will be when you reach early adulthood?**

## Lesson 4 Resources

- **Chapter FAST FILE Resources**
  - Guided Reading and Writing 17-4
  - Concept Mapping Activity 17-4
  - Decision-Making Activity 17-4
  - Reteaching Activity 17-4
  - Enrichment Activity 17-4
  - Lesson Quiz 17-4

### Technology

- Transparency 17-4
- Audio Summaries
- ExamView
- Vocabulary PuzzleMaker
- StudentWorks™ Plus

## Early Adulthood

In early adulthood, many people are busy pursuing an education or training for a job or career. They may try several different jobs before they find something they enjoy doing. People form new interests and friendships during this stage. This is also the time when many people choose to get married and start a family. Some people, however, wait until middle adulthood to marry or have children.

## Middle Adulthood

At the beginning of this stage, many people are focused on advancing in their jobs. This could mean developing new skills or taking on more responsibility at work. This stage is also a time when many people are raising children. People in middle adulthood are often interested in contributing to their communities. They may volunteer to help young people or raise money for their favorite charity. As people move through middle adulthood, they may begin planning for retirement. Some people may even choose to retire early during this stage.

## Late Adulthood

This stage begins around age 60 when many people look forward to retiring from their jobs. When people retire, they often pursue interests they did not have time for while they were working or raising children. Some people continue to work during late adulthood and some pursue new careers. People at this stage may also choose to stay active by doing volunteer work or spending time with their grandchildren. Maintaining good health will help you stay active during late adulthood. Develop good eating and exercise habits now during your teen years. People who develop good habits early are more likely to stick with them later in life.



### Reading Check

**Compare** What is the difference between early and middle adulthood?

- ▶ Staying active and being involved with people of all ages is fun for everyone. **Can you think of other sports or activities that older and younger people can enjoy together?**



Lesson 4: Adulthood and Aging 467



### Respect

Older adults have a lot of wisdom and experience to share, even though their bodies may not move as fast as yours. You can show respect for older adults by listening and speaking in a polite manner. Make a list of topics you think would be interesting to discuss with older adults.

**What are some other ways to show respect to older adults?**

# TEACH



### Respect

Have students work in small groups to make lists of topics that would be interesting to discuss with older adults. Remind students to consider topics such as changes in technology (an older adult might remember the first televisions, for example), in the local community, and in government. If possible, have students discuss some of these topics with an older adult they know. Have students describe their conversations to the remainder of the class.

**OL**



### Reading Check

**Answer** During early adulthood, people tend to focus on education, preparing for a career, and on relationships; during middle adulthood, people often focus more on career advancement, contributing to their communities, and on maintaining a family.

### Caption Answer

**Photo Caption, p. 466**  
Answers will vary.

### Caption Answer

**Photo Caption, this page**  
*Sample answer:* Tennis and board games are two examples.

## What Teens Want to Know

**How can my health habits affect my adult life?** Health habits established during the teen years can have a lasting impact on health. For example, consuming 1,300 milligrams of calcium a day during the teen years can help prevent the development

of osteoporosis in late adulthood. Getting enough physical activity as a teen can help prevent cardiovascular disease later in life. Have students set a goal to establish healthy habits that can have a positive impact on their adult years. **OL**



**C Critical Thinking**

**Analyzing** After students have read about early adulthood, ask them to recall the developmental tasks of adolescence. Have students discuss the importance of mastering the developmental tasks of adolescence before entering early adulthood. **OL**

**Health Online**

**Finding Common Ground** Have students work in small groups to access the resources at [health.glencoe.com](http://health.glencoe.com). Challenge students to identify factors that would contribute to the success of a senior/teen program.

**Reading Check**

**Answer** Three ways to measure age include chronological age, biological age, and social age.  
**Answer, p. 469** Older adults who keep their health triangles balanced make their late years more rewarding and productive.

**Caption Answer**

**Photo Caption** *Sample answer:* Establishing good health habits as a teen can help you enjoy good physical, social, and mental/emotional health as an older adult.

**Health Online****Topic: Finding Common Ground**

Visit [health.glencoe.com](http://health.glencoe.com) for Student Web Activities to learn more about how communities across the country are bringing seniors and teens together.

**Activity:** Using the information provided at the link above, create a proposal for a teen-senior program that brings teens and seniors together to benefit your community.

- ▼ When you stay active, biological age may be younger than chronological age. **How can actions as a teen affect your biological age as you reach late adulthood?**



468 Chapter 17: Growth and Development

**Measuring Age**

Many older people will tell you they feel much younger than their years. As you get older, good health and a positive attitude can help you feel younger than you are. Age can be measured in three different ways:

- **Chronological** (krah-nuh-LAH-ji-kuhl) **age.** You learned earlier that *chrono* is the Greek word for “time.” Therefore, your **chronological age** is your *age measured in years*. It is the amount of time you have been living since you were born. You have no control over this number.
- **Biological age.** *Age determined by how well various body parts are working* is your **biological age**. It is affected by diet, exercise, and heredity, among other factors. If you make healthy choices throughout your life, your body will stay healthier longer. However, physical changes will occur naturally as your body ages—no matter how healthy you are.
- **Social age.** *Age measured by your lifestyle and the connections you have with others* is your **social age**. Social age has to do with the activities that society expects you to participate in at certain stages of life. For example, as a young child you were expected to grow, learn, and play. As an adult, you will be expected to work and perhaps contribute to your community. Some adults choose to delay entering the workforce or accepting other responsibilities. These people may have a younger social age than other adults of similar age.

**Reading Check**

**Recall** Name the three different ways to measure age.

**Aging: A Positive Experience**

Good health is an important part of the aging process. That is why older people need to pay attention to the health triangle, just as teens do. When adults are careful to keep all sides of their triangle in balance, they help to make their later years rewarding and productive. Here are some tips for keeping your health triangle balanced during late adulthood:

- **Physical health.** Older adults who take care of their physical health usually have a biological age that is younger than their chronological age. They may face fewer illnesses and disabilities that could prevent them from enjoying themselves.

**HEALTH LITERACY****Heredity and the Human Lifespan**

Researchers at Harvard University and UC Davis have found that a group of genes, called the SIR2 family, influence aging and are thought to impact human lifespan. The genes in the SIR2 family regulate fat

metabolism, the body’s use of energy, and promote the body’s defenses. Researchers hope that these discoveries will lead to treatments for diseases and disabilities associated with aging.

- This adult is volunteering to help children become skilled readers. **How do they both benefit from this relationship?**



- **Mental and emotional health.** Staying mentally active is just as important as being physically active. Older adults who read, take classes, work, or volunteer are more likely to maintain good mental/emotional health.
- **Social health.** Being involved with other people is important to good social health. When older people stay in contact with family and friends, they are better able to cope with the challenges of aging.



## Reading Check

**Identify** Why is it important for older adults to keep their health triangles balanced?

## Health Online

Visit [health.glencoe.com](http://health.glencoe.com) and complete the Interactive Study Guide for Lesson 4.

## Lesson 4 Review

## After You Read

Review this lesson for new terms, major headings, and Reading Checks.

## What I Learned

1. **Vocabulary** Define *social age*.
2. **Compare and Contrast** How is chronological age different from biological age?
3. **Give Examples** List three things that adults are usually focused on during early adulthood.

## Thinking Critically

4. **Analyze** How can developing good health habits as a teen affect your adult years?
5. **Apply** Stan thought he would spend all his time working in his garden when

he retired. After only a few months, however, he began to feel that gardening was not enough. He missed his friends at work, and he felt lonely. What would you suggest that Stan do to bring his health triangle into balance?

## Applying Health Skills

6. **Setting Goals** Choose a goal you would like to accomplish during your adulthood. Using the goal-setting process, develop a plan to achieve your goal. List the steps you can take now as a teen to help you reach this goal.

Health Online For more review questions for Lesson 4, go to [health.glencoe.com](http://health.glencoe.com).

Lesson 4: Adulthood and Aging 469

## ASSESS

## Assessment Resources

Lesson Review Quiz

ExamView

Fast Files Activities

Online Quizzes and Activities

## Reteaching

- Assign Concept Map 17-4 or Reteaching Activity 17-4 in the Fast Files.
- Ask students to explain, in their own words, the three ways to measure age and how they are different.

## Enrichment

- Assign Enrichment Activity 17-4 in the Fast Files.
- Have students research services that are available to older adults in their community. Have students write a report that explains how these services help older adults to meet their needs.

## CLOSE

Go around the room and have students identify characteristics of each stage of adulthood.

## Caption Answer

**Photo Caption** The children receive extra attention and guidance, while the adults can feel they are having a positive influence.

## Lesson 4 Review Answers

1. Social age is age measured by your lifestyle and relationships with others.
2. Chronological age measures age in years; biological age measures physical health.
3. *Sample answers:* education, work, getting married
4. *Sample answer:* Good health habits in the teen years can help you maintain lifelong good health.
5. *Sample answer:* Stan might find a volunteer position or a part-time job.
6. Have students review the steps of goal setting before they complete this activity.

# Building Health Skills

## PRACTICING HEALTHFUL BEHAVIORS

### Coping With the Highs and Lows of Puberty

#### SKILL

Goal Setting

#### Activating Prior Knowledge

Ask students to identify emotional changes that are a normal part of adolescence.

- **Objective** After completing the activity, students will be able to use the health skill of goal setting to cope with the emotional changes of puberty.
- **Time** 30 minutes
- **Materials** paper, pencil or pen

#### Teacher Classroom Resources

- Building Health Skills
- Transparency 2-1

### Model

- Have students read the Model paragraph.
- Ask volunteers to describe why each of the numbered tips is an effective way to deal with the emotional changes of adolescence.

### Coping With the Highs and Lows of Puberty

#### DIRECTIONS

Practicing Healthful Behaviors involves taking specific actions to stay healthy and avoid risky behaviors. This activity will give you the opportunity to develop and master this important health skill. Here's a guide to the different parts of this activity:

- 1 In the **Model** section, you will read about a teen who performs the health skill successfully. This "model" scenario will show you how the skill is done.
- 2 The **Practice** section will help guide you in practicing the skill.
- 3 In the **Apply** section, you will have a chance to perform the skill on your own. You can use the Self-Check to check your work.

To complete this activity, first read the scenario presented in the Model. Then move on to the Practice. Finally, go ahead and try the Apply.

#### 1 Model

Theresa has been experiencing a lot of highs and lows lately. One morning she woke up in a great mood. At school she felt tired and irritable and did not want to talk to her friends at lunch. By early afternoon, she was feeling happy again and really enjoyed softball practice. Her good mood lasted until after dinner, when her mother asked her to take out the trash.

The next day, Theresa talked to the counselor at school. She gave Theresa the following practical tips for coping with her changing emotions.

1. Ask yourself what you are feeling and why.
2. Express what you are feeling. Try talking to someone, writing in a journal, painting, or dancing.
3. Find a way to relax. Try exercising, listening to music, or doing some deep breathing exercises.
4. Ask for help if you need it.



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#### Teaching Tips

**Handling Emotions** Discuss with students the importance of expressing emotions in a positive way. Ask students to share their ideas about this statement: "Emotions are neither good nor bad, right or wrong." Lead a discussion on the ways teens can develop

the skill of expressing emotions in healthful ways as students complete the activity. What can make this statement difficult to accept? Why is it important to learn how to deal with different kinds of emotion?

#### National Health Standards Addressed

5.6, 7.1

## 2 Practice

Theresa was having another roller-coaster day. She was feeling pretty good until she got to school and discovered that she had gotten a low grade on her English paper. This made her so upset that she ran to the bathroom and cried. She felt like her whole life was a mess.

1. What was Theresa feeling, and why?
2. What steps can Theresa take to cope with her changing emotions?
3. What are some healthful ways that Theresa could express her feelings?

### Skill Summary

#### PRACTICING HEALTHFUL BEHAVIORS

You can learn to deal with the emotional ups and downs caused by hormonal changes during puberty by:

- Recognizing what you are feeling and why.
- Expressing your feelings in a healthful way.
- Finding ways to relax.
- Asking for help when you need it.

## 3 Apply

Think of a day when your emotions seemed to change all the time. Make a chart of how your emotions changed throughout the day. Divide a piece of paper into six parts. Label the parts: morning, mid-morning, lunch, afternoon, early evening, and night.

1. Write the emotions you felt under each part.
2. Tell how you could express each feeling in a positive way.
3. On the back of your paper, list one way that would help you relax.
4. Finally, write the name of someone you can ask for help when you need it.

### Self-Check

- Did I identify what I was feeling and why?
- Did I tell how to express my emotions in a positive way?
- Did I list one way to relax?
- Did I name someone who can help?

## Practice

- For the Practice activity, have students work in small groups.
- Ask students to read the Practice section. Have each group prepare written answers to the questions. Remind students to refer to the Model activity as they answer the Practice questions. Ask several groups to share their answers with the class.

## Apply/Assess

- Have students work individually to complete the Apply activity as directed in the text.
- Respect student privacy by allowing students to keep their answers confidential.
- You may wish to distribute the Building Health Skills Activity in the Fast Files.



## ASSESSMENT SCORING

Student work should meet all criteria to achieve the highest score.

**Skills** Student work demonstrates:

- Identification of emotions
- Causes of the emotions
- Ways to balance the body
- A person who can help

**Concepts** Student work includes:

- Accurate information about emotions
- Relationships between emotions and health

## Secrets of a Long Life

### Objectives

After completing this activity, students will be able to:

- Explain factors that can lead to longevity
- Identify changes in technology that have occurred during the lifetimes of older Americans

### Motivator

Have students identify and describe positive and negative changes that they associate with getting older.

### Teaching the Feature

- As students read the feature, have them make a bulleted list of factors that Verona Johnston and her doctors credit for her longevity. Then call on students to identify one factor from their lists and explain why that factor contributes to a long life.
- Have students research human population trends in the United States. Have students find out what percentage of the U.S. population is older than 100 years. Then have students create a bar graph that shows the age distribution of the U.S. population.

# Secrets of a LONG LIFE

**Why do some people live long? One woman may have had the answer.**

**W**hat do you eat? Are you a non-smoker? Are you physically active? Do you have a healthy attitude? Do you keep stress under control? How about your genes—have your relatives lived long lives?

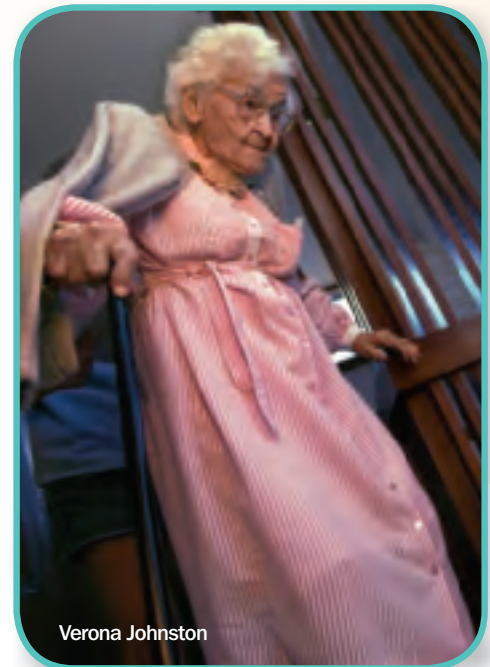
Scientists say responses to these questions can indicate how long a person will live. Here is the story of one woman who may have had all the right answers.

### A Sharp Mind

Verona Johnston was 114 when she died in December 2004. Until her death, she was the oldest documented person in the United States. TIME spoke with her a few months before she died about her secret of longevity.

“I can remember names pretty well,” said Johnston. She lived on her own until age 98 but then moved in with her daughter, Julie Johnston, 81. In fact, Verona Johnston’s mind was so sharp until her death, that she solved word jumbles in her head and remembered joke punch lines.

At 114, her vision was nearly gone, and she relied on a cane to take steps, but Johnston could still hear fairly well. Did she dwell on what age had taken away from her? “No. She was never a complainer,” says daughter Julie. That attitude may have had



Verona Johnston

much to do with Verona’s long life. Not to mention good genes and a whopping dose of good luck.

### Small Portions Mean Big Paybacks

Verona had always been big on moderation. At 114, her daily snack consisted of orange juice and exactly one cracker, one cinnamon-drop candy, and one cashew. “That’s enough,” she insisted.

Johnston never smoked. As for exercise, it was always part of her active lifestyle. Well into her 90s, she climbed up and down seven flights of stairs to her old apartment.

Verona knew how to roll with changes. “Electricity was the most important thing that happened to us,” she reflected. The computer was intimidating, but she gave it a whirl. For Verona, every day brought exciting surprises. That curiosity may have been just one more reason for her long and healthy life.

### Activity

#### Media, Technology, and Culture

**Technology** After students have read the feature, have them discuss changes in technology that have occurred in their lifetimes, in the lifetimes of adults such as their parents or guardians, and in the lifetimes of older adults. Have students interview older adults to learn more about the technological changes that have occurred in their lifetimes. Remind students to prepare their interview questions in advance. Have students use presentation software to share their results with the class. **OL**

**FOLDABLES™ Study Organizer**

**Foldables™ and Other Study Aids** Take out the Foldable™ that you created for Lesson 1 and any graphic organizers that you created for Lessons 1–4. Find a partner and quiz each other using these study aids.

**Lesson 1 The Beginning of Life****Key Ideas**

- The cell is the basic building block of life.
- Cells combine to form tissues, tissues combine to form organs, and organs work together to form body systems.
- Two sex cells, one female and one male, combine to create a fertilized cell that will develop into a baby.
- It takes about nine months for a fetus to develop into a full-grown baby inside the mother's uterus.

**Vocabulary**

- fertilization (p. 450)
- egg cell (p. 450)
- sperm cell (p. 450)
- uterus (p. 452)
- embryo (p. 452)
- fetus (p. 452)
- placenta (p. 453)
- umbilical cord (p. 453)
- cervix (p. 454)

**Lesson 2 Heredity and Environment****Key Ideas**

- Chromosomes and genes carry the information that parents pass on to their children.
- Genetic disorders are problems caused when the genetic material is damaged or changed in some way.
- A pregnant female needs to take good care of her body to help prevent birth defects.

**Vocabulary**

- heredity (p. 455)
- chromosomes (p. 456)
- genes (p. 456)
- genetic disorder (p. 456)
- environment (p. 456)
- prenatal care (p. 457)
- birth defects (p. 458)

**Lesson 3 From Childhood to Adolescence****Key Ideas**

- All human beings go through stages as they develop from infants to adults.
- The stages of development involve physical, mental/emotional, and social changes.
- Adolescence is a time of transition from child to adult.
- Puberty is the time during adolescence when your body changes to take on the physical characteristics of your gender.

**Vocabulary**

- developmental tasks (p. 460)
- infancy (p. 462)
- toddlers (p. 462)
- preschoolers (p. 462)
- puberty (p. 463)

**Lesson 4 Adulthood and Aging****Key Ideas**

- Adulthood can be divided into three stages: early, middle, and late.
- All adults do not age at the same rate or in the same way.
- There are three ways to measure age: chronological, biological, and social.
- Older adults need to focus on all three sides of their health triangle in order to stay healthy and active.

**Vocabulary**

- chronological age (p. 468)
- biological age (p. 468)
- social age (p. 468)

**Assessment Resources**

- Chapter 17 Summary and Activity
- Audio Summaries
- Reading Tutor
- Performance Assessment
- Chapter 17 Test
- ExamView
- Vocabulary PuzzleMaker
- Online Learning Center

**Reading Review****Study Aids**

- **Using the Dinah Zike Foldable™ Study Organizer** Have students use their Foldables™ to review information about the cells, tissues, organs, and systems in the body.

**Key Ideas**

- **Using the Lesson Reviews** Have students work in pairs to ask and answer the questions in the lesson reviews.

**Vocabulary Review**

- **Crossword Puzzle** Have each student create a crossword puzzle that incorporates ten of the chapter vocabulary terms.

**Teaching Tips**

**Reading in Health Class** Before students read the lesson, ask volunteers to identify several questions they have about the lesson topic. Write the questions on the board. After students have completed their reading, call on volunteers to answer the questions. Follow up by asking students

to identify additional facts they learned about the topic, and to note any questions that were not answered in the reading. Suggest resources for additional research to help students find the answers to their questions.

## Assessment

### Reviewing Vocabulary and Main Ideas

- sperm cell
- cervix
- uterus
- obstetrician
- chromosomes
- c
- a
- False, different
- False, Late adulthood
- False, biological
- True

### Thinking Critically

- Interpret** Answers will vary, but should identify that what a mother eats and drinks is carried to the baby via the placenta and umbilical cord. If the mother exposes herself to harmful substances like alcohol, tobacco, or other drugs, the baby could be negatively affected too.
- Analyze** Answers will vary, but could include staying physically active, reading, taking classes, volunteering in the community, and staying in contact with family and friends.

## Assessment

### After You Read

#### HEALTH QUIZ

Now that you have read the chapter, look back at your answers to the Health Quiz on the chapter opener. Would you change any of them? What would your answers be now?

### Reviewing Vocabulary and Concepts

On a sheet of paper, write the numbers 1–5. After each number, write the term from the list that best completes each statement.

- fetus
- sperm cell
- prenatal care
- uterus
- chromosomes
- obstetrician
- placenta
- umbilical cord
- cervix

#### Lesson 1 The Beginning of Life

- The \_\_\_\_\_ must unite with the egg cell in order for fertilization to occur.
- In order for a baby to be born, the mother's \_\_\_\_\_ has to widen so the baby can pass through.
- A baby develops in its mother's \_\_\_\_\_.

#### Lesson 2 Heredity and Environment

- When a woman becomes pregnant, she needs to see an \_\_\_\_\_ for regular check-ups.
- Each parent contributes 23 \_\_\_\_\_ to create an embryo.

#### Lesson 3 From Childhood to Adolescence

On a sheet of paper, write the numbers 6–7. After each number, write the letter of the answer that best completes each statement.

- The time when a child doubles in height and triples in weight is \_\_\_\_\_.
  - early childhood
  - adolescence
  - infancy
  - late childhood
- There are \_\_\_\_\_ stages of life according to scientist Erik Erikson.
  - eight
  - six
  - three
  - ten

#### Lesson 4 Adulthood and Aging

On a sheet of paper, write the numbers 8–11. Write **True** or **False** for each statement below. If the statement is false, change the underlined word or phrase to make it true.

- All adults age at the same time and in the same way.
- Middle adulthood is when most people retire from their jobs.
- The age determined by how well your body parts are working is your chronological age.
- Volunteering is one way for older adults to build good mental/emotional health.

### Health Online

Have students visit [health.glencoe.com](http://health.glencoe.com) to take the Chapter 17 quiz.

### HEALTH QUIZ Wrap-Up

**Stages of Life** Have students look back at their responses to the Health Quiz in the chapter opener. Ask students to form small groups. Have students discuss with their groups any answers they would change

based on the information in the chapter. Have each group member share one new fact he or she learned while reading the chapter.



**Genetic Counselor** Genetic counselors help people who have family members with birth defects or a history of health problems caused by a genetic disorder. They work as members of a complete medical team, and they help identify people who might be at risk for genetic problems. They also offer counseling and support to families, and can help them get assistance from community or state services. To become a genetic counselor, you need a master's degree in genetic counseling, and you need to pass a certification test. Read more about this and other health careers by clicking on *Career Corner* at [health.glencoe.com](http://health.glencoe.com).

## Thinking Critically

Using complete sentences, answer the following questions on a sheet of paper.

12. **Interpret** How might the environment inside a mother's uterus affect her baby's health?
13. **Analyze** What are some ways an older adult can keep his or her health triangle balanced?

## Write About It

14. **Accessing Information** Find out what organizations in your community pair teens and older adults. Then, write a short letter to the editor of your school paper describing these projects.

## Standardized Test Practice

### Reading

Read the passage and then answer the questions.

In addition to physical changes, puberty brings with it many emotional changes. During puberty, young people develop intense friendships, especially with members of the same sex. They care a lot about what other people think, and they want to be liked and accepted by their friends. Sometimes they may want to spend more time with friends and less time with family. This can be a difficult time of adjustment for parents and guardians, who are used to being the center of their child's life.

Many pre-teens feel anxious or self-conscious about the physical changes of puberty. This is especially true when they compare themselves with others. Young people need to be aware that while their friends may grow at different rates, they will eventually catch up with one another. During puberty, many parents also notice their child's moods change quickly and often. Although it can be frustrating, parents need to remember that these mood swings are normal and are probably related to changes in hormone levels in the body.

1. When young people go through puberty, they experience the following emotional changes *except*
  - A. They have intense friendships with members of the same sex.
  - B. They care deeply about what other people think.
  - C. They do not care if they are liked or not.
  - D. Sometimes they may want to spend more time with friends and less time with family.
2. During puberty, many parents may notice that their child's moods can
  - A. remain steady.
  - B. always be positive.
  - C. always be negative.
  - D. can change quickly and often.

## Write About It

### 14. Expository Writing

Remind students that expository writing is writing that explains or informs. Letters should identify the benefits of teens and older adults interacting. Students should proofread and correct their work before turning it in.

## Standardized Test Practice

1. C
2. D



**Genetic Counselor** Have students visit the Career Corner at [health.glencoe.com](http://health.glencoe.com) to gather more information about a career as a genetic counselor. Ask students to identify skills required for a career as a genetic counselor. (communication skills, desire to help others, knowledge of genetics)

## Test-Taking Tips

**Reading Questions Carefully** Remind students to look for words such as *except* and *not* in test questions. In the first example in the text, students are asked to use the reading passage to determine which of the emotional changes is *not*

associated with puberty. Remind students that this type of question asks them to identify which of the answer choices is incorrect or does not fit in a particular category.