

CHAPTER
9

Growth and Development

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“ My little **sister** changes so much every year. She **makes me laugh** at some of the **silly things** she does. But my mom says I used to act exactly the same way when I was my sister’s age. ”

Health IQ

PRE-READING

Answer the following true/false questions to find out what you already know about growth and development. When you’ve finished this chapter, you’ll have the opportunity to change your answers based on what you’ve learned.

- Men’s bodies are different from women’s bodies.
- Older adults have less fulfilling lives than younger people.
- Most newborn infants learn to crawl within three months of birth.
- Adolescents go through physical, mental, emotional, and social changes.
- Grief is a process that should be avoided.
- Everyone starts puberty at the same age.
- The menstrual cycle is exactly 28 days for every woman.
- Sperm mature over several months.
- All children grow at the same rate.
- While a fetus is in the mother’s uterus, the fetus cannot hear sound or detect light.
- Health habits of pregnant women affect the health of the fetus.
- Health decisions you make now will not affect you when you are older.
- Males and females make the same type of sex cell.
- During the first year of life, babies triple in weight.
- Childhood is the longest stage of life.
- A human pregnancy usually lasts 6 months.

ANSWERS: 1. true; 2. false; 3. false; 4. true; 5. false; 6. false; 7. false; 8. true; 9. true; 10. false; 11. true; 12. true; 13. false; 14. true; 15. false; 16. false

Lesson 1

Human Reproduction

Men's bodies are different from women's bodies in some ways. One difference is in the reproductive organs. Men and women have different reproductive organs because their roles in reproduction are different.

The male and female reproductive systems both make sex cells. A *sex cell* is a parent cell that can join with another sex cell to create a new cell. This new cell contains all the information needed to develop into a new human being. The combination of two sex cells may begin a pregnancy.

What You'll Do

- Describe the structure and function of the male and female reproductive systems.
- Identify four ways to protect your reproductive health.

Terms to Learn

- sperm
- testes
- egg
- ovary
- menstruation

Start Off Write

What are the functions of the male and female reproductive systems?

The Male Reproductive System

The main function of the male reproductive system is to make and store sperm. **Sperm** are the sex cells made by males. The male reproductive system also makes the hormone *testosterone* (tes TAHS tuhr OHN). Testosterone controls much of the growth and function of the male body.

The parts of the male reproductive system are shown in Figure 1. The **testes** (TES TEEZ) are the organs that make sperm and testosterone. The testes are sometimes called *testicles*.

Figure 1 Male Reproductive Organs

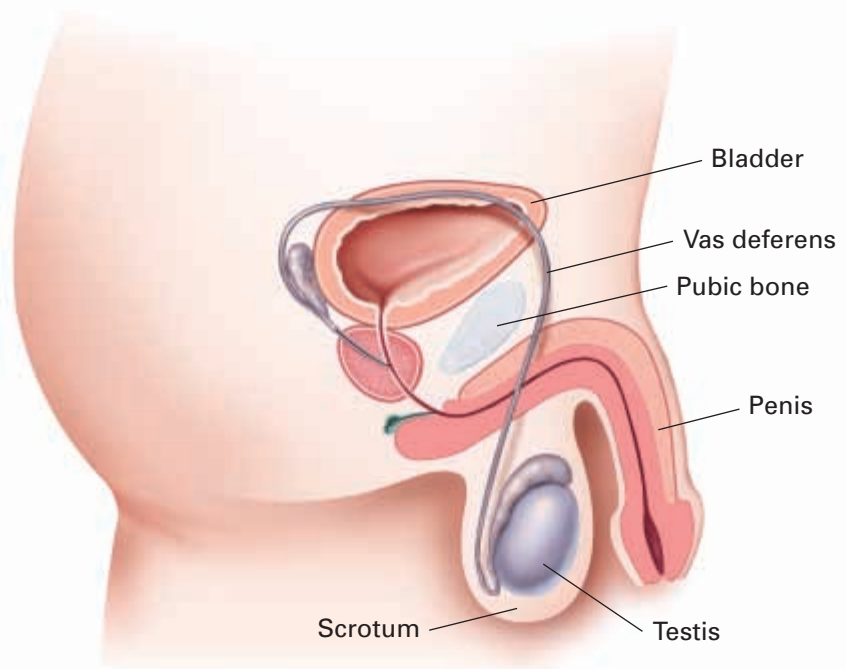




Figure 2 You should talk to your parents or doctor about any concerns you have about your reproductive health.

Sperm Production

Sperm are made in the testes. A healthy adult male makes several million sperm each day. Each sperm cell takes about 70 days to mature. Then, the sperm are carried into the vas deferens. The vas deferens are long tubes that lead to the urethra. The urethra is the tube that runs through the penis.

Caring for the Male Body

Good hygiene is important to protecting your health. You should bathe every day and wear clothes that are not too tight. Watch for anything that seems different about your body. If you are ever concerned about your health, talk to your parent or doctor.

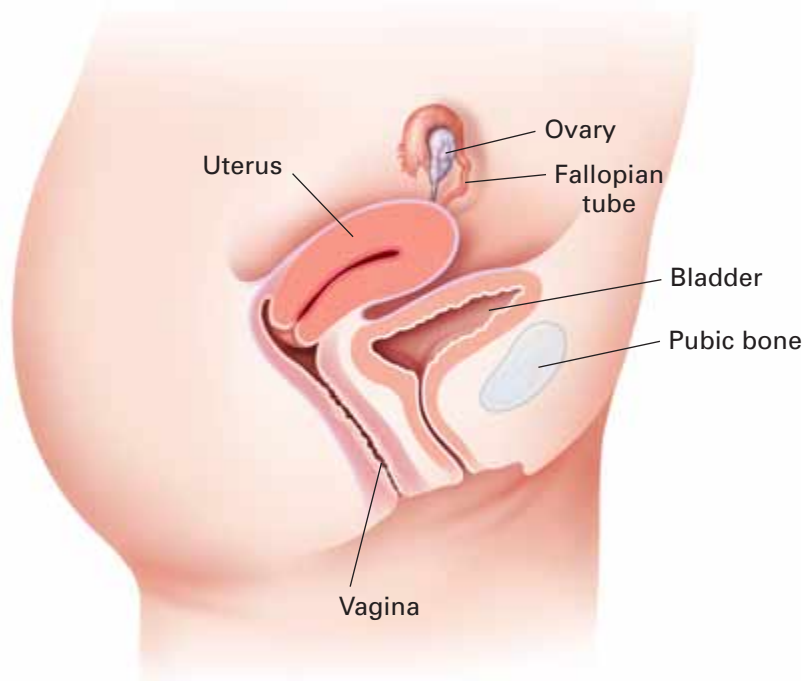
Many boys and men get a fungal infection of the skin called *jock itch*. Jock itch is usually treated by keeping the area clean and dry, avoiding tight clothing, and using an over-the-counter antifungal cream.

Another threat to the reproductive system is sexually transmitted diseases, or STDs. These diseases are spread by sexual activity with an infected person. Sexually transmitted diseases can be prevented by avoiding sexual activity.

Brain Food

Once they are mature, sperm stay in the male body for about 2 weeks. Then, they degenerate and are absorbed by the body.

Figure 3 Female Reproductive Organs



teen talk

Teen: If the menstrual cycle takes 28 days, why don't I have my period that often?

Expert: When doctors describe a 28-day cycle, they are using an average length. The cycle is different for each woman. Normal cycles range between 21 and 35 days in length. Adolescents often have irregular periods because their hormones are changing. Your menstrual cycle will probably be irregular for a few years. You should not be concerned unless the bleeding becomes very heavy, lasts a long time, or stops completely.

The Female Reproductive System

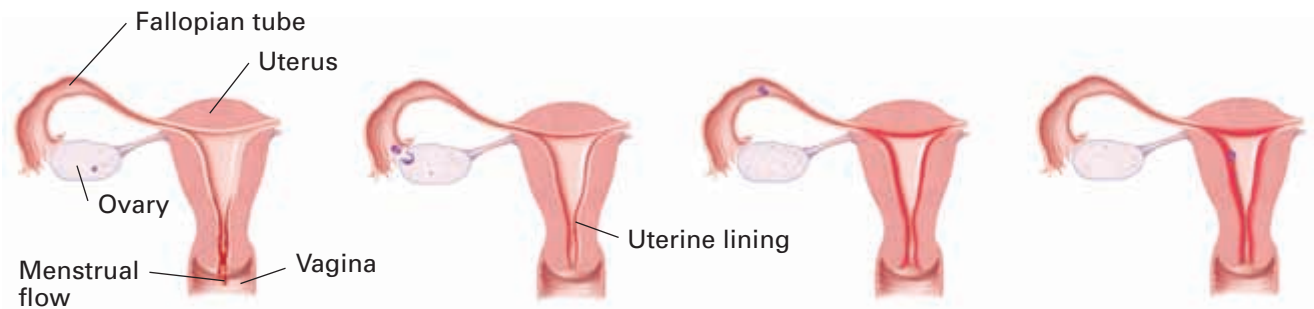
The female reproductive system has two main functions. The first function is to make the female sex cell called the **egg**. The second function is to carry out a pregnancy.

The female reproductive system is shown in Figure 3. The **ovaries** are the organs that make eggs and the hormones *estrogen* (ES truh juhn) and *progesterone* (pro JES tuhr OHN). These hormones control much of the growth and function of the female body. The *uterus* is the organ that holds a fetus during pregnancy.

Menstruation

Beginning at puberty, the lining of the uterus thickens every month in preparation for pregnancy. The monthly breakdown and shedding of this lining is called **menstruation** (MEN STRAY shuhn). During this menstrual period, blood and tissue leave the woman's body through the vagina. This bleeding generally lasts 3 to 5 days. The menstrual period is one part of a cycle that lasts about 28 days. This cycle is described in Figure 4. Many young women have menstrual cycles that vary in length from month to month, or are irregular. Usually, menstrual cycles become more regular with age.

Figure 4 The Menstrual Cycle



Days 1–5
The lining of the uterus is shed through menstruation.

Days 1–13
The egg matures in the ovary.

Day 14
The ovary releases the egg into the fallopian tube. The uterine lining gets thicker.

Days 15–17
The egg travels through the fallopian tube toward the uterus.

Days 18–28
The egg reaches the uterus. If the egg was not fertilized, it will dissolve. Menstruation will begin as the cycle repeats.

Caring for the Female Body

By practicing good hygiene, you can avoid reproductive health problems. Bathe daily, and don't wear clothing that is too tight. Good hygiene is very important during the menstrual period. Tampons and sanitary napkins should be changed every 4 to 6 hours. Many women have menstrual cramping. Cramps can usually be treated with over-the-counter pain relievers. But if the cramps are severe or last a long time, see a doctor. Women should see a doctor at least once a year. Like men, women can also get STDs. To prevent STDs, avoid sexual activity. Abstaining from sex will also prevent unplanned pregnancy.

Lesson Review

Understanding Concepts

1. What are the functions of the male reproductive system?
2. What are the functions of the female reproductive system?
3. Describe the typical menstrual cycle.
4. Identify four ways to protect your reproductive health.

Critical Thinking

5. **Analyzing Ideas** Why is it important to keep the reproductive area clean and dry?
6. **Identifying Relationships** How are the ovaries similar to the testes? How are the ovaries different from the testes?

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Topic: **Reproductive System**
HealthLinks code: **HD4081**

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Lesson 2

Before You Were Born

What You'll Do

- Summarize the growth and development of humans before birth.
- Describe three factors that affect the health of both the mother and fetus.

Terms to Learn

- fertilization
- fetus

Start Off Write

How long is the average pregnancy?

Tom's older sister is 5 months pregnant. She and her husband came over yesterday to show Tom's family a videotape of her ultrasound. Tom couldn't believe how much the picture looked like a little person!

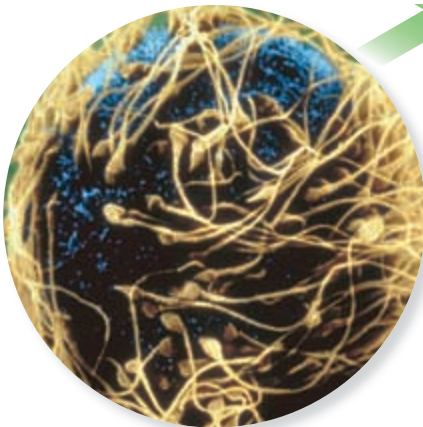
During human reproduction, one sperm and one egg come together to form a new human cell in a process called **fertilization** (FUHR t'l uh ZAY shuhn). This new cell grows from one cell into many cells. Eight to 10 days after fertilization, the cells attach to the mother's uterus. Eight weeks after fertilization, the developing human is called a **fetus** (FEET uhs). The fetus remains in the uterus until birth. A baby is born about 9 months or 40 weeks after fertilization.

Caring for the Fetus

Development of a fetus can be affected by many factors. Most things that a mother puts into her body are carried to the fetus. So pregnant women should not use tobacco, alcohol, or other drugs. They should eat well and take vitamins. They should also go to the doctor regularly. A doctor can often identify and prevent many problems that may affect both the mother and fetus.

Figure 5 Fetal Development

- 1 A new cell is formed when an egg is fertilized by a sperm. The new cell multiplies. The cells attach to the mother's uterus.



- 2 In the 6th week, the heart starts to beat. By the 8th week, the internal organs are developing.

- 3 By 12 weeks, the internal organs are functioning. Arms, legs, and feet have formed.



- 5 By 20 weeks, the fetus has begun to react to sound. By 25 weeks, taste buds have formed. Also, the fetus has eyebrows and eyelashes and opens its eyes. By 27 weeks, the fetus can practice breathing.



LIFE SKILLS ACTIVITY

PRACTICING WELLNESS

Research the special dietary needs of a pregnant woman. Use your research to create a diet plan for a pregnant woman.



- 4 At 13 weeks, the fetus can swallow, hiccup, and make a fist. By 14 weeks, the doctor can tell if the fetus is male or female. By 16 weeks, the fetus has begun to move. The mother may not feel these movements right away.



- 6 At 35 to 40 weeks, the organs are fully functional. The fetus responds to light. During this time, the fetus is getting bigger. A baby born at or after 38 weeks is fully developed.

Lesson Review

Using Vocabulary

1. Define and describe fertilization.
2. What is a fetus?

Understanding Processes

3. Explain why a pregnant woman should eat well and take vitamin pills. Why should she avoid using tobacco, alcohol, and other drugs?

4. Summarize how the fetus develops from fertilization to birth.

Critical Thinking

5. **Making Inferences** Some pregnant women do not visit the doctor regularly during their pregnancy. What effect might this have on the health of the fetus? Explain your answer.

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Topic: **Before Birth**

HealthLinks code: **HD4013**

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Lesson 3

Infancy and Childhood

What You'll Do

- Summarize development during infancy and childhood.

Terms to Learn

- infancy
- childhood

Start Off Write

How do babies change as they grow into children?

Carla has been baby-sitting Tyler for two years. When she started baby-sitting, Tyler had just started walking and could say only a few words. Now, he runs around the house and speaks in sentences!

You may remember relatives or friends commenting on how much you have grown. Growth and development happen very rapidly during the early stages of life.

Infancy

The time between birth and 1 year of age is called **infancy**. Many important physical and mental changes happen during infancy. During this time, height and weight increase rapidly. In fact, babies often triple in weight during the first year. The infant gets stronger and begins to control its body. At birth, the infant is basically helpless. A newborn baby cannot even hold its head up straight!

By about 3 months of age, infants can hold their heads up and look around. The infant also recognizes its parents, smiles at them, and enjoys playing with them. By 7 months of age, the infant can roll over and has learned to play with toys. During the next few months, the baby will learn to crawl and then stand. By 1 year of age, most infants have begun cruising. Cruising is walking by leaning on furniture or other objects for support. Some 1-year-old infants have begun walking and many have begun to say a few words.

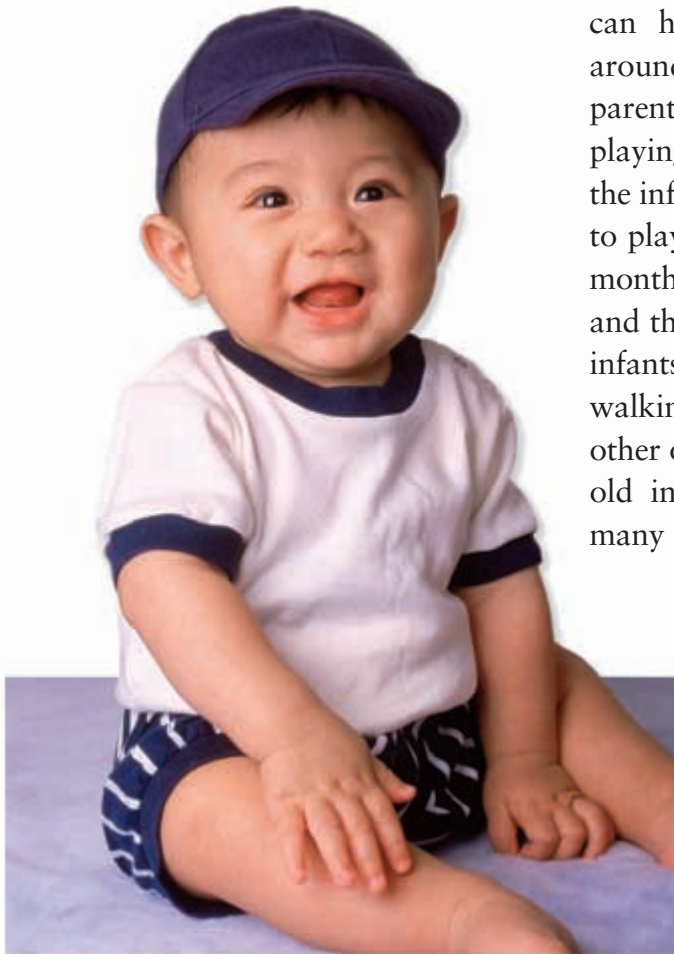
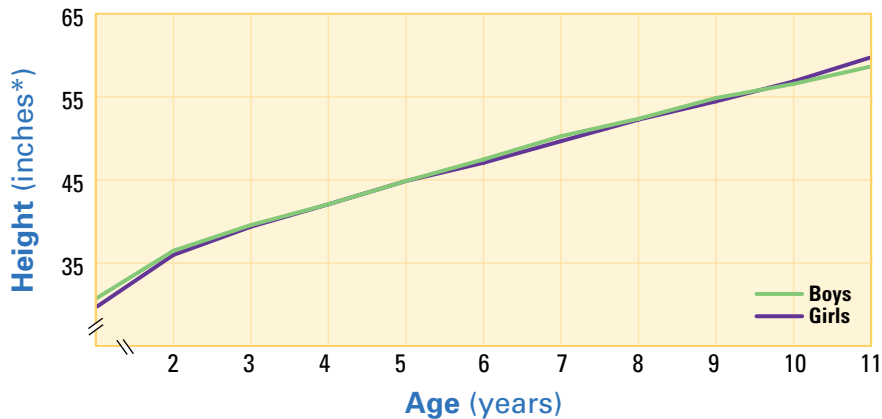


Figure 6 Infants learn to crawl and may begin to walk within the first year of life.

Average Height of Children in the United States



Source: Centers for Disease Control and Prevention.
*12 inches = 1 foot, so 60 inches = 5 feet

Figure 7 This graph shows the average height of boys and girls at different ages.

Childhood Development

The stage of development after infancy is called **childhood**. Childhood is divided into three stages—early, middle, and late. Early childhood is from age 1 to age 3. During early childhood you learned to walk and run. You also started to build with blocks, play make believe, and form short sentences.

Middle childhood is from age 3 to age 5. During middle childhood, you started asking many questions and trying new things. You learned to speak in longer sentences, name colors, and count. You also started to dress and undress yourself.

Late childhood is from age 6 to about age 11. During late childhood, you learn to move more gracefully. You learn to perform complex tasks, such as writing in cursive. You learn to read and write, and to connect different ideas. In late childhood, you become more interested in social relationships.

Hands-on ACTIVITY

HOW YOU'VE CHANGED

1. Collect three full-length photos of yourself—one from each stage of childhood.
2. Measure the length of your whole body and the length of your head in each photo.
3. Calculate the ratio of head length to body length for each photo by dividing the head length by the body length.

Analysis

1. Make a graph of the ratio of head length to body length over time.
2. How did the ratio of your head length to your body length change as you grew?

Lesson Review

Using Vocabulary

1. What is the difference between infancy and childhood?

Understanding Concepts

2. How do humans change between infancy and late childhood?

Critical Thinking

3. **Making Inferences** Why might childhood be divided into three stages? What developments might be used to distinguish one stage from another?

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Topic: **Human Development**
HealthLinks code: **HD4057**

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Lesson 4

Adolescence

What You'll Do

- **Explain** how hormones affect growth and development.
- **Describe** physical development during adolescence.
- **Summarize** the emotional, physical, mental, and social changes that happen during adolescence.

Terms to Learn

- adolescence
- hormone
- puberty

Start Off Write

What are some changes that happen during adolescence?

Since Gary and Ethan were 6 years old, they have gone to summer camp every year. Last year, they were almost exactly the same height and weight. But this year Ethan had grown so much that he was at least 3 inches taller than Gary!

What caused Ethan to grow so quickly? Ethan grew quickly because he entered adolescence (AD'1 ES'ns). **Adolescence** is the stage of development during which humans grow from childhood to adulthood.

What Controls Growth?

Most body functions, including growth, are controlled by hormones. A **hormone** is a chemical that is made in one part of the body and causes a change in a different part of the body. For example, human growth hormone is made by a gland in your brain and causes your bones and muscles to grow. Hormones are released into your body by the endocrine system.

Hormones that affect your reproductive system are called *sex hormones*. These hormones cause a number of changes in the body. They cause growth spurts in adolescents. One way they do so is by telling your body to make more growth hormones. These hormones cause the shape of your body to change as you get older. Table 1 lists a few hormones and what they do in the body.

TABLE 1 Important Hormones

Hormone	Where it's made	What it does
Thyroxine (the RAHKS een)	thyroid gland	controls how your body makes and uses energy; helps regulate growth and development
Testosterone	testis	controls much of the growth and function of men's bodies, causes the male body to make sperm
Estrogen	ovary	controls much of the growth and function of women's bodies, causes the female body to release eggs
Epinephrine (ep uh NEF rin)	adrenal gland	makes your heart beat faster and prepares your body to fight or flee when you are frightened or excited
Human growth hormone	pituitary gland	causes your body to grow; causes height and weight growth spurts

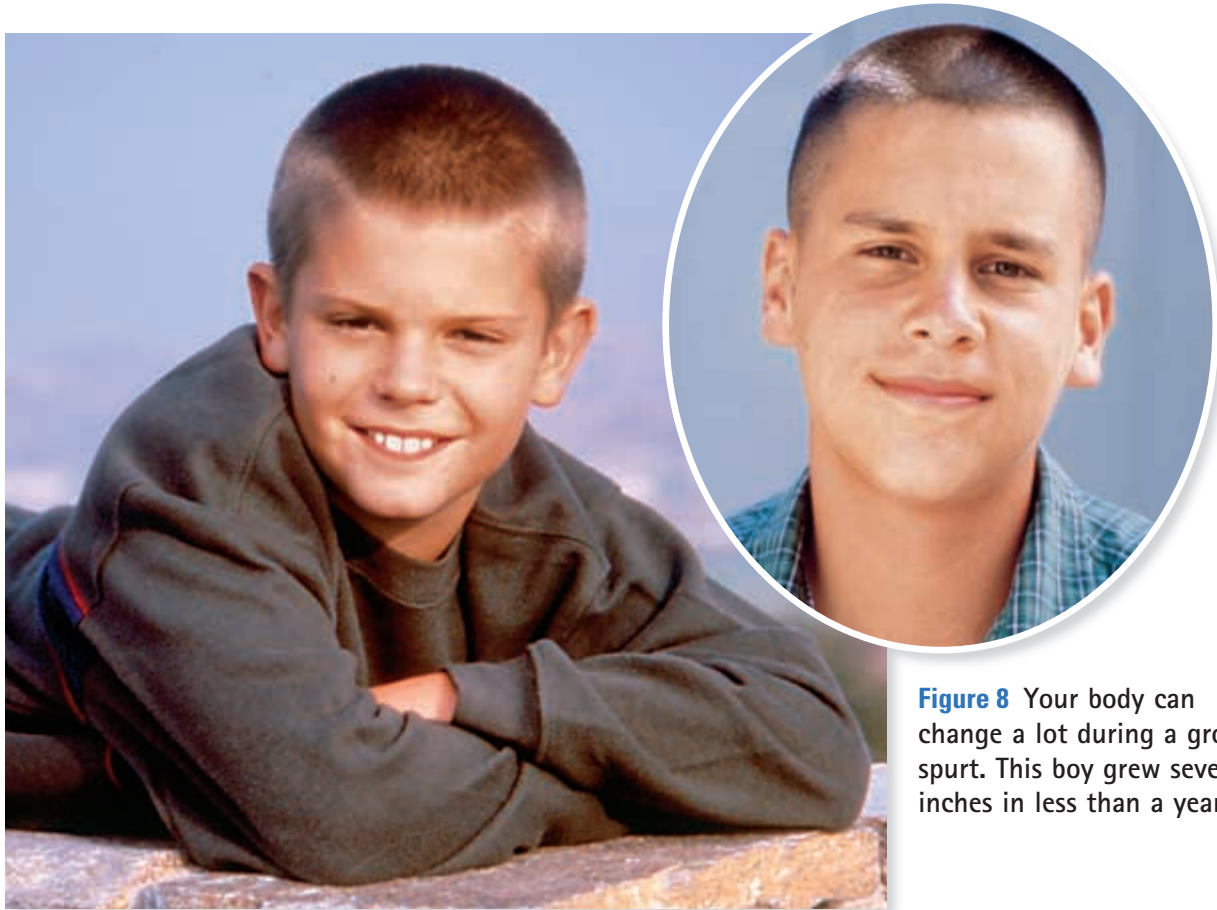
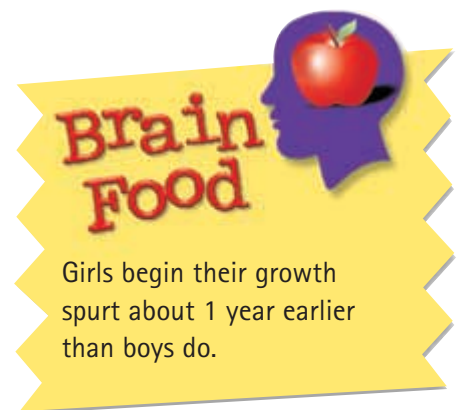


Figure 8 Your body can change a lot during a growth spurt. This boy grew several inches in less than a year.

Growth Spurts

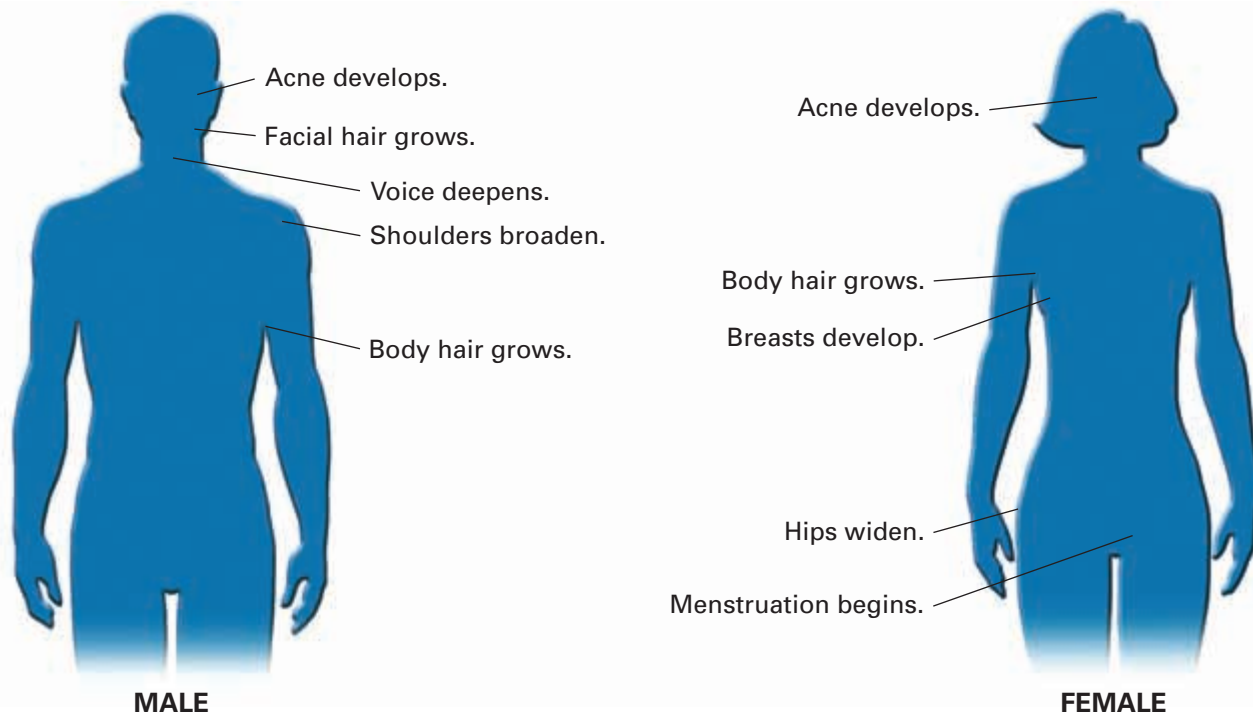
Adolescence generally lasts from about age 10 to age 18. It begins a little later for boys than for girls. The most obvious part of adolescence is puberty. **Puberty** is the stage of development when the reproductive system becomes mature. Puberty usually happens between 9 and 15 years of age in girls and between 10 and 16 years of age in boys. During this time, your body makes more sex hormones. Some of these hormones make boys' bodies grow and change until they become men. Other hormones cause girls' bodies to grow and change until they become women.

Greater amounts of sex hormones and growth hormones also lead to growth spurts. Between 11 and 16 years of age, the average girl will grow 12 inches and gain about 40 pounds. By the time she is 16 or 17 years old, she will reach her full adult height. Between 12 and 18 years of age, the average boy grows about 16 inches and gains over 60 pounds. By the time he is 18 or 19 years old, he will reach his full adult height.



Girls begin their growth spurt about 1 year earlier than boys do.

Figure 9 Changes in Boys' and Girls' Bodies



Physical Changes

Hormones also cause other physical changes in both boys and girls. These changes show that the person is becoming mature. During puberty, the voices of both boys and girls get deeper. Hair begins to grow in different places on the body. Both boys and girls are likely to get *acne*, or pimples. Acne is a normal part of growing up and is nothing to be embarrassed about. Physical changes may happen rapidly or may take several years. These changes may cause you to feel awkward or self-conscious. But all of these changes are normal, and everyone goes through them.

Social Changes

Adolescence brings about many social changes as well. Most adolescents are interested in forming friendships with other people their age. You may also become more independent and begin to show more responsibility. Learning to communicate with your parents is very important if you want to gain more independence.

Your teen years are a time when you may become more aware of the world around you. You may develop an interest in political and social issues. As you learn how you fit in to society, you are preparing to be an adult.

MATH ACTIVITY

Girls reach three-fourths of their adult height by the age of $7\frac{1}{2}$. Boys reach three-fourths of their adult height by age 9. Sandra is $7\frac{1}{2}$ years old and is 4 feet tall. Her brother Sam is 9 years old and is 5 feet tall. How tall will Sandra and Sam be as adults?

LIFE SKILLS ACTIVITY

MAKING GOOD DECISIONS

Role play a situation in which a teenager discusses with his or her parents ways of gaining additional independence, such as getting a later curfew, staying home alone, baby-sitting brothers or sisters, or

going on dates. End the role play with a scene in which the teen must make a decision that affects whether his or her parents were right to grant the teen more independence.

Mental and Emotional Changes

You also grow mentally and emotionally during adolescence. The following list describes some of these changes:

- Your ability to understand complex ideas increases. You learn to analyze different situations and decide how to respond. You further develop your personal identity and beliefs.
- You may begin to feel attracted to other people and become interested in romantic relationships.
- You may feel happy one day and sad the next day. These mood swings are common during adolescence.
- You may feel tempted to do unhealthy or unsafe things, such as smoke tobacco, to try to fit in with your friends. But these behaviors can damage your health, and there are better ways to be accepted.

Dealing with the changes of adolescence can be difficult. Talking to your parents and other trusted adults can help you deal with the changes you are going through.



Figure 10 Teens explore their identities in many ways, including through music.

Lesson Review

Using Vocabulary

1. Explain the difference between adolescence and puberty.

Understanding Concepts

2. List three physical changes that happen to both boys and girls during puberty.

3. How do hormones affect growth and development?


Critical Thinking

4. **Identifying Relationships** How are the mental, emotional, social, and physical changes that happen during puberty related to the health of the adolescent?

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www.scilinks.org/health
Topic: **Puberty**
HealthLinks code: **HD4078**

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Lesson 5

Adulthood, Aging, and Death

What You'll Do

- Describe development during adulthood.
- Explain how technology has affected life expectancy in the United States.
- List the stages of grief.

Terms to Learn

- adulthood
- death
- grief

Start Off Write

How do people change after they reach adulthood?

Asonda loves animals and wants to be a veterinarian when she's an adult. The local veterinarian, Dr. Carver, offered to let Asonda help out at the office. Now Asonda is working for the vet and planning for her future as an animal doctor.

Asonda is preparing to enter adulthood. **Adulthood** is the period of life that follows adolescence. When you reach adulthood, you are considered to be a grown up. Although most physical growth stops when you reach adulthood, your life will continue to change. You will be expected to take responsibility for your well-being.

Life as an Adult

Adulthood is the stage of life that lasts the longest. It lasts from about age 18 until death. Most people will be adults for more than 50 years. Because of advancements in medicine, you will likely live much longer than your grandparents or parents.

During adulthood, many people get married, establish a career, and raise children. Adults have to balance their families, friends, and careers. These responsibilities allow adults to help other people and to feel useful and productive.



Figure 11 Many adults find happiness in their families and careers.

Aging

Aging is a natural part of life and happens to everyone. *Aging* is a term that describes the changes that happen as adults get older. Aging is affected by things we cannot change, such as heredity. It is also affected by things we can change, such as diet, exercise, and tobacco and drug use. The best way to maintain good health while aging is to focus on factors that you can control.

Many people live very happy lives into old age. By staying healthy, these people are able to enjoy their later years. They continue to do things that interest them, such as traveling and spending time with their families.



Figure 12 Older adults can lead happy and fulfilling lives.

Conditions Associated with Aging

As we get older, our bodies begin to wear out. Some diseases associated with aging are heart disease, osteoporosis, and Alzheimer's (AHLTS HIE murhz) disease. Heart disease damages the heart tissue and may lead to heart attacks. This disease can be deadly.

Osteoporosis is a condition in which bones lose a lot of their mass and strength. This condition is more common in older women than in older men, and it can lead to broken bones. You can take steps now to help prevent osteoporosis. These steps include getting plenty of exercise and eating foods that are rich in calcium.

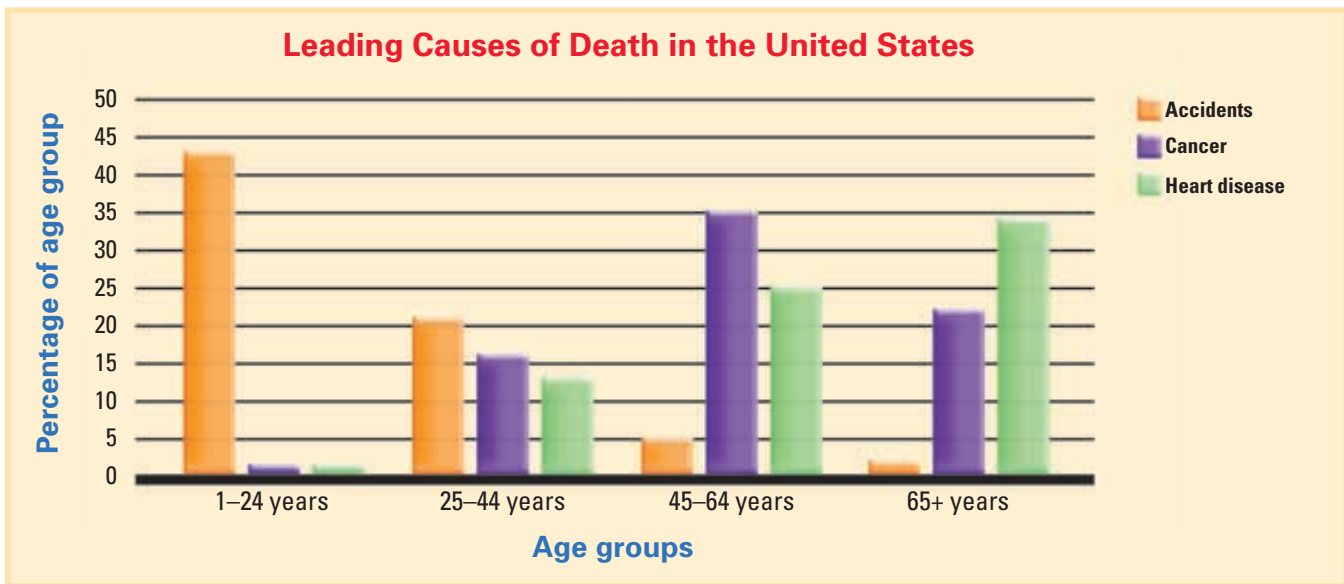
Alzheimer's disease generally affects people over the age of 65. Alzheimer's disease leads to memory loss and thinking problems. Scientists are currently researching the causes of Alzheimer's disease. They hope to learn how to cure or prevent this condition.

Some conditions, such as heart disease and osteoporosis, can be treated because of advances in medical technology. Technology, such as vaccines, surgical techniques, and medications, has improved the quality of life for many people. These technologies have also increased the length of time that people live.

STUDY TIP *for better reading*

Reviewing Information
After reading through this lesson, find a partner and summarize the reading. Your partner should listen and add anything you omitted. Switch roles. Then discuss with your partner any parts of the lesson that the two of you did not understand.

Figure 13 Common Causes of Death



Source: Centers for Disease Control and Prevention.

Death and Grief

The end of life, or when all necessary life functions stop, is called **death**. Every living thing on Earth, including humans, dies. The average age of death, or the *life expectancy*, in the United States is 74 years for men and almost 80 years for women. Figure 14 shows common causes of death in the United States.

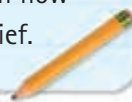
Sooner or later all of us will lose a loved one. When someone dies or a tragedy happens, it is normal to feel grief. **Grief** is a feeling of deep sadness about a loss. Most people go through the following five stages in dealing with grief:

1. **Denial** The person refuses to accept that their loved one is dead.
2. **Anger** The person is angry about the death of their loved one.
3. **Bargaining** The person wishes the loved one were still alive and tries to find a way to get their loved one back.
4. **Despair** The person is extremely sad about the loss of their loved one.
5. **Acceptance** The person comes to terms with the death and begins to move on with his or her life.

Sometimes people can stay in one stage for a long time without moving on. Most often, these people stay in despair. This despair can be harmful to their health.

Health Journal

Describe a time when you have felt grief. An example could be when a friend or relative has died or moved away, when you lost a pet, or any other loss. Explain how you dealt with the grief.



Dealing with Grief

Dealing with the death of someone you love is always difficult. But you can get through the pain by dealing with grief in a healthy way. The following list contains some ways to deal with grief:

- Talk with your parents, trusted adults, and your friends about what you are going through. Don't try to handle grief alone.
- Go to the funeral. Paying your last respects can help you accept your loss. Funerals also allow you to talk to others about what that person meant to you.
- Avoid focusing on your grief. You must grieve adequately, but you must also continue to live your life. Continue to fulfill your responsibilities at school and home. Maintain your relationships with your friends and family.
- Watch for signs of unhealthy grieving. Some signs are being unable to eat or sleep, feeling despair or overwhelming sadness, or feeling a desire to harm yourself or others. If you notice any of these problems, talk to a parent, a counselor, or another trusted adult immediately.



Figure 14 After the 9/11 tragedy in New York City in 2001, much of the United States grieved by setting up memorials to the victims.

Lesson Review

Using Vocabulary

1. Define *adulthood*.

Understanding Concepts

2. Describe development during adulthood.
3. Name and describe three conditions associated with aging.
4. List and describe the stages of grief.

Critical Thinking

5. **Analyzing Ideas** Life expectancy in the United States has changed over the last several decades. How has medical technology helped people live longer?
6. **Making Inferences** Why is it important for people to grieve the death of a loved one?

Chapter Summary

■ Reproductive health is an important part of overall health. ■ A new cell forms when a sperm fertilizes an egg. This cell develops into a fetus. The developing fetus goes through many changes while inside the mother's uterus. After 9 months, an infant is born. ■ Children develop at different rates, but they all go through the same stages during childhood. ■ Adolescence is a time of physical, emotional, mental, and social changes. ■ The physical changes of adolescence are caused by the actions of hormones. ■ Rates of development are different for everyone. ■ Adulthood is the stage of life when humans are physically mature. ■ All living things get older and eventually die. ■ People grieve when someone dies. Grieving is a natural process.

Using Vocabulary

To complete the sentences, choose the correct term from the following word bank:

death	fertilization
infancy	puberty
childhood	

- 1 A new cell is formed in the process of ____, in which two sex cells combine.
- 2 The stage of development known as ____ is the period between birth and age 1.
- 3 The period of time between infancy and adolescence is called ____.
- 4 All necessary life functions stop when ____ occurs.
- 5 During ____, hormones make the reproductive system develop and mature.

For each pair of terms, describe how the meanings of the terms differ.

- 6 egg/ovary
- 7 adolescence/puberty
- 8 testes/sperm

Understanding Concepts

- 9 What is the function of the male reproductive system? Explain how the system performs this function.
- 10 List four ways males can protect their reproductive system. List four ways females can protect their reproductive system.
- 11 What are three factors that affect the health of both the mother and fetus?
- 12 Summarize the growth and development of a fetus before birth.
- 13 What skills does an infant learn as it grows from birth to age 1?
- 14 In what age range do most children learn to connect different ideas?
- 15 How can some of the changes you go through during puberty lead to unhealthy behavior?
- 16 Why will you probably live to an older age than your grandparents?
- 17 List three conditions associated with aging.

Critical Thinking

Analyzing Ideas

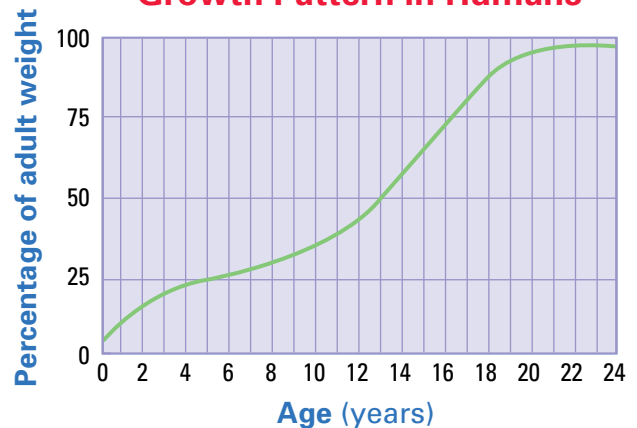
- 18 How might going through the stages of grief help someone deal with a loss?
- 19 Why do mental and emotional changes accompany the physical changes of puberty?
- 20 The life expectancy in the United States is 74 years for males and 80 years for females. Do you think other countries have this same life expectancy? Why or why not?

Making Good Decisions

- 21 You agree to baby-sit the 8-month-old baby of your parents' friends. While you are playing with the baby on the floor, the telephone rings down the hall. What do you do with the infant while you answer the phone? Explain your answer.
- 22 Within the last few months, you have started to feel awkward. Your body seems to be changing almost daily. Your emotions are also changing quickly. You feel happy one day and sad the next day. You are starting to feel that you are different from your classmates—like you don't fit in. What should you do?
- 23 Your friend's grandmother recently died. Your friend hasn't seemed the same since the funeral. He stopped talking to you, and his grades are falling. Yesterday, you noticed he had little cut marks on his hand. When you ask him about the cuts, he gets angry and tells you to mind your own business. Do you tell someone about the cuts? If so, who do you tell and why? If not, why don't you tell?

Interpreting Graphics

Growth Pattern in Humans



Use the figure above to answer questions 24–27.

- 24 The graph above shows the average growth pattern of humans. At what age do humans reach about half of their adult weight?
- 25 In what age range do humans grow the fastest?
- 26 Why do you think growth slows considerably around age 18?
- 27 If this graph were separated into male and female growth patterns, how might the male growth pattern differ from the female growth pattern?

Reading Checkup

Take a minute to review your answers to the Health IQ questions at the beginning of this chapter. How has reading this chapter improved your Health IQ?

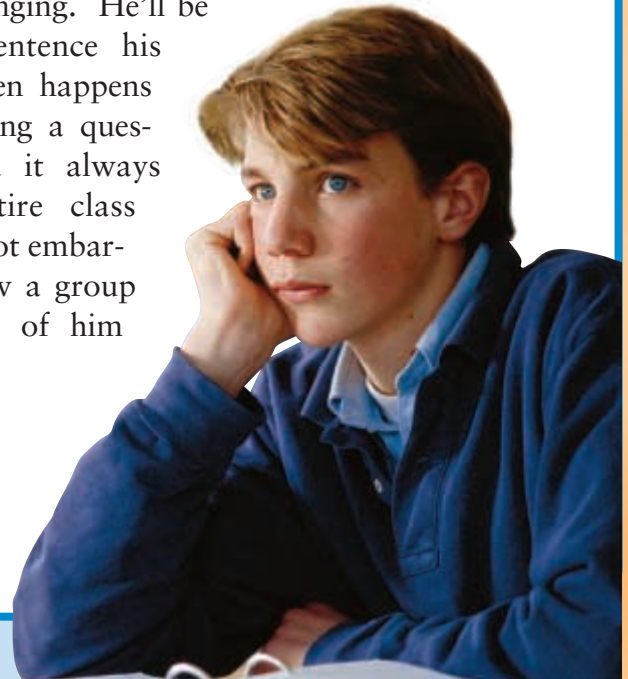
Coping

At times, everyone faces setbacks, disappointments, or other troubles. To deal with these problems, you have to learn how to cope. Coping is dealing with problems and emotions in an effective way. Complete the following activity to develop your coping skills.

Frank's Falsetto

Setting the Scene

Frank's voice is changing. He'll be talking, and midsentence his voice cracks. It often happens while he is answering a question in class. And it always results in the entire class laughing. If that's not embarrassing enough, now a group of kids makes fun of him every day at lunch.



The 5 Steps of Coping

1. Identify the problem.
2. Identify your emotions.
3. Use positive self-talk.
4. Find ways to resolve the problem.
5. Talk to others to receive support.

Guided Practice

Practice with a Friend

Form a group of three. Have one person play the role of Frank and another person play the role of Frank's parent or a trusted friend. Have the third person be an observer. Walking through each of the five steps of coping, role-play Frank coping with the teasing. The observer will take notes, which will include observations about what the person playing Frank did well and suggestions of ways to improve. Stop after each step to evaluate the process.

Independent Practice

Check Yourself

After you have completed the guided practice, go through Act 1 again without stopping at each step. Answer the questions below to review what you did.

1. What other emotions besides embarrassment could the teasing cause Frank to feel?
2. What are some positive things that Frank could tell himself to help him cope with the situation?
3. Explain why talking with a parent or a trusted friend could help Frank cope.
4. Describe a time in which you were teased. How did it make you feel, and how did you cope?



On Your Own

Frank's voice still cracks, but he doesn't worry about it as much anymore. Also, the kids have stopped teasing him. However, Frank has to give a speech in his social studies class next week. He's really nervous about talking in front of the class. Draw a comic strip showing how Frank could use the five steps of coping to deal with the event.

