Chapter 17 The Beginning of the Life Cycle

Lesson 1 Prenatal Development and Care

VIDEO SUMMARY

Prenatal development—the growth of a fertilized egg into a baby ready to be born—is a familiar process, but it remains mysterious in many ways. This video uses new technology to let viewers see the development in a completely new way. Ultrasound images can now be combined to produce a 3-D picture of a baby yet to be born. The development begins when a single egg and a single sperm join and begin to divide.

Click here to watch video; 00:02:38

Discussion Questions
Show the video for Lesson 1. Then guide students in discussing their responses to these questions.

1. According to the video, there are 30 days per year during which a woman can become pregnant. Why?
   A woman can only become pregnant after an egg has been released from the ovary during ovulation.

2. What are the relative sizes of an egg and a sperm?
   An egg cell is 100 times larger than a sperm cell.

3. Based on the images in the video, why do you think nutrition and exercise are important throughout pregnancy?
   Since the baby grows within the mother’s body, the mother’s diet directly affects the health of the baby. Physical activity can help a woman maintain a healthy weight during pregnancy.

Create

Self-Management and Practicing Healthful Behaviors  This skill is the actual practice of healthful behavior. It includes the steps and procedures used to promote wellness.

Have students work in groups to locate information about prenatal care: what a woman should eat, how often she should exercise, and what substances she should avoid. Then have group members work together to plan and create an illustrated poster highlighting their findings. Posters can be distributed to local hospitals or clinics, or they may be displayed in the classroom.

WEB LINKS AND ADDITIONAL GLENCOE RESOURCES

- Visit The Endowment for Human Development Web site to watch videos of fetal development from conception to birth.
- This short article from sadd.org presents a useful explanation of the risks of teen pregnancy.

Go to Fitness Zone Online for additional fitness activities, videos, and podcasts.
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After you have watched the video, write your responses to these questions.

1. According to the video, there are 30 days per year during which a woman can become pregnant. Why?

2. What are the relative sizes of an egg and a sperm?

3. Based on the images in the video, why do you think nutrition and exercise are important throughout pregnancy?
Chapter 17 The Beginning of the Life Cycle
Lesson 2 Heredity and Genetics

VIDEO SUMMARY

Heredity is the passing of physical traits from parents to their children. In some cases, these traits include certain genetic diseases and disorders. The father of Jake Dowell, a successful hockey player, was diagnosed with Huntington’s disease, a fatal genetic disorder that involves a gradual loss of all body and brain functions. Jake and his brother have a 50 percent chance of developing the same disease, but Jake has decided to delay testing for the disease until he is ready to start a family of his own. Jake plans to pursue a professional hockey career, and he hopes that a cure will be available in the future.

Click here to watch video; 00:02:39

Discussion Questions
Show the video for Lesson 2. Then guide students in discussing their responses to these questions.

1. According to the video, Jake has a 50 percent chance of developing Huntington’s disease. Why?
   Jake inherited half of his genes from his mother and half from his father. He has a 50 percent chance of inheriting a normal gene from his mother and a 50 percent chance of inheriting a damaged gene from his father.

2. Why has Jake decided not to be tested for the gene that carries Huntington’s disease?
   Jake has decided that he cannot change the situation, but he will not let the possibility of a diagnosis keep him from reaching his goals.

3. Huntington’s disease is one of many possible genetic disorders. What are some other common genetic disorders?
   Other disorders include cystic fibrosis, Down syndrome, hemophilia, and more.

4. If you were in Jake’s situation, would you have the blood test? Explain your ideas.
   Answers will vary.

Discuss
Communication  This skill is an interactive process between and among individuals to clarify ideas, thoughts, needs, and feelings.

Begin by having several volunteers use reliable internet sources to learn about diseases for which genetic testing is now available. Then divide the class into groups and place one of the research volunteers in each group. Ask group members to discuss the advantages and disadvantages of genetic testing for specific disorders. Encourage students to express a variety of opinions and ideas.

WEB LINKS AND ADDITIONAL GLENCOE RESOURCES

- Visit KidsHealth.org for a discussion of what genes are, how they work, and how genetic disorders may affect people.

- A full explanation of Huntington’s disease is presented in this article on the Mayo Clinic Web site.

Go to Fitness Zone Online for additional fitness activities, videos, and podcasts.
Chapter 17 The Beginning of the Life Cycle
Lesson 2 Heredity and Genetics

VIDEO SUMMARY

Heredity is the passing of physical traits from parents to their children. In some cases, these traits include certain genetic diseases and disorders. The father of Jake Dowell, a successful hockey player, was diagnosed with Huntington's disease, a fatal genetic disorder that involves a gradual loss of all body and brain functions. Jake and his brother have a 50 percent chance of developing the same disease, but Jake has decided to delay testing for the disease until he is ready to start a family of his own. Jake plans to pursue a professional hockey career, and he hopes that a cure will be available in the future.

After you have watched the video, write your responses to these questions.

1. According to the video, Jake has a 50 percent chance of developing Huntington's disease. Why?

2. Why has Jake decided not to be tested for the gene that carries Huntington's disease?

3. Huntington's disease is one of many possible genetic disorders. What are some other common genetic disorders?

4. If you were in Jake's situation, would you have the blood test? Explain your ideas.
Chapter 17 The Beginning of the Life Cycle
Lesson 3 Birth Through Childhood

VIDEO SUMMARY

Childhood is the most important phase in the development of an individual's personality. Although some personality characteristics are present even before a child is born, many aspects of personality are formed by experiences during the early years. A new experience causes neurons in the brain to form connections. If the experience is repeated, the connections begin to form pathways, and personality characteristics develop.

Click here to watch video; 00:02:02

Discussion Questions

Show the video for Lesson 3. Then guide students in discussing their responses to these questions.

1. How is the rapid growth of the brain related to the importance of the early years in the development of personality?

Children's brains are forming millions of new connections in the early years of development, and the connections are influenced by children's experiences.

2. Based on the information in the video, do you think a single experience can affect a child's personality? Explain your ideas.

A single experience may affect a child's personality, but the experience will become more meaningful if it is repeated.

3. What characteristic of your personality do you consider to be especially important? How do you think that characteristic might have been formed?

Answers will vary.

Debate

Communication This skill is an interactive process between and among individuals to clarify ideas, thoughts, needs, and feelings.

Ask students to form small groups, and have group members prepare to debate this statement: Because early experiences are so important in child development, prospective parents should have mandatory training before their babies are born. Ask group members to take sides on this issue and debate the statement, using clear reasons and constructive responses.

WEB LINKS AND ADDITIONAL GLENCOE RESOURCES

- Students who are interested in working with young children can visit the Bureau of Labor and Statistics Web site.
- Visit the Centers for Disease Control and Prevention Web site to learn more about early childhood development, including possible delays and recommended interventions.

Go to Fitness Zone Online for additional fitness activities, videos, and podcasts.
Chapter 17 The Beginning of the Life Cycle
Lesson 3 Birth Through Childhood

VIDEO SUMMARY

Childhood is the most important phase in the development of an individual’s personality. Although some personality characteristics are present even before a child is born, many aspects of personality are formed by experiences during the early years. A new experience causes neurons in the brain to form connections. If the experience is repeated, the connections begin to form pathways, and personality characteristics develop.

After you have watched the video, write your responses to these questions.

1. How is the rapid growth of the brain related to the importance of the early years in the development of personality? ____________________________
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   ____________________________

2. Based on the information in the video, do you think a single experience can affect a child’s personality? Explain your ideas. ____________________________
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3. What characteristic of your personality do you consider to be especially important? How do you think that characteristic might have been formed? ________________
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