CHAPTER 36
Human Reproduction and Development

Part A: Multiple Choice

In the space at the left, write the letter of the term or phrase that best answers each question.

1. Which is the purpose of human reproduction?
   A. to continue the human species
   B. to distinguish between males and females
   C. to ensure the evolution of humans
   D. to form strong marital bonds

2. Which is a result of the hormone testosterone?
   A. female menstrual cycle
   B. female pregnancy
   C. male sperm production
   D. male temperature control

3. Where does the fetus develop?
   A. cervix
   B. oviduct
   C. uterus
   D. vagina

4. Which is a characteristic of the flow phase of the menstrual cycle?
   A. expulsion of blood and tissue
   B. fertilization of the egg cell
   C. formation of the corpus luteum
   D. occurrence of ovulation

Part B: Matching

Matching Set 1 Write the letter of the correct male reproductive structure on the line next to its description. Answers may be used only once.

1. pouch that keeps sperm cells in a cooler environment
   A. epididymis

2. male reproductive glands
   B. scrotum

3. a tube through the penis
   C. testes

4. storage location for sperm
   D. urethra
Chapter Test A CONTINUED

Matching Set 2 Place a check in the correct box to identify the trimester during which each event happens.

<table>
<thead>
<tr>
<th>Statement</th>
<th>First Trimester</th>
<th>Second Trimester</th>
<th>Third Trimester</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. The mother starts to feel the fetus kick.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. The lungs of the fetus begin to develop.</td>
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<tr>
<td>7. A layer of fat forms beneath the skin of the developing fetus.</td>
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<td></td>
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<tr>
<td>8. The developing fetus is at its greatest risk of harm from alcohol consumed by its mother.</td>
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</tr>
</tbody>
</table>

Part C: Interpreting Graphs and Tables

Write your response to each statement in the space provided.

1. Study the graph of menstrual cycle hormones above. Identify the menstrual cycle day on which LH and progesterone hormones peak.

2. Explain how an increase in progesterone levels during the luteal stage serves as a negative feedback for FSH levels.

3. Study the table of SIDS deaths. Infer the relationship between women who smoke during pregnancy and rate of SIDS deaths.

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<tr>
<th>Year</th>
<th>Smoke Exposed</th>
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<tr>
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<tr>
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</tr>
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</table>

The table summarizes the annual death rate due to SIDS per 1000 infants for mothers who smoked and mothers who did not smoke during pregnancy.
Part D: Short Answer

Write your response to each statement in the space provided.

1. **Contrast** sperm production by the male reproductive system with egg production by the female reproductive system. Include the terms *testes* and *ovaries* in your answer.

2. **Describe** the first five days of a developing human. Include the terms *blastocyst*, *morula*, and *zygote* in your answer.

3. **Distinguish** between the nonsexual physical changes that occur during puberty in boys and those that occur in girls.

Part E: Concept Application

Write your response to each statement in the space provided.

1. **Infer** how a damaged placenta could affect a developing fetus.

2. **Analyze** the physical changes that occur during adulthood. Create a lifestyle plan that adults could use to minimize the physical effects of aging. Include the terms *metabolism* and *muscle mass* in your answer.
Chapter Test B

CHAPTER 36
Human Reproduction and Development

Part A: Multiple Choice

In the space at the left, write the letter of the term or phrase that best completes each statement or answers each question.

1. Which is the purpose of human reproduction?
   A. to continue the human species
   B. to distinguish between males and females
   C. to ensure the evolution of humans
   D. to form strong marital bonds

2. Which would be the result if the testes were inside the male body?
   A. fewer sperm cells could be produced
   B. high temperatures would be undesirable for sperm cells
   C. sperm cells could not be mixed with semen
   D. sperm cells would die from lack of nourishment

3. Which leads to the outside of the female body?
   A. cervix
   B. oviduct
   C. uterus
   D. vagina

4. The result after the first two meiotic divisions of the oocyte is a(n)
   A. egg cell.
   B. morula.
   C. polar body.
   D. zygote.

5. Without amniotic fluid, the developing embryo would be
   A. immobile.
   B. injured from a lack of cushioning.
   C. malnourished.
   D. oxygen-deprived inside the uterus.

Part B: Matching and Completion

Matching
Place a check in the correct box to identify the trimester during which each event happens.

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<td>1. Large portions of meat eaten by the mother will aid the brain development of the growing fetus.</td>
<td></td>
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<td></td>
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<tr>
<td>2. Developing fetus first moves its fingers.</td>
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<tr>
<td>3. Developing fetus can now respond to the sound of singing by kicking.</td>
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<tr>
<td>4. Heartbeat is now audible using a stethoscope.</td>
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Chapter Test B
CONTINUED

Completion Write the correct term in the blank to complete each sentence below.

5. The hormone necessary for the production of sperm is called __________________________.

6. The joining of a sperm cell with an egg cell is called __________________________.

7. The developing embryo would have an insufficient oxygen supply without the presence of a tissue called the __________________________.

8. A mother has learned the gender of the fetus developing inside her uterus because her doctor has used __________________________.

Part C: Interpreting Graphs and Tables
Write your response to each statement in the space provided.

1. Study the graph of menstrual cycle hormones above. Identify the line that corresponds with the hormone progesterone.

2. Explain the negative feedback between FSH and progesterone levels.

3. Study the table of SIDS deaths. Predict the number of SIDS deaths among mothers who smoke in 2005. Hypothesize the reason for the number you chose.

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The table summarizes the annual death rate due to SIDS per 1000 infants for mothers who smoked and mothers who did not smoke during pregnancy.
Chapter Test

Part D: Short Answer

Write your response to each statement in the space provided.

1. **Describe** the path taken by a sperm cell from its creation to its ejection out of the body. Use the terms *epididymis, seminiferous tubules, testes, urethra,* and *vas deferens* in your answer.

   ______________________________________________________________________
   ______________________________________________________________________
   ______________________________________________________________________

2. **Infer** several effects an improperly functioning anterior pituitary gland will have on the female menstrual cycle.

   ______________________________________________________________________
   ______________________________________________________________________
   ______________________________________________________________________

3. **Compare** the growth in height of infants, adolescents, and adults.

   ______________________________________________________________________
   ______________________________________________________________________
   ______________________________________________________________________

Part E: Concept Application

Write your response to each statement in the space provided.

1. **Predict** the probability of fertilization occurring if the male releases 18 million sperm cells into the vagina during intercourse.

   ______________________________________________________________________
   ______________________________________________________________________
   ______________________________________________________________________

2. **Analyze** the physical changes that occur during adulthood. Create a lifestyle plan that adults could use to minimize the physical effects of aging.

   ______________________________________________________________________
   ______________________________________________________________________
   ______________________________________________________________________
Part A: Multiple Choice

1. Sperm cells are stored in the _____
   A. epididymis.
   B. seminiferous tubules.
   C. testes.
   D. vas deferens.

2. Which would result in the conception of more twins, triplets, and quadruplets?
   A. a yield of four egg cells after two meiotic divisions of the oocyte
   B. formation of polar bodies during the follicular phase of menstruation
   C. increased production of sperm cells through testosterone supplements
   D. suppression of the negative feedbacks for the hormones FSH and LH

3. Which first occurs during the second trimester?
   A. arm movement
   B. development of hiccuping
   C. response to outside sounds
   D. toe wiggling

4. Which occurs during the third trimester?
   A. formation of facial expressions
   B. formation of fingerprints
   C. rapid brain development
   D. rapid lung development

5. Which is the average length of a newborn?
   A. 16 cm
   B. 29 cm
   C. 51 cm
   D. 78 cm

6. Which occurs during infancy?
   A. doubling of body length
   B. increasing hormone levels
   C. speaking full sentences
   D. tripling of body weight

Part B: Completion

Write the correct term in the blank to complete each sentence below.

1. Temperature regulation of newly produced sperm cells is achieved in the
   ________________________________.

2. An immature egg cell is called a(n) ________________________________.
Chapter Test C CONTINUED

3. Fertilization occurs in the upper portion of the _________________.

4. A defect in the morula could prevent the development of the _________________.

5. DNA analysis of the fetus can be completed with a prenatal test called _________________.

6. The tissue that provides food and oxygen to the developing fetus is called the _________________.

Part C: Interpreting Graphs and Tables

Write your response to each statement in the space provided.

1. Study the graph of menstrual cycle hormones above. **Identify** the lines that correspond with the four major hormones produced during menstruation.

2. Birth control pills contain estrogen and progesterone. **Infer** how birth control pills prevent pregnancies.

3. The data in the table show a strong correlation between mothers who smoke during pregnancy and an increased likelihood of SIDS deaths. **Design** a study to determine the influence of secondhand smoke on the rate of SIDS deaths.

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The table summarizes the annual death rate due to SIDS per 1000 infants for mothers who smoked and mothers who did not smoke during pregnancy.
Chapter Test C CONTINUED

Part D: Short Answer
Write your response to each statement in the space provided.

1. **Summarize** the necessity and results of human reproduction.

   ___________________________________________________________

   ___________________________________________________________

   ___________________________________________________________

2. **Describe** the path taken by a sperm cell through the male body.

   ___________________________________________________________

   ___________________________________________________________

   ___________________________________________________________

3. **Compare** and **contrast** the four extraembryonic membranes.

   ___________________________________________________________

   ___________________________________________________________

   ___________________________________________________________

Part E: Concept Application
Write your response to each statement in the space provided.

1. In males, testosterone levels are highest at age 26. Afterward, the loss of testosterone averages 0.2–1 percent per year. **Hypothesize** the possible effects of testosterone loss on an adult male at age 50. Include both physical and psychological effects in your discussion.

   ___________________________________________________________

   ___________________________________________________________

   ___________________________________________________________

2. **Hypothesize** one possible difficulty occurring at each of the first two birthing stages that could necessitate a cesarean section.

   ___________________________________________________________

   ___________________________________________________________

   ___________________________________________________________