

34.3 The Reproductive System

Lesson Objectives

-  Describe the effects the sex hormones have on development.
-  Name and discuss the structures of the male reproductive system.
-  Name and discuss the structures of the female reproductive system.
-  Describe some of the most common sexually transmitted diseases.

Lesson Summary

Sexual Development Hormones released by the ovaries and testes cause sexual development during **puberty**, a period of rapid growth and sexual maturation that usually starts between the ages of 9 and 15. At the end of puberty, the male and female reproductive organs are fully developed and become fully functional.

The Male Reproductive System The main role of the male reproductive system is to make and deliver sperm.

- ▶ The **testes** are the main organs of the male system. Two testes are held in an external sac called the **scrotum**. The testes make sperm in tiny tubes called **seminiferous tubules**. The sperm mature and are stored in an **epididymis**. A tube called a **vas deferens** carries sperm from each testis to the urethra within the penis.
- ▶ Along the way, secretions of several glands form a nutrient-rich fluid called seminal fluid. The combination of sperm and seminal fluids is called **semen**. Semen leaves the body through the urethra. Contractions eject semen from the penis in a process called ejaculation.
- ▶ A mature sperm cell consists of a head that contains the nucleus, a midpiece that is packed with mitochondria, and a flagellum that propels the sperm.

The Female Reproductive System The main roles of the female reproductive system are to make eggs and prepare the female body to nourish an embryo.

- ▶ The **ovary** is the main organ of the female system. Each ovary has thousands of follicles, which are clusters of cells that surround an egg. A mature egg moves through the Fallopian tube to the uterus, which is connected to the outside of the body by the vagina.
- ▶ Beginning in puberty, the female body goes through a **menstrual cycle**, a series of events that prepares the body to care for a fertilized egg. The menstrual cycle has four phases:
 - **Follicular phase**: An egg matures in its follicle.
 - **Ovulation**: The mature egg is released from the ovary.
 - **Luteal phase**: The follicle develops into a structure called the **corpus luteum**.
 - **Menstruation**: The lining of the uterus falls away and leaves the body through the vagina if the egg is not fertilized.

Sexually Transmitted Diseases A disease spread during sexual contact is called a **sexually transmitted disease (STD)**. Bacteria and viruses can cause STDs. Chlamydia, syphilis, gonorrhea, and AIDS are STDs.

Sexual Development

For Questions 1–3, write the letter of the correct answer on the line at the left.

- _____ 1. Male and female embryos are nearly identical until the
 A. second week of development. C. third month of development.
 B. seventh week of development. D. fifth month of development.
- _____ 2. Which hormone, when produced in an embryo, triggers a male pattern of development?
 A. testosterone C. estrogen
 B. progesterone D. adrenalin
- _____ 3. The period of human development that includes rapid growth and sexual maturation is called
 A. adolescence. C. maturity.
 B. childhood. D. puberty.

The Male Reproductive System

For Questions 4–8, match each structure of the male reproductive system with its description.

| Structure | Description |
|------------------------------|---|
| _____ 4. epididymis | A. External sac that holds male gonads |
| _____ 5. scrotum | B. The primary male reproductive organ |
| _____ 6. seminiferous tubule | C. Structure in which sperm mature |
| _____ 7. testis | D. Structure in which meiosis occurs |
| _____ 8. vas deferens | E. The tube through which sperm travel to the urethra |

For Questions 9–12, complete each statement by writing the correct word or words.

9. The seminal vesicles, _____ gland, and _____ gland produce a nutrient-rich fluid called _____ fluid.
10. Sperm mixed with the seminal fluid is called _____.
11. Signals from the _____ nervous system cause sperm to be ejaculated.
12. The _____ of a sperm cell contain mitochondria that supply energy to the _____, which propels the sperm forward.

The Female Reproductive System

For Questions 13–16, complete each statement by writing the correct word or words.

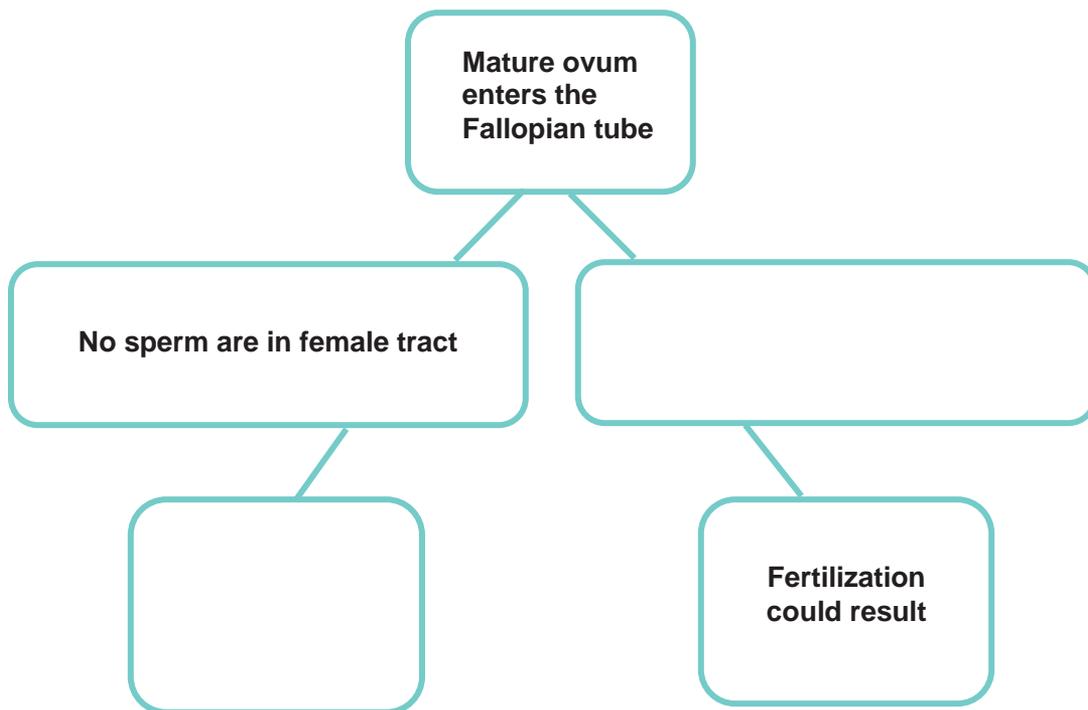
13. The primary reproductive organs of females are the _____.
14. The function of a(n) _____ is to help an egg mature.
15. Only about _____ of the 400,000 eggs a female is born with develop into a mature ovum.
16. The structure of the female reproductive system in which the embryo develops is called the _____.

Name _____ Class _____ Date _____

For Questions 17–20, match each phase of the menstrual cycle with the correct event.

| Phase | Event |
|----------------------------|--|
| _____ 17. Follicular phase | A. An unfertilized egg leaves the body. |
| _____ 18. Ovulation | B. The egg travels through a Fallopian tube. |
| _____ 19. Luteal phase | C. An egg within a follicle develops. |
| _____ 20. Menstruation | D. An egg is released from an ovary. |

21. Complete the concept map to explain what the outcomes of a menstrual cycle can be.



Sexually Transmitted Diseases

For Questions 22–24, write *True* if the statement is true. If the statement is false, change the underlined word or words to make the statement true.

- _____ 22. AIDS is the most common bacterial STD.
- _____ 23. Chlamydia damages the reproductive tract and can cause infertility.
- _____ 24. Hepatitis B and genital herpes are viral STDs.

Apply the Big idea

25. How is the menstrual cycle an example of the body's use of negative feedback?
