

Lesson 1

HOW DO BODY SYSTEMS REGULATE GROWTH AND DEVELOPMENT?

THE BIG IDEA

- The body's systems and subsystems are composed of groups of cells.
- The body's subsystems interact to control growth and reproduction.

WHAT I NEED TO KNOW

How much have you grown since the second grade? You have certainly gotten taller, gained weight, and built muscle mass. However, that is not the only way you are changing. Your body is also maturing from a child into an adult. Some changes in the body happen quickly but other changes happen more slowly. How do body systems work together to support growth, development, and reproduction?

Although there are many differences between the male and female reproductive systems, both produce sex cells. The male sex cell is the **sperm** and the female sex cell is the **egg**. **Fertilization** is the process in which the nucleus of a sperm cell unites with the nucleus of an egg cell to create a new living thing. The **male reproductive system** includes the testes, epididymis, scrotum, vas deferens, urethra, and penis. The testes produce sperm cells through the hormone testosterone. **Hormones** are chemicals that transmit signals through the bloodstream to affect other organs. The epididymis stores sperm cells. The testes and epididymis are located in the scrotum, a pouch of skin located outside the male body. The vas deferens is a tube that delivers sperm to the urethra. The urethra extends through the penis to deliver the sperm into the female body as the means for reproduction.

WORDS TO KNOW

sperm

egg

fertilization

male reproductive system

hormone

female reproductive system

gland

THINK ABOUT IT

How does a body grow?

TURN AND TALK

How does the body respond to a hormone compared to a nerve signal?