

Unit Organizer
5th Grade Science
THE ENDOCRINE SYSTEM

Colorado State Standards:

Science Standard 3.1- Students know and understand the characteristics of living things, the diversity of life, and how living things interact with each other and with their environment.

Science Standard 3.3- Students know and understand how the human body functions, factors that influence its structures and functions, and how these structures and functions compare with those of other organisms.

Science Standard 5- Students know and understand interrelationships among science, technology, and human activity and how they can affect the world.

Science Standard 6- Students understand that science involves a particular way of knowing and understand common connections among scientific disciplines.

Core Knowledge Unit:

V. The Human Body

B. The Endocrine System

- The human body has two types of glands: duct glands (such as salivary glands), and ductless glands, also known as endocrine glands.
- Endocrine glands secrete (give off) chemicals called hormones. Different hormones control different body processes.
- Pituitary gland: located at the bottom of the brain, secretes hormones that control other glands, and hormones that regulate growth.
- Thyroid gland: located below the voice box, secretes a hormone that controls the rate at which the body burns and uses food.
- Pancreas: both a duct and ductless gland, secretes a hormone called insulin that regulates how the body uses and stores sugar, when the pancreas does not produce enough insulin, a person has a sickness called diabetes (which can be controlled)
- Adrenal glands: secrete a hormone called adrenaline, especially when a person is frightened or angry, causing rapid heartbeat and breathing

Previous Unit: Plant Structures and Processes

Next Unit: Life Cycles and Reproduction

Standards for Achievement and Performance:

Can you...

- Define and explain the job of the endocrine system?
- Know the difference between duct and ductless glands?
- Define the following vocabulary as pertaining to only its job in the endocrine system: hormones, glands, endocrine glands, exocrine glands, pituitary gland, thyroid gland, parathyroid gland, pancreas gland, adrenal gland, ovaries, testes?
- Identify the location of all glands in the human body?
- Demonstrate an understanding of each gland's function?
- Identify changes that hormones cause in your body?
- Identify problems that may occur if hormones don't function properly and how this might affect a person's life?
- Describe contributions of the scientists Sir Frederick Grant Banting, Charles Herbert Best, and Percy Lavon Julian to our knowledge of the endocrine system?

Character Education:

Respect in learning about people with endocrine disorders.

Perseverance as demonstrated by three famous endocrine scientists through their studies.

Vocabulary

endocrine
exocrine
gland
hormone
disorder
duct
secrete