

## VOCABULARY LIST

### BRAIN & BODY

**binding site** (*noun*): a region on a large molecule, such as a protein within a living organism, where another molecule can attach (called binding). Only specific molecules can attach to each binding site (think of puzzle pieces fitting together).

- ◆ Knowing the shape of a binding site helps scientists create targeted drug treatments.

**neuron** (*noun*): a cell within the nervous system that transmits information to other nerves, muscles, or gland cells.

### BRAIN STATES

**conscious** (*adjective*): awake and aware of one's thoughts and surroundings; alert to sensations in the body and able to respond.

**unconscious** (*adjective*): not awake or aware, due to an interruption in communication between different parts of the brain.

- ◆ Unconsciousness is a different state than sleep. For example, a sleeping person can be woken by a loud noise, but an unconscious person cannot. While a person can fall asleep naturally, they can't become unconscious unless they receive anesthesia or experience a head injury, such as a concussion.

### PAIN

**acute pain** (*noun*): pain that lets you know you may be hurt or have a problem you need to do something about.

- ◆ The nerves in the injured part of your body send messages to the brain about the situation. Your brain then makes you feel pain.

**chronic pain** (*noun*): pain that may last for weeks, months, or even years. There are many causes of chronic pain.

### ANESTHESIA & RESEARCH

**anesthesia** (*noun*): a loss of sensation; a medical treatment that prevents patients from feeling pain during surgery and other medical procedures.

- ◆ Some *anesthetics* (drugs doctors use to produce anesthesia) cause numbness in a specific area, while others cause unconsciousness as well.

**anesthesia researcher** (*noun*): a scientist who studies anesthesia and its effects on the brain and body in order to investigate questions about the nature of pain, consciousness, and unconsciousness, and how to develop even more effective anesthetics.

**anesthesiologist** (*noun*): a doctor who administers anesthesia and treats pain.

- ◆ Anesthesiologists carefully monitor patients throughout a medical procedure using a variety of devices that display blood pressure, blood oxygen levels, heart function, and respiration. They adjust medications as needed to make sure each patient remains safe.
- ◆ Anesthesiologists can also help treat chronic or acute pain outside the operating room, and may conduct research as well.

**machine learning** (*noun*): a type of artificial intelligence in which computer algorithms (sets of rules and procedures) are developed to analyze and make predictions from data that's fed into the system.

**neuroengineering** (*noun*): the field combining engineering techniques and technology with neuroscience (the study of the nervous system).

#### TAKE IT FURTHER

Choose five vocabulary words that you think will be the hardest to remember, then write a paragraph with them (nonfiction or fiction).