

VOCABULARY LIST

GRADES 6-12

Dear Teacher,

The vocabulary list on the following pages is drawn from the “Mapping the Brain” student article and work sheet.

This vocabulary can be previewed with students prior to reading or reinforced with students afterward. Encourage students to incorporate these words into their writing and discussion of the “Mapping the Brain” student article and the “How to Think Like a Neuroscientist” work sheet.

The vocabulary list integrates two different tiers of vocabulary: words that would be used across several content areas, such as *advancement*, *motivation*, or *process*, and domain-specific words such as *cellular*, *cerebral*, and *chemicals*.

Supplement to “Mapping the Brain”

- Student Article: scholastic.com/headsup/mappingthebrain
- Teacher’s Guide (includes work sheet): scholastic.com/headsup/teachers/mappingthebrain

Some suggestions for students to help their understanding include:

- organizing concept maps that include word parts, synonyms, antonyms, and examples;
- composing memory aids that explain the words or use them in a meaningful context;
- employing the words to create newspaper articles, stories, or poems.

Sources: Unless otherwise noted, definitions below are sourced or adapted from:

- Grades 6–8: *The American Education Publishing Children’s Dictionary*
- Grades 9–12: *Merriam-Webster Collegiate Dictionary*

[Continue to vocabulary sheet on next page.]

VOCABULARY LIST FROM "MAPPING THE BRAIN"

- **absorb** (*verb*): to take in or draw in
- **activated** (*adjective*): to be set into motion; to be made active
- **addicted** (*adjective*): to be dependent on something and not able to give it up, such as a drug
- **adolescence** (*noun*): the period of life when a child develops into an adult
- **advancement** (*noun*): the act, process, or result of moving forward; progress
- **analyze** (*verb*): to study closely and carefully
- **atom** (*noun*): the smallest component of an element that can exist by itself, consisting of protons, neutrons, and electrons
- **brain stem** (*noun*): the lower part of the brain that connects to the spinal cord and controls certain automatic functions, such as breathing
- **cellular** (*adjective*): of, related to, or made of cells from a living thing
- **cerebellum** (*noun*): the area of the brain located between the brain stem and the cerebrum that controls voluntary muscle coordination and balance
- **cerebral** (*adjective*): relating to or involving the cerebrum
- **cerebrum** (*noun*): the upper part of the brain that is split into two hemispheres. These two hemispheres are referred to as cerebral hemispheres.
- **chemical** (*noun*): a substance, such as an element or a mix of elements (compound), that is made by a chemical process
- **complex** (*adjective*): having a complicated structure; not simple
- **crave** (*verb*): to have a strong desire for something
- **critical thinking** (*noun*): thought process characterized by clear and rational thinking that relies on facts and evidence
- **development** (*noun*): the act or process of growing or causing something to become larger or more advanced
- **dopamine** (*noun*): a neurotransmitter chemical that helps transmit signals in the brain and is associated with feelings of pleasure
- **drawback** (*noun*): something that causes problems or creates a disadvantage
- **emit** (*verb*): to send out
- **frontal lobe** (*noun*): the front part of each cerebral hemisphere of the brain in which emotions, problem solving, motor control, and decision-making processes are controlled
- **function** (*noun*): the purpose or activity for which a thing exists or is used
- **functional MRI** (fMRI) (*noun*): a brain imaging tool that shows areas of the brain that are active during a behavior
- **generation** (*noun*): a group of people born and living during the same time
- **hemisphere** (*noun*): as in brain hemisphere; either of the two halves of the upper part of the brain in humans and other animals
- **hydrogen** (*noun*): a chemical element that has no color or smell and that is the simplest, lightest, and most common element. A single molecule of water contains two hydrogen atoms and one oxygen atom.
- **imaging** (*noun*): the act of creating a medical or scientific image that shows a picture of the inside of a body
- **imbalance** (*noun*): a state or condition when different things do not occur in equal or proper amounts
- **inject** (*verb*): to force a liquid into something, such as with a needle
- **integration** (*noun*): the act or process of combining different things
- **lasting** (*adjective*): existing or continuing for a long time
- **lobe** (*noun*): a somewhat rounded part of a body organ or division of a body organ
- **magnetic** (*adjective*): relating to a magnet or magnetism

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- **magnetic field** (*noun*): a region of space near a magnetic body where magnetic forces can be detected
- **motivation** (*noun*): the condition of being eager to act or work
- **nervous system** (*noun*): the system of nerves in your body that sends messages for controlling movement and feelings, for example
- **neuron** (*noun*): a nerve cell that carries messages between the brain and other parts of the body and is a basic part of the nervous system
- **neuroscience** (*noun*): the area of science related to the nervous system, including the nerves, brain, and spinal cord
- **neuroscientist** (*noun*): a scientist who studies the nervous system, including the nerves, brain, and spinal cord
- **nucleus accumbens** (*noun*): the area of the brain that processes motivation and pleasure
- **occipital lobe** (*noun*): the lobe of each cerebral hemisphere located at the back of the brain that contains the visual-processing area
- **organ** (*noun*): a structure in a plant or animal that performs a specific function, such as the brain or the heart
- **parietal lobe** (*noun*): the rear part of each hemisphere in the upper part of the brain that contains an area concerned with sensory perception and integration, motion, and attention
- **participant** (*noun*): a person who is involved in an activity, event, or study
- **perception** (*noun*): the ability to notice or understand something using one of your senses
- **positron emission tomography (PET)** (*noun*): a tool that produces images of activity inside the body by detecting energy given off by radioactive substances that have been injected into the body
- **prefrontal cortex** (*noun*): the front part of the frontal lobe area of the brain that is involved in complex decision making and thinking
- **process** (*noun*): a series of actions that produce something to lead to a certain result
- **radio wave** (*noun*): an electromagnetic wave that is used for sending signals through the air without using wires
- **radioactive** (*adjective*): emitting energy or high-energy particles (radiation) as a result of the decay of unstable atoms
- **radiotracer** (*noun*): a radioactive substance injected into the body that is used to track and study processes in the body
- **receptor** (*noun*): a cell or group of cells that receives signals and has an attraction for specific chemicals
- **reduce** (*verb*): to make smaller in size, amount, or number
- **region** (*noun*): a particular area of something
- **release** (*verb*): to set free, or to allow a substance to enter the air, water, bloodstream, etc.
- **scan** (*noun*): a medical or scientific image that shows a picture of the inside of a body
- **sensory** (*adjective*): of or related to your physical senses (touch, taste, smell, sight, and hearing)
- **structural MRI** (*noun*): a brain imaging tool that shows a detailed image of the structure of tissues, organs, and bones in the body
- **technology** (*noun*): a machine or method that is created or invented by scientists to solve problems
- **temporal lobe** (*noun*): the large lobe of each cerebral hemisphere that is situated in front of the occipital lobe and contains a sensory area associated with hearing, understanding language, and memory
- **tissue** (*noun*): the group of cells that forms the parts and organs in a plant or animal
- **tumor** (*noun*): a mass of tissue that is made up of abnormal cells
- **vaping** (*verb*): inhaling and exhaling vapor from an electronic cigarette