



BRAIN LESSON “Mission Control” Fifth Grade

WELCOME!!

MORE HEALTH is going to look a little different this school year. We are very excited to continue to offer you our health and safety lessons via a live virtual platform. Our instructors have been preparing and working hard to bring you the fun, interactive, and engaging lessons you have come to expect and rely on for over 30 years. Because things will look a little different this year, I urge you to read through this pre-packet thoroughly. As always, if you need further assistance please don't hesitate to reach out to us directly. Along with this pre-packet, you will find the necessary materials you will need to assist in student learning. **If you would like to access this pre-packet virtually, use the instructions below.**

Online Teacher Resources

- **The MORE HEALTH website is equipped with a classroom Teacher section.**
In this section you have the capability to access pre and post-visit activities, vocabulary words, and videos.
- **To access the Teacher section - Visit morehealthinc.org,**
The teacher section is located close to the top of the home page.
Click on “teacher” and find the MORE HEALTH lesson you need.
- **Password: resources**

Material Aids for Lesson

- Brain Worksheet (**one per student – hand out prior to start of lesson. To be used during virtual lesson**)

Take Home Materials for Students

- Parent Letter
- MORE HEALTH Newsletter
- Brainteasers

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Pre-Visit Activities

1. Review the enclosed Vocabulary. Students do not need to have a working knowledge of the words, but rather a beginning familiarity.
2. Follow the directions on the cover page to access the following video: *How the Brain Works*. (3:41 minutes) <https://youtu.be/-nH4MRvO-10>

If time permits, there are activities and a quiz associated with the video on the website www.kidshealth.org.
3. Give each student the Brain diagram to use along with the Vocabulary.
4. Have students choose one part of the brain (from vocabulary). Have them begin with these definitions. They can look for more facts and use all the material in one report on the brain. This can be a brief, but informative way to improve writing and speaking skills.

Suggested Post-Visit Activities

1. Enlarge the student cross-section of the brain (Brain visual) and put it on the bulletin board. Have them use pictures or drawings to show what different parts of the brain do. They can look at the Vocabulary words for clues.
2. Have students look on the CDC or National Traffic Safety Administration websites to research statistics that indicate the number of brain injuries sustained during sport activities, bicycle or automobile crashes. Students can compare the statistics of brain injuries as they relate to age, state, and county.
3. Have students drop an egg wrapped in a paper towel on the floor. Have them do it again with a wrapped egg inside of a helmet. Have the class discuss the results.
4. Follow the directions on the cover page to access the Brain Works video: *The Brain and Exercise* (22 minutes) <https://www.youtube.com/watch?v=8O72UYVGWCI&t=552s>
This video stresses the importance exercise is for your brain.
5. **Recommended Reading (NOT REQUIRED):** *The Brain, Our Nervous System* by Seymour Simon.

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Vocabulary

- 1. abuse** _n to hurt by treating badly, mistreat (i.e. using drugs, alcohol, tobacco, overeating)
- 2. brain stem/
medulla oblongata** _n part of the brain stem; controls involuntary reflexes like heartbeat, breathing, circulation, and blinking
- 3. cerebellum** _n responsible for muscle coordination and balance; controls voluntary reflexes
- 4. cerebral cortex** _n the outer layer of the brain; location of the convolutions or “wrinkles”
- 5. cerebrum** _n the largest part of the brain responsible for the five senses, short and long term memory, and speech
- 6. corpus callosum** _n a large bundle of nerves that connects the left and right sides/hemispheres of the brain
- 7. ejected** _v force or throw out, typically in a violent or sudden way
- 8. helmet** _n a hard covering to protect the skull/brain, worn by bicycle riders, soldiers, certain athletes, etc.
- 9. hippocampus** _n a small organ located deep beneath the cerebral cortex that is responsible for processing long term memory and emotional response
- 10. hypothalamus** _n regulates body temperature, hunger, thirst, pain; controls the pituitary gland and the fight and flight response.
- 11. microscopic** _{adj} so small as to be visible only with a microscope
- 12. neuron** _n nerve cell; the basic unit that carries out the work of the nervous system
- 13. severed** _{adj} having been cut or sliced off
- 14. thalamus** _n relay station that receives messages and sends them to the proper place in the brain

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BRAIN LESSON “*Mission Control*” Fifth Grade

Goals:

1. Students will understand the structure and function of the brain.
2. Students will understand their responsibility to protect their brain and spinal cord from injuries and damage.

Objectives:

1. Students will be able to name the five parts of the brain and their functions.
2. Students will be able to name at least four ways to protect their brain and spinal cord.
3. Students will be able to explain at least two reasons why they should protect their brains from alcohol or drugs abuse.

Standards:

The student will...

- HE.5.C.1.1 describe the relationship between healthy behaviors and personal health.
- HE.5.C.1.4 compare ways to prevent common childhood injuries and health problems.
- HE.5.C.1.5 explain how human body parts and organs work together in healthy body systems, including the endocrine and reproductive systems.
- HE.5.C.2.2 predict how friends/peers may influence various health practices of children.
- HE.5.C.2.4 give examples of school and public health policies that influence health promotion and disease prevention.
- HE.5.C.2.8 investigate influences that change health beliefs and behaviors.
- HE.5.P.7.1 model responsible personal health behaviors.
- HE.5.P.7.2 illustrate a variety of healthy practices and behaviors to maintain or improve personal health and reduce health risks.
- He.5.P.8.1 persuade others to make positive health choices.
- HE.5.B.3.3 compile resources from home, school, and community, technologies that provide valid health information.
- HE.5.B.5.1 describe circumstances that can help or hinder healthy decision making.
- HE.5.B.5.2 summarize healthy options to health-related issues or problems.
- HE.5.B.5.3 compare the potential short-term impact of each option on self and others when making a health-related decision.
- HE.5.B.5.4 select a healthy option when making decisions for yourself and/or others.

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- HE.5.B.5.5 analyze when assistance is needed when making a health-related decision.
- HE.5.B.6.1 specify a personal health goal and track progress toward achievement.
- SC.5.L.14.1 identify the organs in the human body and describe their functions, including the skin, brain, heart, lungs, stomach, liver, intestines, pancreas, muscles, and skeleton, reproductive organs, kidneys, bladder, and sensory organs.
- SC.5.L.14.2 compare and contrast the function of organs and other physical structures of plants and animals, including humans.
- LAFS.5.L.3.4 determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies.
- LAFS.5.RI.1.2 determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.
- LAFS.5.RI.2.4 determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area.
- LAFS.5.RI.3.7 draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.
- LAFS.5.RI.3.9 integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.
- LAFS.5.RF.4.4 read with sufficient accuracy and fluency to support comprehension.
- LAFS.5.SL.1.2 summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
- LAFS.5.SL.1.3 summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.
- LAFS.5.SL.2.4 report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.
- LAFS.5.W.1.2 write informative/explanatory texts to examine a topic and convey ideas and information clearly.
- LAFS.5.W.3.7 conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.



BRAIN LESSON “Mission Control” Fifth Grade

BRAIN WORKSHEET ANSWER KEY

Your brain is made up of 75 % water.

There are 100,000 miles of blood vessels in your brain.

The spinal column is made up of 33 vertebrae that protect the spinal cord.

There are 86 billion neurons in your brain.

Neurons can travel up to 280 miles per hour.

Most common causes for spinal cord injuries in the US:

automobile accidents

jumps and falls

diving into water

Ways to prevent these spinal cord injuries? wear seatbelt, steady ladder, enter water feet first

Cerebrum is responsible for:

- | | |
|--------------------|--------------------------|
| 1. <u>5 senses</u> | 3. <u>long</u> (memory) |
| 2. <u>speech</u> | 4. <u>short</u> (memory) |

Memory Test:

- | | |
|-----------------|------------------|
| 1. <u>water</u> | 6. <u>ball</u> |
| 2. <u>dog</u> | 7. <u>rabbit</u> |
| 3. <u>home</u> | 8. <u>apple</u> |
| 4. <u>line</u> | 9. <u>sheep</u> |
| 5. <u>mouse</u> | 10. <u>bed</u> |

Write the seven letter word that you see: SCIENCE

Corpus Callosum is a bundle of nerves that connects the 2 halves or hemispheres.

How many messages can be sent per second? 4 billion

Our brain is cross - wired!

Cerebellum gives us balance and coordination.

Thalamus receives messages and sends them to the right place in the brain.

Hypothalamus

1. hunger
2. thirst
3. pain
4. body temperature
5. fight or flight
6. Pituitary gland

What word association helps you remember what the Medulla Oblongata does?

Hakuna Matata means No Worries

The brain relies on blood to provide nutrients and oxygen to help it function.

Eating healthy food helps the brain's memory and function.

exercise helps with intellectual performance (better concentration, problem solving, memory, etc.).

Protecting our skull also protects our brain.

On wheels, if you are under the age of 16 you must wear a helmet.

TBI stands for traumatic brain injury.