



KidsHealth.org/classroom

Teacher's Guide

This guide includes:

- Standards
- Related Links
- Discussion Questions
- Activities for Students
- Reproducible Materials

Standards

This guide correlates with the following National Health Education Standards:

Students will:

- Comprehend concepts related to health promotion and disease prevention to enhance health.
- Analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.
- Demonstrate the ability to access valid information and products and services to enhance health.
- Demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.
- Demonstrate the ability to use decision-making skills to enhance health.
- Demonstrate the ability to use goal-setting skills to enhance health.
- Demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.
- Demonstrate the ability to advocate for personal, family, and community health.

National Health Education Standards:
<http://www.cdc.gov/healthyschools/sher/standards/index.htm>

The nervous system is like a network that relays messages back and forth from the brain to different parts of the body. These messages allow you to do things like walk, think, feel, be scared, and even breathe. The brain is the central computer that controls all the functions of your body. These activities will help your students understand how the nervous system works.

Related KidsHealth Links

Articles for Kids and Teens:

Brain and Nervous System

KidsHealth.org/en/teens/brain-nervous-system.html

Movie: The Nervous System

KidsHealth.org/en/kids/nsmovie.html

Memory Matters

KidsHealth.org/en/kids/memory.html

What Are Reflexes?

KidsHealth.org/en/kids/reflexes.html

Why Do I Have Pain?

KidsHealth.org/en/kids/pain.html

Discussion Questions

Note: The following questions are written in language appropriate for sharing with your students.

1. What part of your body is considered the main control station?
2. How are messages sent through your body to and from your brain? What parts of your body are included in your nervous system?
3. What are nerve cells or neurons? How do they make connections within the brain and relay messages?
4. How does your body feel pain?
5. What is the fight or flight response?
6. What would happen if a nerve connection broke? What kinds of things could break connections? Name some diseases, disorders, or injuries that could affect the nervous system.



Activities for Students

Note: The following activities are written in language appropriate for sharing with your students.

Brainy ABCs

Objectives:

Students will:

- Explore the various parts and functions of the nervous system
- Generate a list of facts about the brain and nervous system

Materials:

- KidsHealth articles and movie
- “Brainy ABCs” handout

Class Time:

- 1 hour

Activity:

Today you’re going to write an ABC guide to the brain and nervous system for kids in elementary school. After reading the KidsHealth articles and watching the movie about the brain and nervous system, use the “Brainy ABCs” handout as a guide to collect 26 facts, one for each letter of the alphabet. [Note to instructor: This can be done individually or with partners.] Facts should be a brief sentence or two that relate to the brain or nervous system. Try to come up with facts that start with each letter of the alphabet. If you have trouble writing a fact that starts with a certain letter, just be creative! For example: A fact for X could be “Cerebral corteX is the term for the outer layer of the brain.”

Extensions:

1. Make a poster that shows kids and teens ways to be good to their brains. You can focus on things like eating healthy foods, exercising, wearing a helmet when riding bikes or playing certain sports, or staying away from drugs and alcohol.
2. Using the posters and the completed “Brainy ABCs” handouts, have your students present a lesson on the brain and nervous system to an elementary school class.
3. Go to KidsHealth.org/kid or TeensHealth.org and research a problem that can affect the nervous system. Write a brief report about the disease or disorder.



Brain Map

Objectives:

Students will:

- Design a map of the brain
- Identify the five main parts of the brain and their functions

Materials:

- Computer with Internet access
- Paper
- Crayon, markers, colored pencils

Class Time:

- 1 hour

Activity:

After reading the KidsHealth.org articles related to the brain and nervous system, draw a map of the brain. Clearly label the parts of the brain and list their functions. Use the KidsHealth.org interactive diagram of the brain in the “Brain and Nervous System” article as a guide for your drawing.

Extension:

Create a map of the nervous system using an outline of a body. Clearly label the parts of the system and list their functions.

Reproducible Materials

Handout: Brainy ABCs

KidsHealth.org/classroom/6to8/body/systems/nervous_system_handout1.pdf

Handout: Brain Map

KidsHealth.org/classroom/6to8/body/systems/nervous_system_handout2.pdf

Quiz: Nervous System

KidsHealth.org/classroom/6to8/body/systems/nervous_system_quiz.pdf

Answer Key: Nervous System

KidsHealth.org/classroom/6to8/body/systems/nervous_system_quiz_answers.pdf



Name: _____

Date: _____

Brainy ABCs

Directions: Write 26 facts related to the brain or nervous system in an ABC format for elementary school kids. Facts should start with each letter of the alphabet, as much as possible. If you have trouble writing a fact that starts with a certain letter, just be creative! For example, a fact for A could be: "Amygdala is the part of the brain that's responsible for emotions." A fact for X could be: "Cerebral corteX is the term for the outer layer of the brain."

A _____

B _____

C _____

D _____

E _____

F _____

G _____

H _____

I _____

J _____

K _____

L _____

M _____



Name: _____

Date: _____

Brainy ABCs

Directions: Write 26 facts related to the brain or nervous system in an ABC format for elementary school kids. Facts should start with each letter of the alphabet, as much as possible. If you have trouble writing a fact that starts with a certain letter, just be creative! For example, a fact for A could be: "Amygdala is the part of the brain that's responsible for emotions." A fact for X could be: "Cerebral corteX is the term for the outer layer of the brain."

N _____

O _____

P _____

Q _____

R _____

S _____

T _____

U _____

V _____

W _____

X _____

Y _____

Z _____

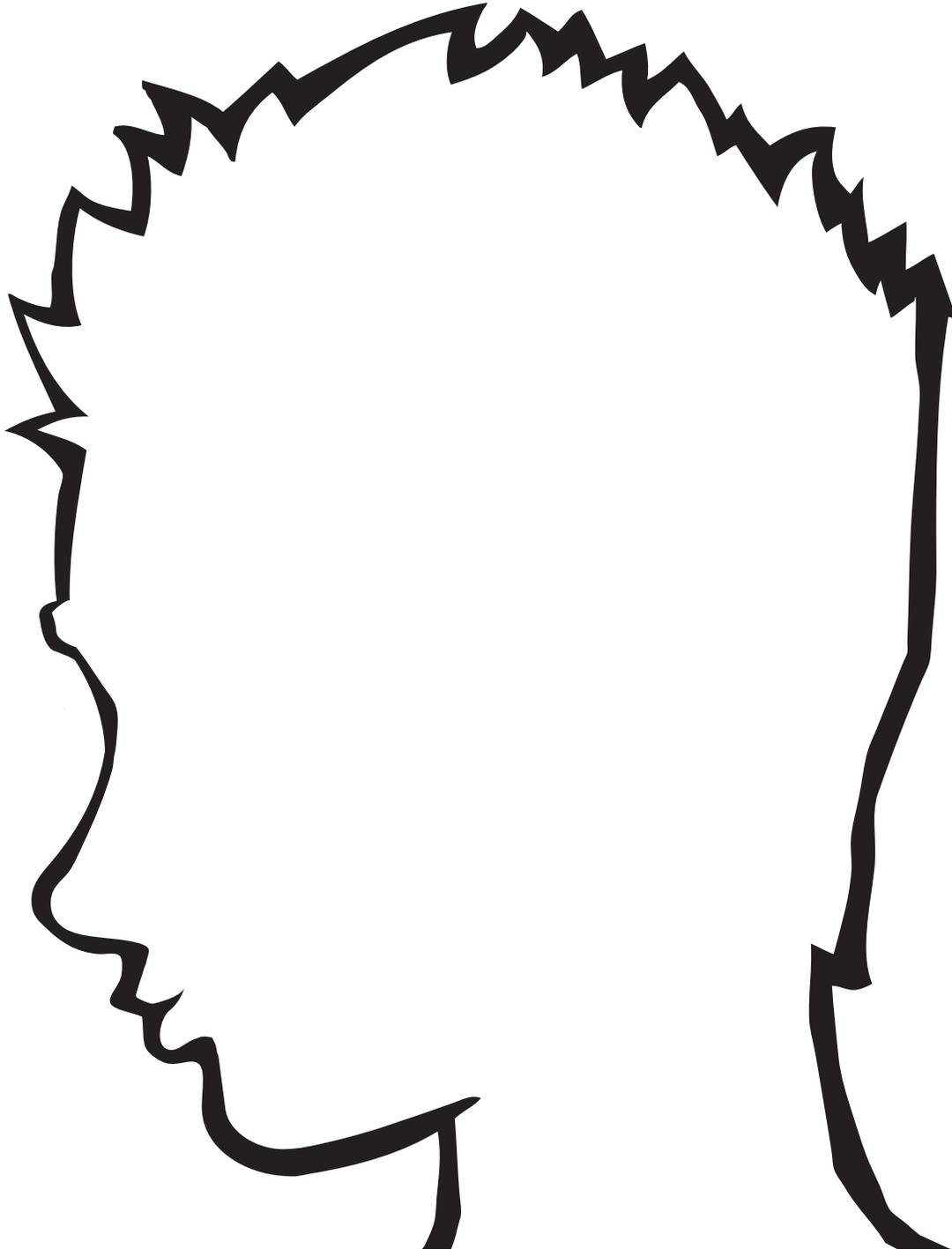


Name: _____

Date: _____

Brain Map

Directions: After reading the KidsHealth articles related to the brain and nervous system, draw a map of the brain. Clearly label the parts of the brain and list their functions. Use the KidsHealth.org interactive diagram of the brain (in the “Brain and Nervous System” article) as a guide for your drawing.





Name: _____

Date: _____

Quiz

Instructions: Answer each question.

1. Your _____ is the boss of your body and controls everything you do.
2. The nervous system is made up of the brain, spinal cord, and _____.
3. The spinal cord helps carry _____ back and forth between your body and brain.
4. How many nerves are in your body to send messages to brain and back?
 - a. millions
 - b. billions
5. What kinds of things are your brain and nervous system in charge of?
 - a. walking and running
 - b. thinking and talking
 - c. feeling and sleeping
 - d. breathing and growing
 - e. all of the above

6. How much does the average brain weigh?

7. A neuron is another name for a _____ cell.

8. Name one part of the brain and one of its functions:

9. Both the brain and spinal cord are protected by _____.

10. Name one function of cerebrospinal fluid:



Quiz Answer Key

1. Your brain is the boss of your body and controls everything you do.
2. The nervous system is made up of the brain, spinal cord, and nerves.
3. The spinal cord helps carry messages or signals back and forth between your body and brain.
4. How many nerves are in your body to send messages to brain and back?
 - a. millions
 - b. billions
5. What kinds of things are your brain and nervous system in charge of?
 - a. walking and running
 - b. thinking and talking
 - c. feeling and sleeping
 - d. breathing and growing
 - e. all of the above
6. How much does the average brain weigh?
About 3 pounds.
7. A neuron is another name for a nerve cell.
8. Name one part of the brain and one of its functions:
(any one of the following: cerebrum, thinking or moving; cerebellum, balance or coordination; brain stem, breathing, circulation, or digestion; hypothalamus, body temperature, appetite, or sleep; pituitary gland, growth or metabolism)
9. Both the brain and spinal cord are protected by bone.
10. Name one function of cerebrospinal fluid:
(any one of the following: helps protect nerve tissue, keeps nerve tissue healthy, helps removes waste products from brain and spinal cord)