



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>

Your brain is the boss of your body, but it can't do the job alone. Your nervous system connects the messages from your brain to your body so you can do things like walk, talk, think, feel, and breathe. Your nervous system is the information highway that controls everything you do. These activities will help your students understand how the nervous system works.

Related KidsHealth Links

Articles for Kids:

Your Brain & Nervous System

KidsHealth.org/en/kids/brain.html

Movie: The Nervous System

KidsHealth.org/en/kids/nsmovie.html

Quiz: Brain & Nervous System

KidsHealth.org/en/kids/nsquiz.html

Activity: The Brain

KidsHealth.org/en/kids/bfs-nsactivity.html

Word Find: Nervous System

KidsHealth.org/en/kids/bfs-nwordsearch.html

Memory Matters

KidsHealth.org/en/kids/memory.html

Why Do I Have Pain?

KidsHealth.org/en/kids/pain.html

What Are Reflexes?

KidsHealth.org/en/kids/reflexes.html

Why Does My Foot Fall Asleep?

KidsHealth.org/en/kids/foot-asleep.html

Experiments

KidsHealth.org/en/kids/closet/

Discussion Questions

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

1. What is the main control station of your body?
2. How does your brain send and receive messages to and from your body?
3. What are the three main parts of the nervous system?
How do they work together to get the messages across?
4. What parts of your body protect your nervous system?
Where are nerve cells located? About how many nerve cells does your body have?
5. What happens if a nerve connection is broken? How would this affect the body?



Activities for Students

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

Nervous System Factfinder

Objectives:

Students will:

- Explore how the nervous system works
- Learn the roles of each part of the nervous system

Materials:

- Computer with Internet access
- “Nervous System Factfinder” handout
- “Your Brain & Nervous System,” “Movie: The Nervous System,” “Quiz: Brain & Nervous System” at KidsHealth.org
- Optional: “Brains Recipe” handout for teachers

Class Time:

- 45 minutes

Activity:

Your nervous system controls everything you do. It’s made up of your brain, spinal cord, and all the nerves in your body. The brain is the control center and the spinal cord is the major highway carrying messages to and from the brain. Today, we’re going to read the KidsHealth.org article titled “Your Brain & Nervous System” to find out more about this amazing system. When everyone is done reading, we’ll watch a KidsHealth.org movie on the nervous system and take notes on the “Nervous System Factfinder” handout. Finally, we’ll take the KidsHealth.org quiz on the nervous system to see what you learned.

Extensions:

1. Using different colors of modeling dough (see the “Brains Recipe” handout for teachers), create a model of the brain. Be sure to include the five parts of the brain - cerebrum, cerebellum, brain stem, hypothalamus, and pituitary gland - and lots of wrinkles (also called convolutions).
2. Draw and label an outline of the brain. Include a brief description of the role of each part.



Brain Games

Objectives:

Students will:

- Explore and demonstrate how neural pathways can be strengthened

Materials:

- “Brain Games” handout

Class Time:

- About 10 minutes a day over 7 days
- Optional: Individual demonstrations of the activities after the 7th day

Activity:

It’s easy for young people to make brain connections strong and learn new things. When you practice something over and over, the messages travel from one nerve cell (or neuron) to another until connections are made, so you can do things better and better. That’s what’s happening when babies learn how to walk, kids learn the ABCs, or adults learn how to be brain surgeons. Today, we’ll start putting our neurons to the test: Choose one activity, or make up your own, on the “Brain Games” handout. Practice your activity at least 10 minutes a day for the next week. Each day, pay attention to your progress and rate how well you’re doing. [Optional: Everyone can perform their activity in the class or show a video of themselves doing the activity before and after a week of practice.]

Extension:

Discuss behaviors that affect how well the brain works, such as diet, sleep, exercise, substance abuse, reading, playing video games, etc.

Reproducible Materials

Handout: Nervous System Factfinder

[KidsHealth.org/classroom/3to5/body/systems/nervous_system_handout1.pdf](https://www.kidshealth.org/classroom/3to5/body/systems/nervous_system_handout1.pdf)

Handout for Teachers: Brains Recipe

[KidsHealth.org/classroom/3to5/body/systems/nervous_system_handout2.pdf](https://www.kidshealth.org/classroom/3to5/body/systems/nervous_system_handout2.pdf)

Handout: Brain Games

[KidsHealth.org/classroom/3to5/body/systems/nervous_system_handout3.pdf](https://www.kidshealth.org/classroom/3to5/body/systems/nervous_system_handout3.pdf)

Quiz: Nervous System

[KidsHealth.org/classroom/3to5/body/systems/nervous_system_quiz.pdf](https://www.kidshealth.org/classroom/3to5/body/systems/nervous_system_quiz.pdf)

Answer Key: Nervous System

[KidsHealth.org/classroom/3to5/body/systems/nervous_system_quiz_answers.pdf](https://www.kidshealth.org/classroom/3to5/body/systems/nervous_system_quiz_answers.pdf)



Name: _____

Date: _____

Nervous System Factfinder

Part 1: Take notes.

Write down facts while reading the KidsHealth.org article titled “Your Brain & Nervous System,” and then watching “Movie: The Nervous System” at KidsHealth.org.

nervous system controls

nervous system's 3 parts

nerve cells

brainy facts

cerebrum:

cerebellum:

hypothalamus:

brain stem:

spinal cord facts

nerve facts



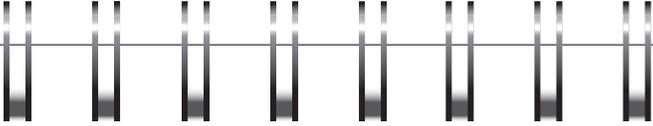
Name: _____

Date: _____

Nervous System Factfinder

Part 2: Show what you know.

Take the Nervous System Quiz at KidsHealth.org and write the letter of the correct answer. Then grade yourself. (Hint: 7 correct out of 10 is 70%, 9 correct answers out of 10 is 90%.)



1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

I got _____ answers correct out of 10, so my score is _____%.



Name: _____

Date: _____

Brains Recipe

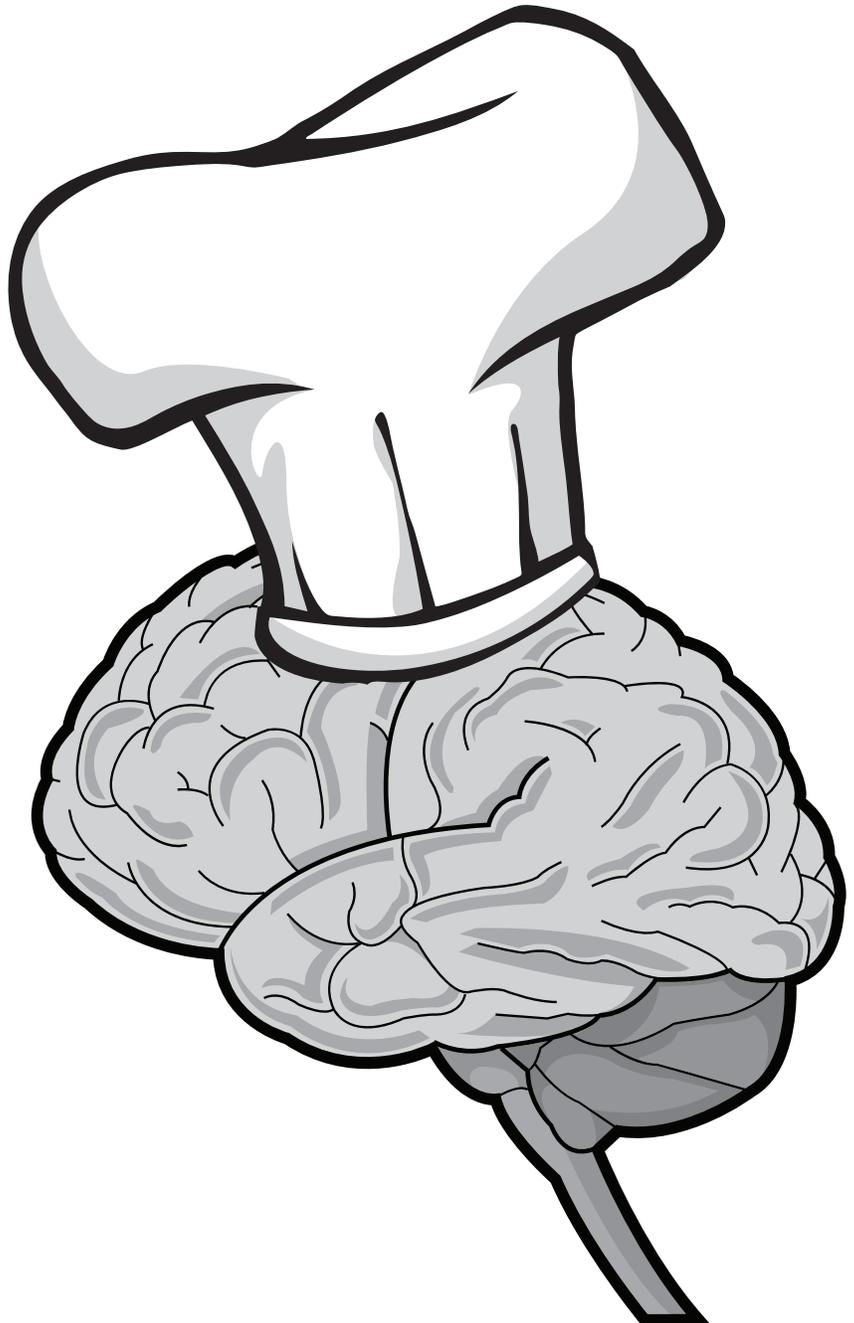
[Note to instructor: You can use store-bought modeling dough or make your own with this recipe, which yields enough for about 20 kids.]

Ingredients:

- 4 cups water
- 4 cups flour
- 8 teaspoons cream of tartar
- 1/2 cup vegetable oil
- 2 cups salt
- 5 food coloring colors

Directions:

1. Mix the water, salt, flour, and cream of tartar in a large bowl or blender until the lumps disappear. Then mix in the vegetable oil.
2. Put the entire mixture into a saucepan and cook over low heat until it gets lumpy. Pour the mixture onto an aluminum-foil covered cookie sheet and let it cool.
3. Knead and shape it into five different colored balls, then add food coloring to each ball and knead through.





Name: _____

Date: _____

Brain Games

Instructions: Circle one of the activities (or write your own) and spend at least 10 minutes each day practicing it. Try to improve every day for a week. Each day, on a scale of 0 to 10 (0 meaning you can't do the task at all, 10 meaning you can do it perfectly), rate how well you're doing compared with the day before. Make sure to notice, as you practice and your neurons make new pathways, if the activity gets easier. Remember, you might not get the activity completely right in a week, but you should be getting a little better at it each day!

- ★ Learn a multiplication table
- ★ Memorize a poem
- ★ Learn a new song on an instrument, a new dance, or lyrics to a song
- ★ Memorize all or part of King's "I Have a Dream" speech or Lincoln's Gettysburg Address
- ★ Learn how to juggle
- ★ Memorize state capitals or all 50 states (saying them in alphabetical order might help)
- ★ Memorize all the countries in Africa, Asia, Europe, or South America
- ★ Learn to sew, knit, or crochet
- ★ Say the ABCs backward
- ★ Learn relatives' phone numbers, birthdates, or the years they were born
- ★ Count to 20 in a different language
- ★ Learn how to spell 20 (or more) new words
- ★ Learn a new basketball shot
- ★ My own activity: _____

	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7
My daily rating							



Name: _____

Date: _____

Quiz

Instructions: Answer each question.

1. Your _____ is the boss of your body and controls everything you do.
2. A nerve cell is also called a:
 - a. meuron
 - b. neuron
 - c. norway
 - d. heron
3. The nervous system is made up of the brain, the _____, and neurons.
4. The spinal cord helps carry _____ back and forth between your body and your brain.
5. True or false: Your body has billions of neurons.
6. 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

Fill in the letters to name the main parts of the brain:

7. e r e b r u m
8. e r e b e l l u m
9. r a i n t e m
10. y p o t h a l a m u s



Quiz Answer Key

1. Your brain is the boss of your body and controls everything you do.
2. A nerve cell is also called a:
 - a. neuron
 - b. neuron
 - c. norway
 - d. heron
3. The nervous system is made up of the brain, the spinal cord, and neurons.
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5. True or false: Your body has billions of neurons.
6. 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

Fill in the letters to name the main parts of the brain:

7. c e r e b r u m
8. c e r e b e l l u m
9. b r a i n s t e m
10. h y p o t h a l a m u s