

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.

Your state's school health policies: nasbe.org/HealthySchools/States/ State_Policy.asp



Grades 9 to 12 • Human Body Series Nervous System

As it transmits messages between your brain and body, your nervous system controls an amazing amount of the things you do, like walking, talking, thinking, reading, writing, and breathing. The activities in this Teacher's Guide will help students make their own connections with how the brain and the nervous system work.

Related KidsHealth Links

Articles for Teens:

Brain and Nervous System

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

Concussions

TeensHealth.org/en/teens/center/concussions-ctr.html

Learning Disabilities

TeensHealth.org/en/teens/learning-disabilities.html

Cerebral Palsy

TeensHealth.org/en/teens/story-cerebral-palsy.html

Epilepsy

TeensHealth.org/en/teens/epilepsy.html

Meningitis

TeensHealth.org/en/teens/meningitis.html

Discussion Questions

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

- 1. What does the nervous system do? How does it transmit messages between the brain and body? Discuss some of the things your nervous system controls in your body. Are there things your body does automatically? How does that work?
- 2. The nervous system has three main parts. What does each part do?
- 3. There are five sections of the brain. Which part controls movement? Thinking? Emotions? Breathing? Growing? Temperature?
- 4. How does the nervous system work with each of the five senses?
- 5. What are some disorders of the nervous system? What are possible causes of these disorders?





Grades 9 to 12 • Human Body Series Nervous System

Nervous System Diagram

Objectives:

Students will:

- · Draw diagrams of the brain and nervous system
- Identify the parts of the brain and nervous system and their functions

Materials:

- Computer with Internet access, TeensHealth.org "Brain and Nervous System" article
- Paper or poster board
- Markers, colored pencils

Class Time:

1 hour

Activity:

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

Extension:

Discuss how other body systems, like the respiratory or circulatory systems, work together with the nervous system. Brainstorm other bodily functions and activities that involve multiple body systems and name the systems. Double-check the facts at TeensHealth.org.

Reproducible Materials

Handout: Nervous Nellie's Study Game

KidsHealth.org/classroom/9to12/body/systems/nervous_system_handout1.pdf

Quiz: Nervous System

KidsHealth.org/classroom/9to12/body/systems/nervous_system_quiz.pdf

Quiz Answers: Nervous System

KidsHealth.org/classroom/9to12/body/systems/nervous_system_quiz_answers.pdf



KidsHealth.org is devoted to providing the latest children's health information. The site, which is widely recommended by educators, libraries, and school associations, has received the "Teachers' Choice Award for the Family" and the prestigious Pirelli Award for "Best Educational Media for Students." KidsHealth comes from the nonprofit Nemours Foundation. Check out www.KidsHealth.org to see the latest additions!





Personal Health Series Nervous System

Nervous Nellie's Study Game

Directions: Fold 22 index cards in half lengthwise. Write the vocabulary words in the list below on the top half of the cards, and brief definitions on the bottom half. (You can find the definitions in the TeensHealth.org "Brain and Nervous System" article.) Cut the cards in half, put a dot on the back of the word cards, and place the cards face down and spread out. Turn one dot card and one plain card over for each turn to try to match a word with a definition. Turn both face down when they don't match, and both face up when they do match. Repeat until all are face up.

Autonomic nervous system

Brain

Brain stem

Cerebellum

Cerebral palsy

Cerebrospinal fluid

Corpus collosum

Cortex

Epilepsy

Hemispheres

Hippocampus

Hypothalamus

Meninges

Meningitis

Nervous system

Neurons

Parasympathetic nervous system

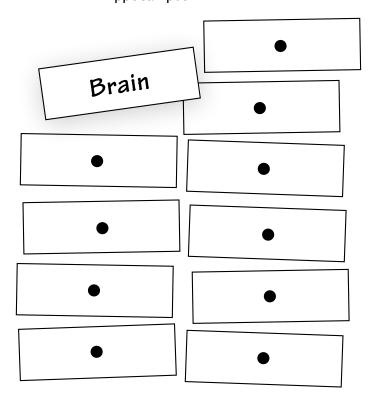
Peripheral nervous system

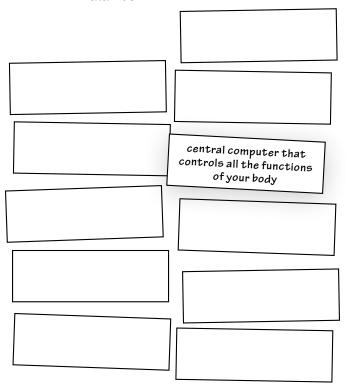
Pituitary gland

Spinal cord

Sympathetic nervous system

Thalamus







Name:



Personal Health Series Nervous System

Date:

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_	uiz tructions: Answer each question.						
۱.	Your is the boss of your body a	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.					
1.	How many nerves are in your body to send messages to brain and a. dozens b. hundreds c. thousands d. millions e. billions	i back?					
5.	What kinds of things are your brain and nervous system in charge a. walking and running b. thinking and talking c. feeling and sleeping d. breathing and growing e. all of the above	e of?					
ó.	How much does the average brain weigh?						
7.	A nerve cell is also called a						
3.	Name the five main parts of the brain and one function of each:						
).	The peripheral nervous system: a. is in the brain b. includes nerves branching out from the spinal cord to the bod c. helps with peripheral vision	ly					
10.	Breathing, digestion, sweating, and shivering are all functions of	the nervous system.					
11.	Both the brain and spinal cord are protected by						
12.	Neurons relay information to each other through a complex	process.					
13.	Name one function of cerebrospinal fluid:						





Personal Health Series Nervous System

Quiz Answer Key

1.	Your <u>brain</u>	in is the boss of your body and controls everything you do.		ı do.			
2.	The nervous system is made up of the brain, spinal co		and <u>nerves</u> .				
3.	The spinal cord helps carry	messages or signals	back and forth between y	our body and brain.			
4.	How many nerves are in your boa. dozens b. hundreds c. thousands d. millions e. billions	dy to send messages to brain ar	nd back?				
5.	What kinds of things are your bra. walking and running b. thinking and talking c. feeling and sleeping d. breathing and growing e. all of the above	ain and nervous system in charg	ge of?				
6.	How much does the average bra About 3 pounds.	in weigh?					
7.	A nerve cell is also called a	neuron					
8.	Name the five main parts of the cerebrum, thinking or moving cerebellum, balance or coording brain stem, breathing or circula hypothalamus, body temperatur pituitary gland, growth or meta	tion tion or digestion e or appetite or sleep					
9.	The peripheral nervous system: a. is in the brainb. includes nerves branching outc. helps with peripheral vision	it from the spinal cord to the bo	<u>dy</u>				
10.	Breathing, digestion, sweating,	and shivering are all functions o	f the <u>autonomic</u>	nervous system.			
11.	Both the brain and spinal cord a	re protected by	bone				
12.	Neurons relay information to each	ch other through a complex	electrochemical	process.			
13.	 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) 						