Name _____ Date _____

Glossary of Brain Words

Here are some important words for your study of the brain.

amygdala: area of the brain in the temporal lobe that seems to affect aggressive behavior

anterior commissure: small bundle of nerve fibers that connect the two hemispheres

auditory: having to do with the sense of hearing

autonomic nervous system: part of the peripheral nervous system that controls things that you don't have to think about (such as heartbeat)

axon: long section of the nerve cell that carries impulses to other nerve cells

Broca's area: area on the left side of the brain in the frontal lobe; controls the ability to speak

central nervous system: brain and spinal cord

cerebellum: large structure in the hindbrain that bulges out at the lower end of the brain; controls movement and balance

cerebral cortex: outer layer of the cerebrum

cerebrum: large part of the brain; controls sensory, motor, and thought processes

choroid plexus: area in the brain with many blood vessels; produces the fluid that cushions the brain and spinal cord

corpus callosum: large bundle of nerve fibers connecting the two hemispheres

convolutions: folds and ridges on the surface of the brain

dendrite: part of a neuron that receives information

fissure: large groove in the cortex

forebrain: one of the major divisions of the brain; contains the cerebrum, olfactory bulbs, thalamus, and hypothalamus

fornix: band of nerve fibers; part of the limbic system

frontal lobe: one of the main divisions of each half of the forebrain; involved in motor control, motivation, planning, and emotion

gyrus: bulge between one sulcus and another

hippocampus: area of the brain that is involved with hearing

hypothalamus: area of the brain next to the third ventricle that regulates much of what goes on inside of the body

inferior colliculus: area of the midbrain involved with hearing

internal carotid artery: one of the main arteries that supply blood to the brain

lens: transparent structure in the eye that helps focus light

limbic system: group of brain areas involved in the control of motivated behavior and emotion

mammillary bodies: area in the limbic system that seems to be involved in memory processing

massa intermedia: place where two thalami are joined

medulla oblongata: part of the hindbrain that connects to the spinal cord; helps control breathing and heart rate

midbrain: one of the three major divisions of the brain; located between the hindbrain and forebrain

neuron: nerve cell with a long thin shape and an ability to conduct electrochemical signals

occipital lobe: one of the main divisions of each half of the forebrain; involved in sight

olfactory bulbs: areas on the underside of the brain where nerves involved with the sense of smell are found

optic chiasma: area in the brain where the neurons of the optic nerve are rearranged to go to both sides of the brain

parietal lobe: one of the main divisions of each half of the forebrain; involved in body image; helps bring together information from the senses and is involved in language

peripheral nervous system: nervous system excluding the brain and spinal cord and including all other sensory and motor nerves

phrenology: study of personality through feeling of bumps on the head

pineal body: small area in the brain that might serve as a kind of internal clock

pons: part of the hindbrain; a "bridge" of sensory and motor nerves; contains part of the reticular formation that is involved in sleep

raphe nucleus: area in the pons involved in the control of slow-wave sleep

receptor cells: cells that specialize in detecting stimuli such as light

reticular formation: network of nerve cells running through the center of the brainstem; affects attention and wakefulness

retina: membrane in the eye that contains light-sensitive cells

spinal cord: part of the central nervous system that connects the brain to the rest of the body

substantia nigra: area of the midbrain involved in muscle control

sulcus: groove in the cortex

superior colliculus: area in the midbrain involved in eye movement

temporal lobe: one of the main divisions of each half of the forebrain; involved in hearing and memory

thalamus: area of the forebrain through which most sensory information passes

ventricles: four fluid-filled cavities (holes) in the brain

Wernicke's area: area on the left side of the brain in the temporal lobe; controls the ability to understand spoken language

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Brain Word Search

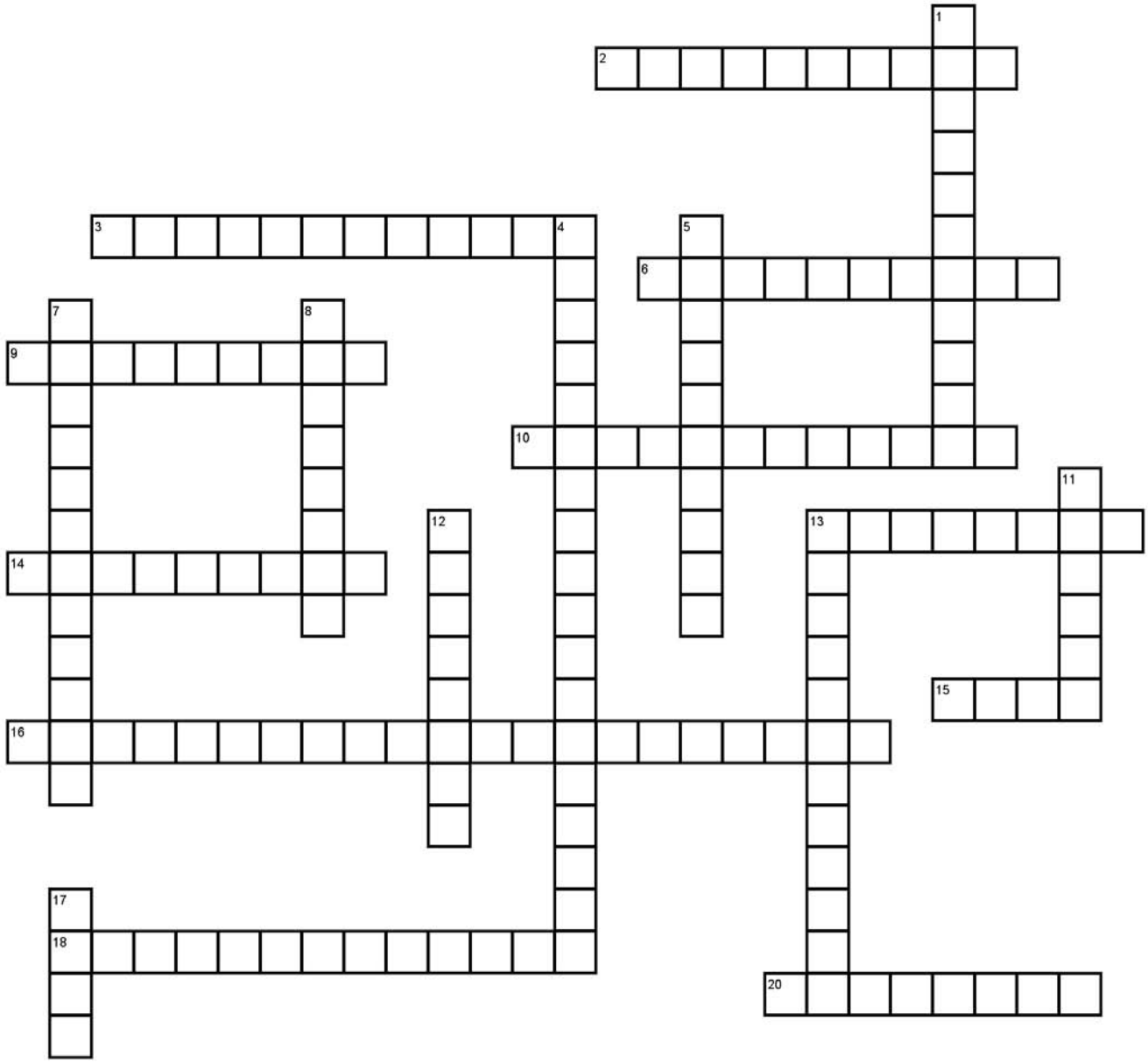
Find each of the brain vocabulary words below by searching forwards, backwards and diagonally in the puzzle.

Z V E Z R S U I Z J Y E A R S M P R O V E J V V S M K
E C J Y U W X P K B I A T B K L B P V E E J T O D P I
R W X T G N I L L E M S F F C F P F A G K W W O L P P
I Z D F Z O I W D F D Y O Q Z H D T A C M S S A U R H
D K T U S Z K S R I N G H C I X R O Z T J E I L A R Q
T B N T E M P O R A L L O B E X D H H N F C L K F C F
H S A A I S U M A L A H T O P Y H X D B M Y H A E P S
Y K X I X N C Y D O B Y R A L L I M M A M A O R O S H
Z X S N O I T O M E N R V K I T X V F Y O N E H I V S
Y Q M M Q M J S S C Y B E J I R K B F C L B P Y K X P
D Q V E M S J U J L U S L Y B V A R O S R I F D G F N
N H Y T L S J P S U M A L A H T X V V A E M G D J X B
O E D S C R Y M J H H N I E C P S A L G E I E W C N S
I A W Y B X T A P F I M Q H G L Y C H M C F T P B X E
S R S S V B Q C Q A X L M D N Y O Y O F U K E K Z Y B
I I U C F W G O P M R C E V F R S R L F E K N M G N O
V N J I I R H P C X A I V B T E Y J I U G L W O W K L
J G K B O G L P Y O B M E E O C G H H K A W L T O D L
Z J N M U K K I K Z B B X T X L F F E O U D Y O H L A
Y L R I G H B H V B K H R V A U L C B J G B Q R B R T
J F T L K N A M Z W E G A P F L B A L G N J D C L O I
Y K O O S N Q N B Z E Z C T A K L V T X A Z G O X H P
Z N U E A R I U U M G L N C C O H O Q N L N H N O P I
W T C V Z D S H Y X K H Y A U M K Y B H O Z Q T K J C
X R H L Z M U H T H N W P I U G P D T E P R F R F B C
Y N E R U T A R E P M E T B N P G C S O Y S F O C K O
B H Z W I A M Y G D A L A B K L Q T M Z T V L L Z N L

AMYGDALA
FRONTAL LOBE
HYPOTHALAMUS
MAMMILLARY BODY
OCCIPITAL LOBE
SMELLING
THALAMUS
VISION
CEREBRAL CORTEX
HEARING
LANGUAGE
MEMORY
PAIN
TEMPERATURE
THINKING
EMOTIONS
HIPPOCAMPUS
LIMBIC SYSTEM
MOTOR CONTROL
PARIETAL LOBE
TEMPORAL LOBE
TOUCH

Name _____ Date _____

Brain Crossword



Across

2. Part of the central nervous system
3. The area in the brain where the neurons of the optic nerve are rearranged to go to both sides of the brain
6. A section of the hindbrain that controls balance
9. One of the major divisions of the brain that contains the cerebrum
10. Controls emotion and motivation
13. An area of the forebrain through which sensory information is passed
14. The part of the nervous system that controls things that you don't have to think about
15. A transparent structure in the eye that aids in focusing light
16. One of the main arteries that supply blood to the brain
18. The part of the brain that is involved with sight
20. The information gathering part of the neuron

Down

1. A part of the forebrain that controls motor control, motivation, planning, and emotion
4. A small bundle of nerve fibers that connect the two hemispheres
5. Fluid-filled cavities in the brain
7. The folds and ridges on the surface of the brain
8. A division of the brain that is located between the forebrain and the hindbrain
11. A groove in the cortex
12. Sensory, motor, and thought processes are controlled by this part of the brain
13. A main division in the brain that is involved in hearing and memory
17. A part of the hindbrain that is involved in sleep

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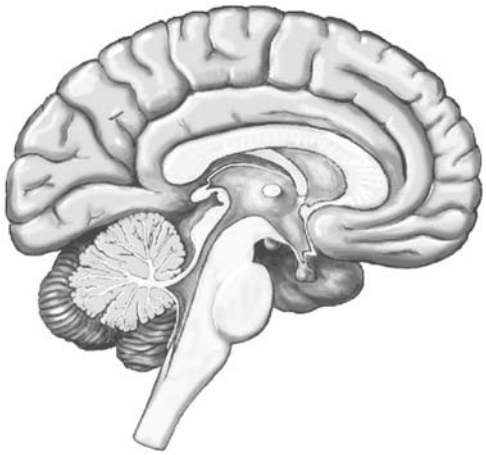
Your Brain and Motor Activity

The brain is the master control center of the nervous system. The peripheral nervous system contains both sensory and motor nerves. When you choose to move, nerve signals start at the brain and travel along the spine and out to the part of the body that moves.



How fast can you react? See how fast a message moves from your eyes to your brain to your muscle. Have a friend hold a ruler on one end so that it hangs vertically. At the other end, without touching the ruler, hold your thumb and first finger out ready to grab the ruler. Make sure that your thumb and first finger are on either side of the zero mark. Have your friend decide when to drop the ruler. Catch it by pinching it between your thumb and first finger. Use the chart below to determine your reaction time.

If you catch the ruler at the eleven-inch mark, your reaction time is .24 seconds or 24/100ths of a second.

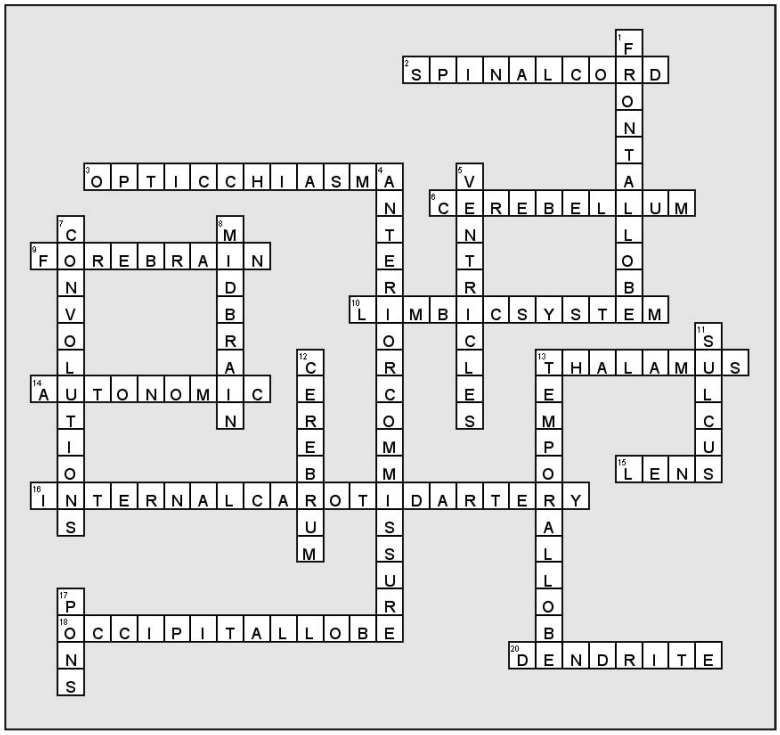
Number of inches where your fingers caught the ruler	1	2	3	4	5	6	7	8	9	10	11	12
Number of centimeters	25	5.1	7.6	10.2	12.7	15.2	17.8	20.3	22.9	25.4	27.9	30.5
Reaction time (in seconds)	.07	.10	.12	.14	.16	.18	.19	.20	.22	.23	.24	.25

Try this activity out with other members of your class. Whose nervous system can work the fastest?

Student	Number of Inches	Reaction Time

Answer Key

Brain Crossword



Brain Word Search