

**GET EXCITED  
ABOUT THE BRAIN!**

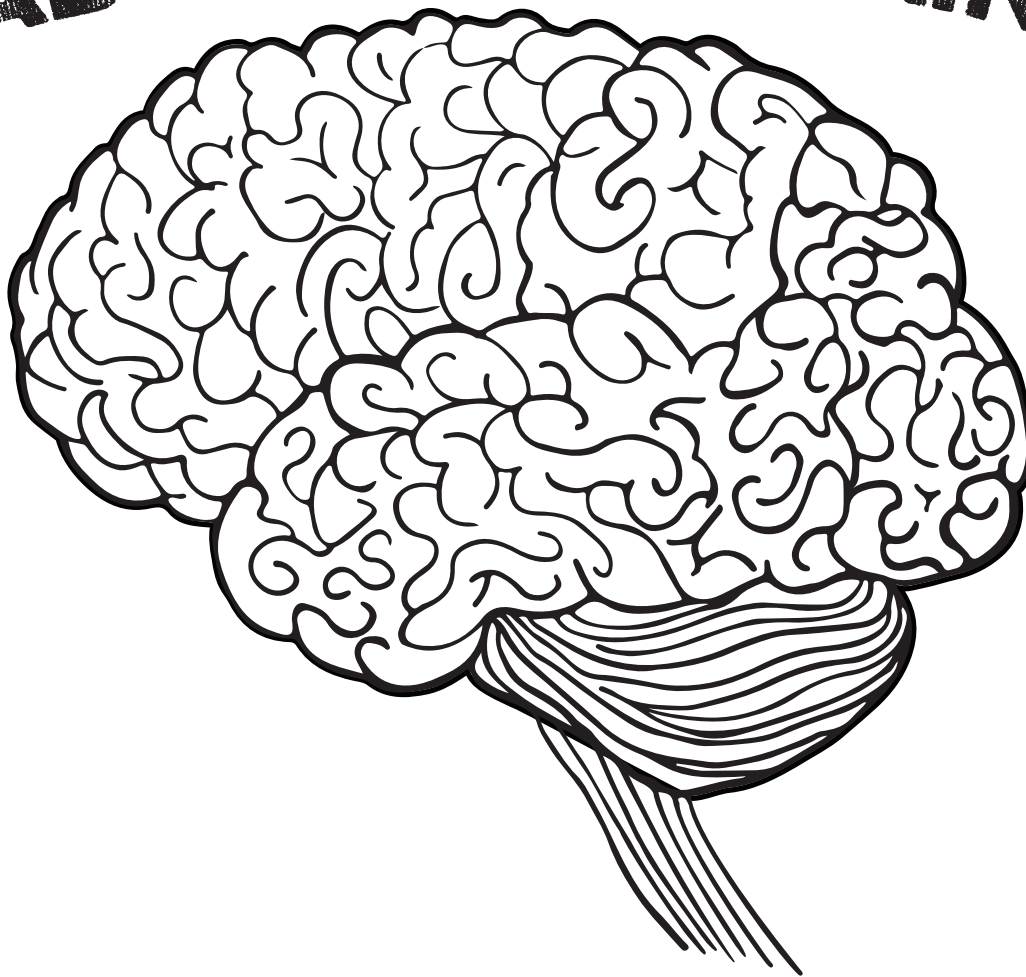


**A COLORING &  
ACTIVITY BOOK  
FOR KIDS AGES 8-12**

*From the* **NATIONAL INSTITUTE of MENTAL HEALTH**

*From the* **NATIONAL INSTITUTE of MENTAL HEALTH**

**GET EXCITED  
ABOUT THE BRAIN!**



**A COLORING &  
ACTIVITY BOOK  
FOR KIDS AGES 8-12**

The National Institute of Mental Health (NIMH) is the lead federal agency for research on mental disorders. NIMH is one of the 27 Institutes and Centers that make up the National Institutes of Health (NIH), the nation's largest medical research agency. NIH is part of the U.S. Department of Health and Human Services.

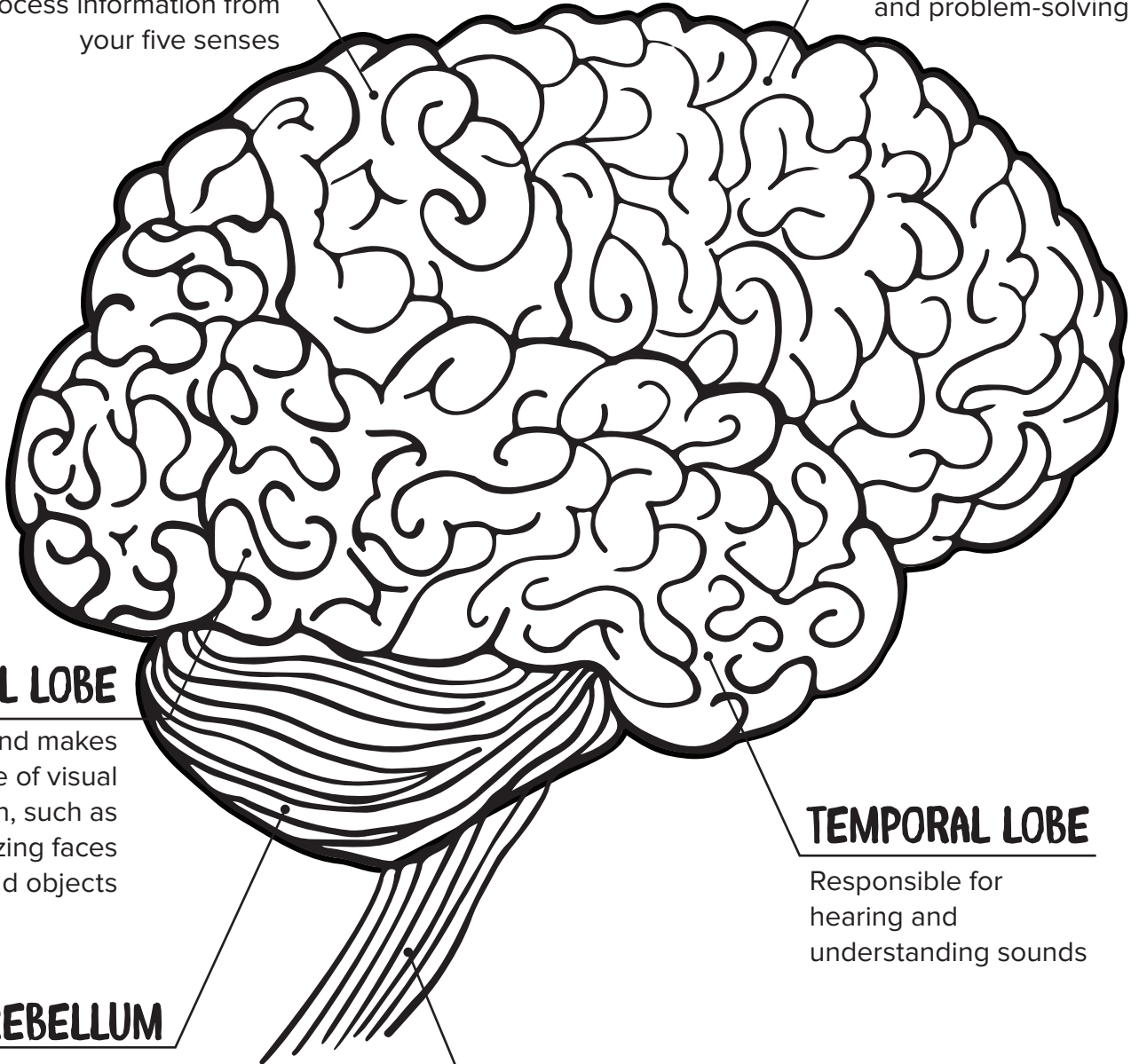
# PARTS OF THE BRAIN

## PARIETAL LOBE

Helps you understand language and process information from your five senses

## FRONTAL LOBE

Aids in complex thinking, learning, and problem-solving



## OCCIPITAL LOBE

Receives and makes sense of visual information, such as recognizing faces and objects

## TEMPORAL LOBE

Responsible for hearing and understanding sounds

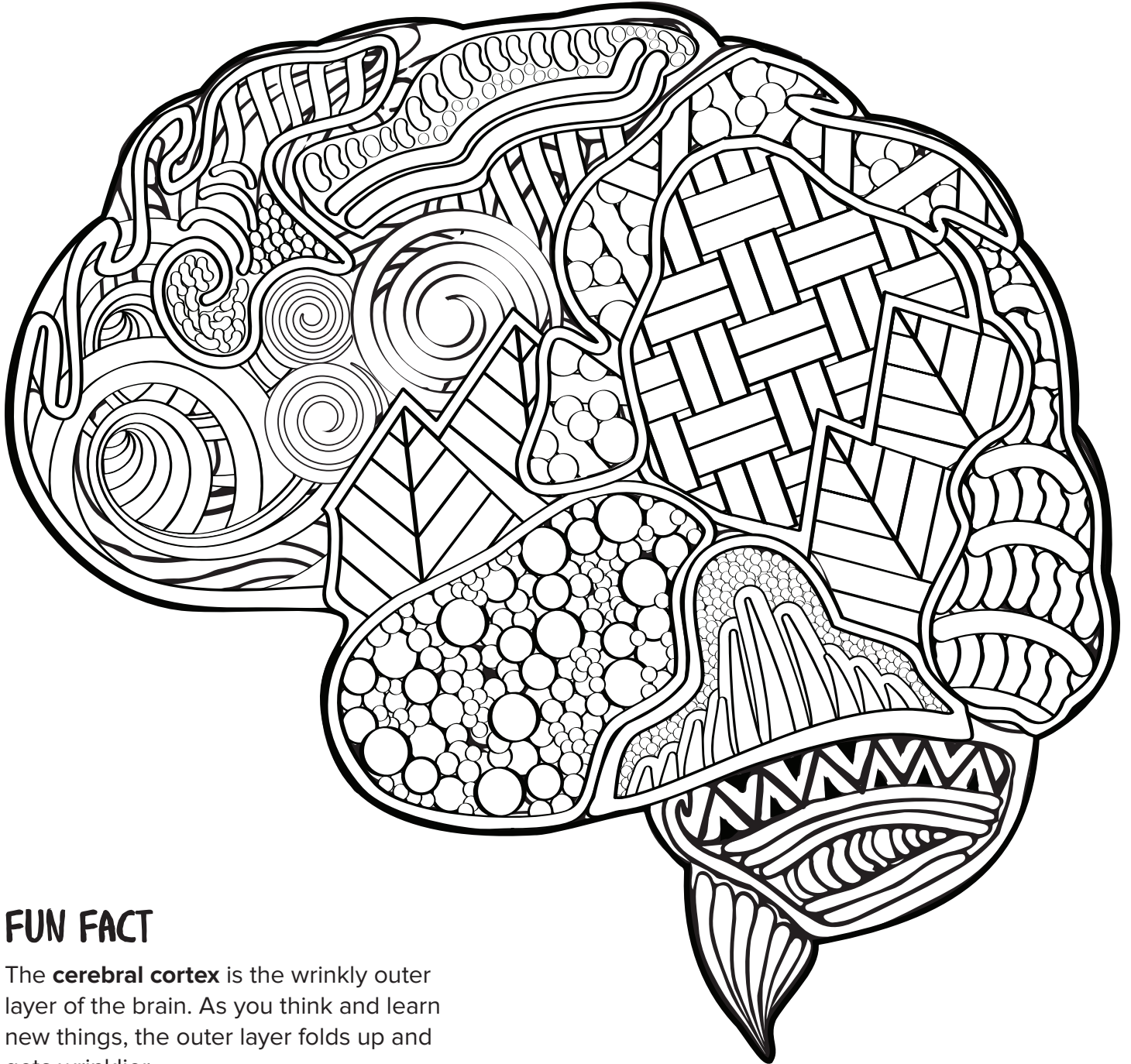
## CEREBELLUM

Responsible for balance and coordination

## BRAIN STEM

Controls your basic body functions, such as breathing, temperature, and heart rate

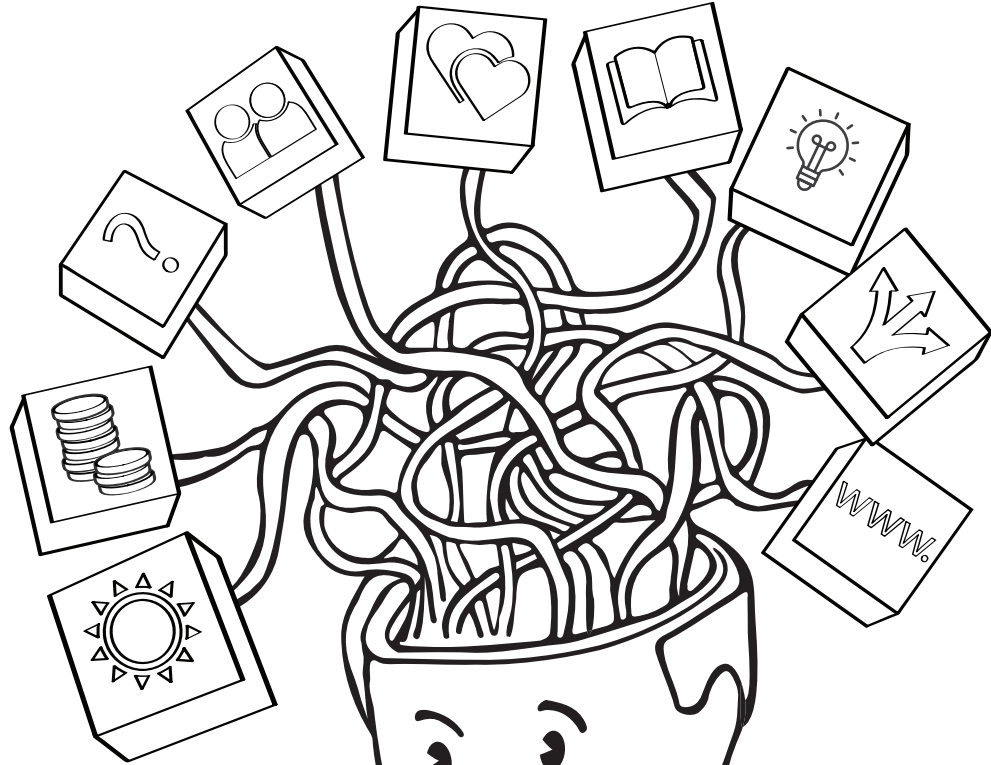
# THE CEREBRAL CORTEX



## FUN FACT

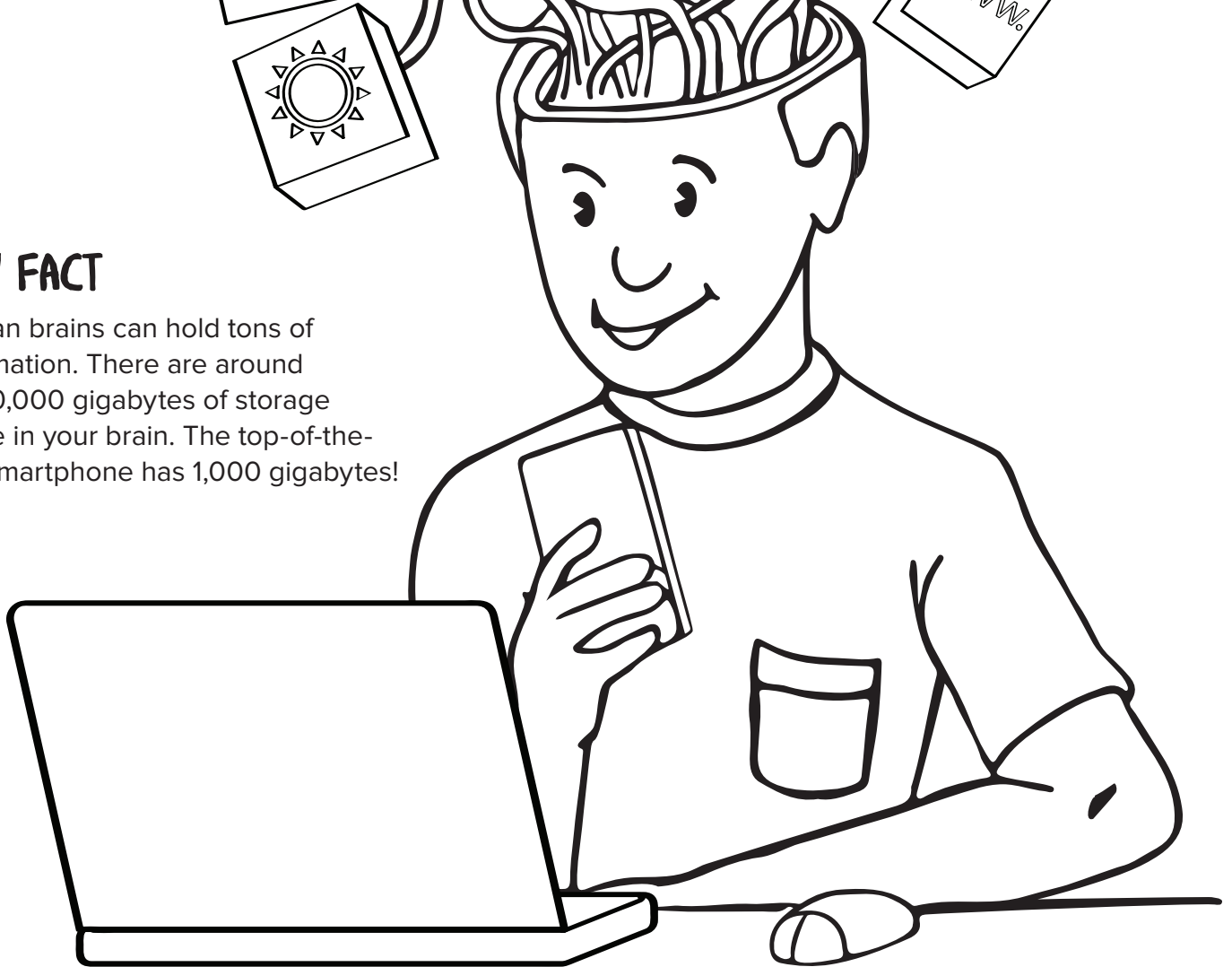
The **cerebral cortex** is the wrinkly outer layer of the brain. As you think and learn new things, the outer layer folds up and gets wrinklier.

# YOUR BRAIN AND MEMORY

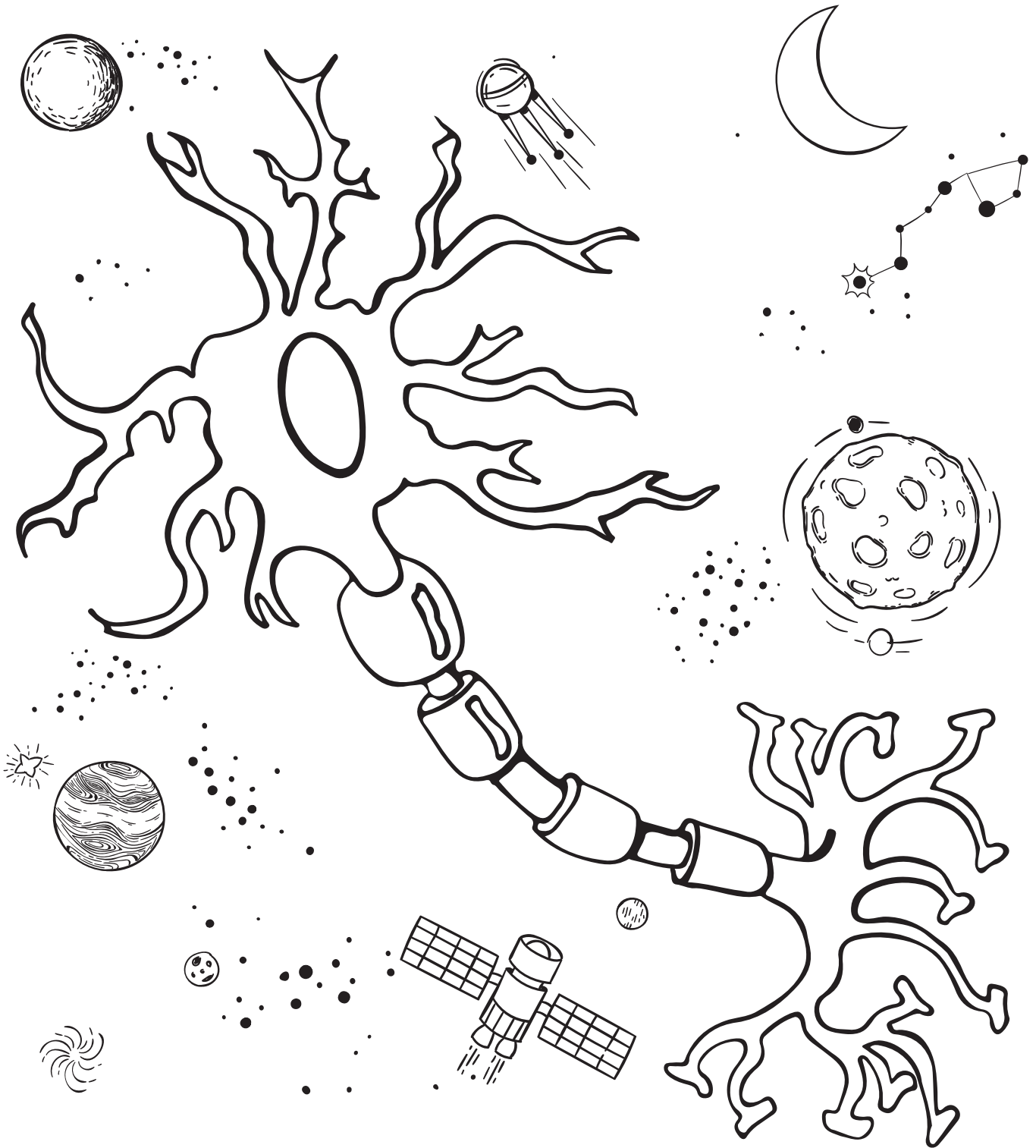


## FUN FACT

Human brains can hold tons of information. There are around 2,500,000 gigabytes of storage space in your brain. The top-of-the-line smartphone has 1,000 gigabytes!



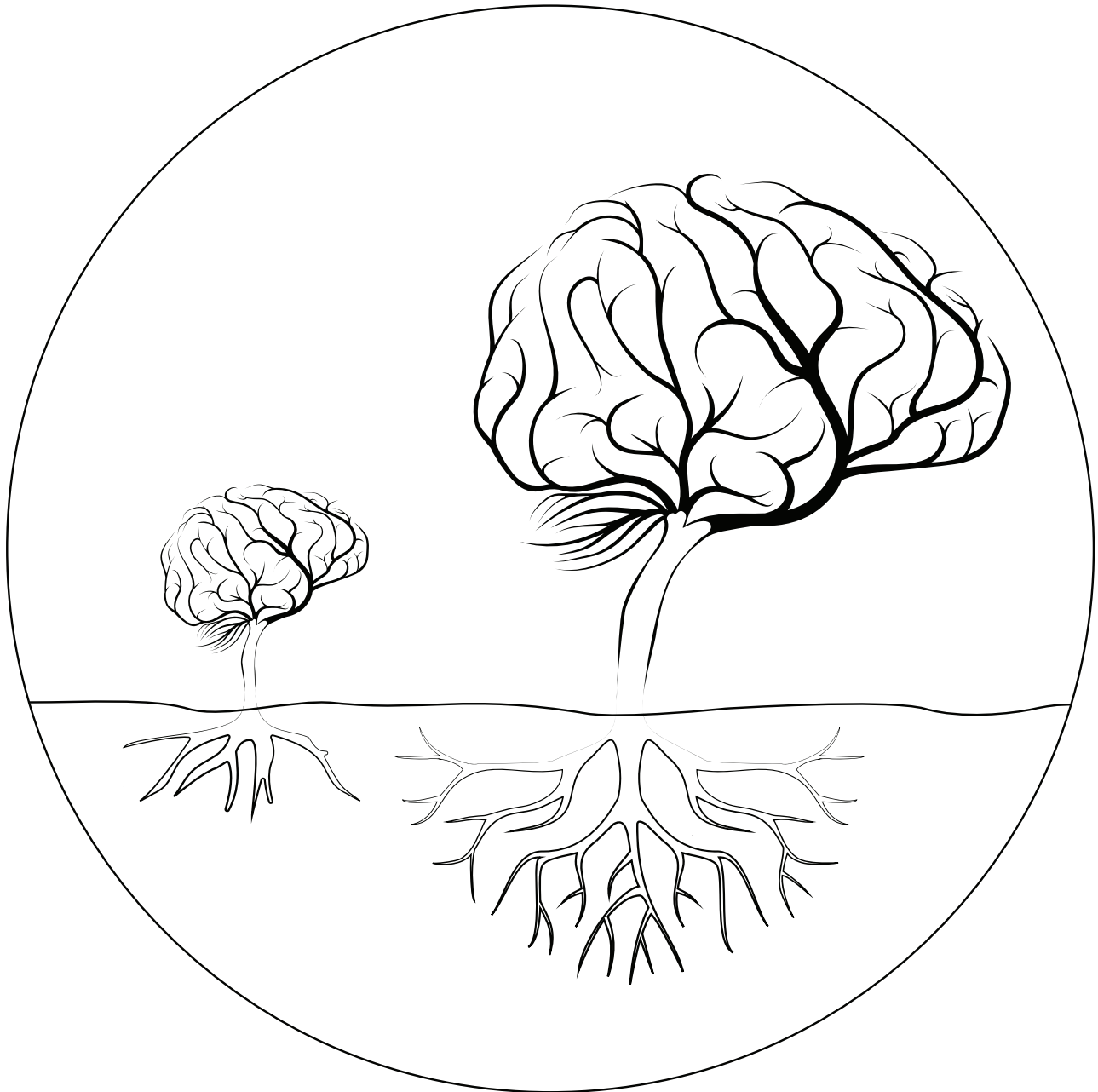
# NEURONS IN THE BRAIN



## FUN FACT

Neurons are cells that send information in your brain. There are three main **types of neurons**: sensory **neurons**, motor **neurons**, and **interneurons**. All three have different roles and play an important part in communicating with the rest of the body. Your brain has about 100 billion neurons (that's 100,000,000,000!), which is about the same as the number of stars in the Milky Way galaxy.

# BRAIN GROWTH



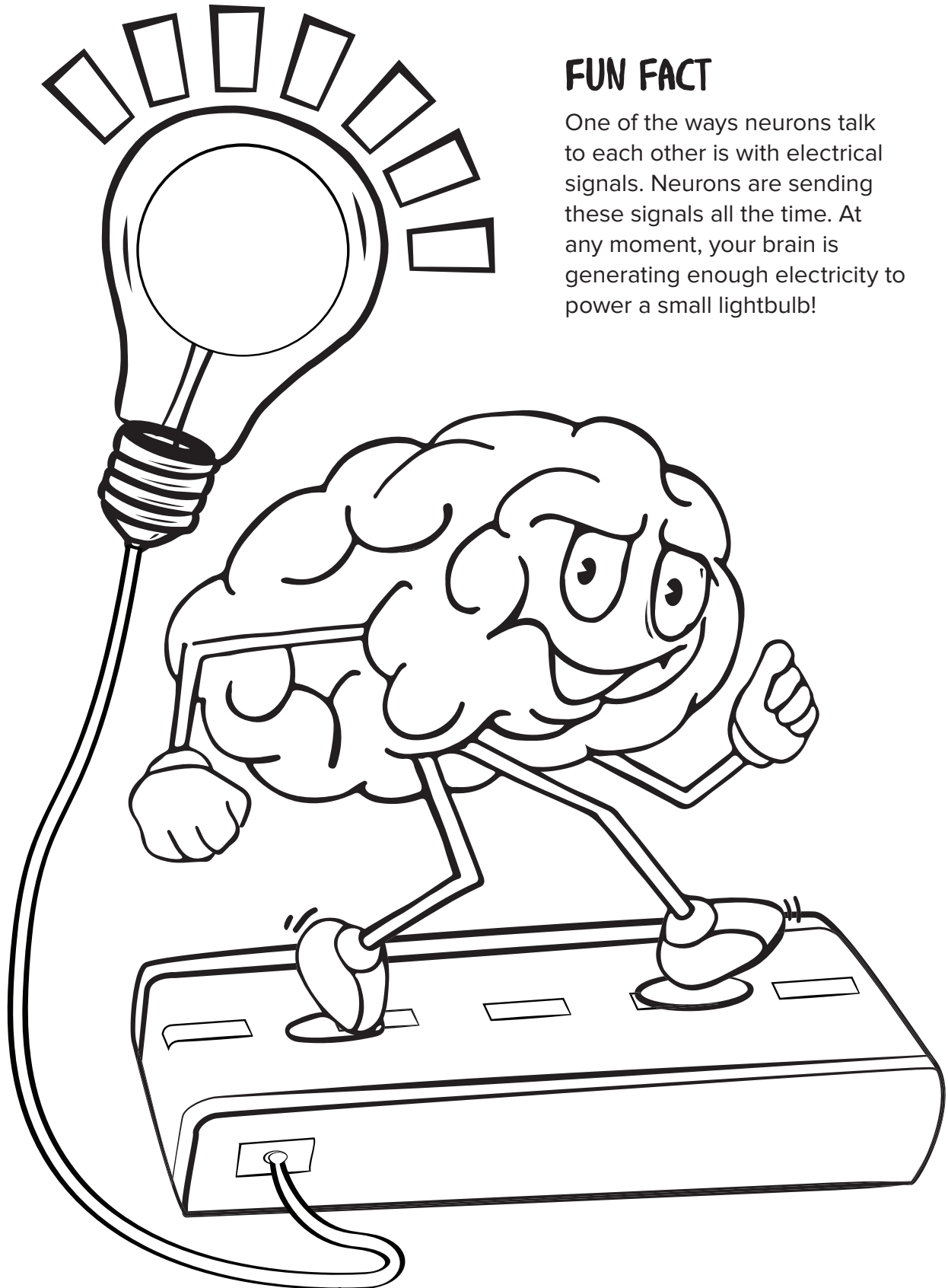
## FUN FACT

The human brain grows a lot between birth and the teenage years. Everyone's brain grows and matures at different rates. Our brains reach their largest size when we are between 11 and 14 years old. Of course, the size of your brain doesn't determine how smart you are!

# BRAIN POWER

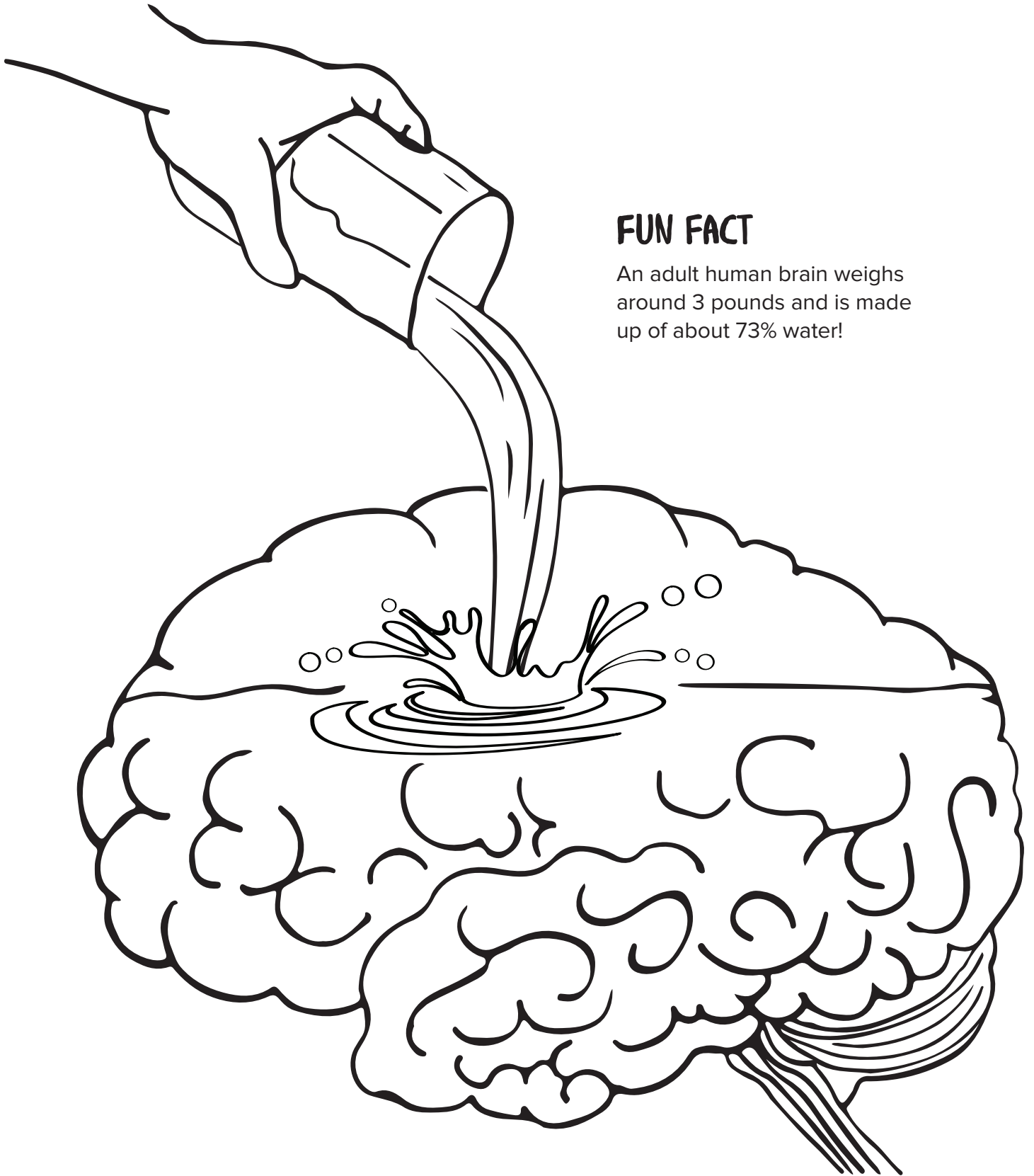
## FUN FACT

One of the ways neurons talk to each other is with electrical signals. Neurons are sending these signals all the time. At any moment, your brain is generating enough electricity to power a small lightbulb!





# WATER IN YOUR BRAIN

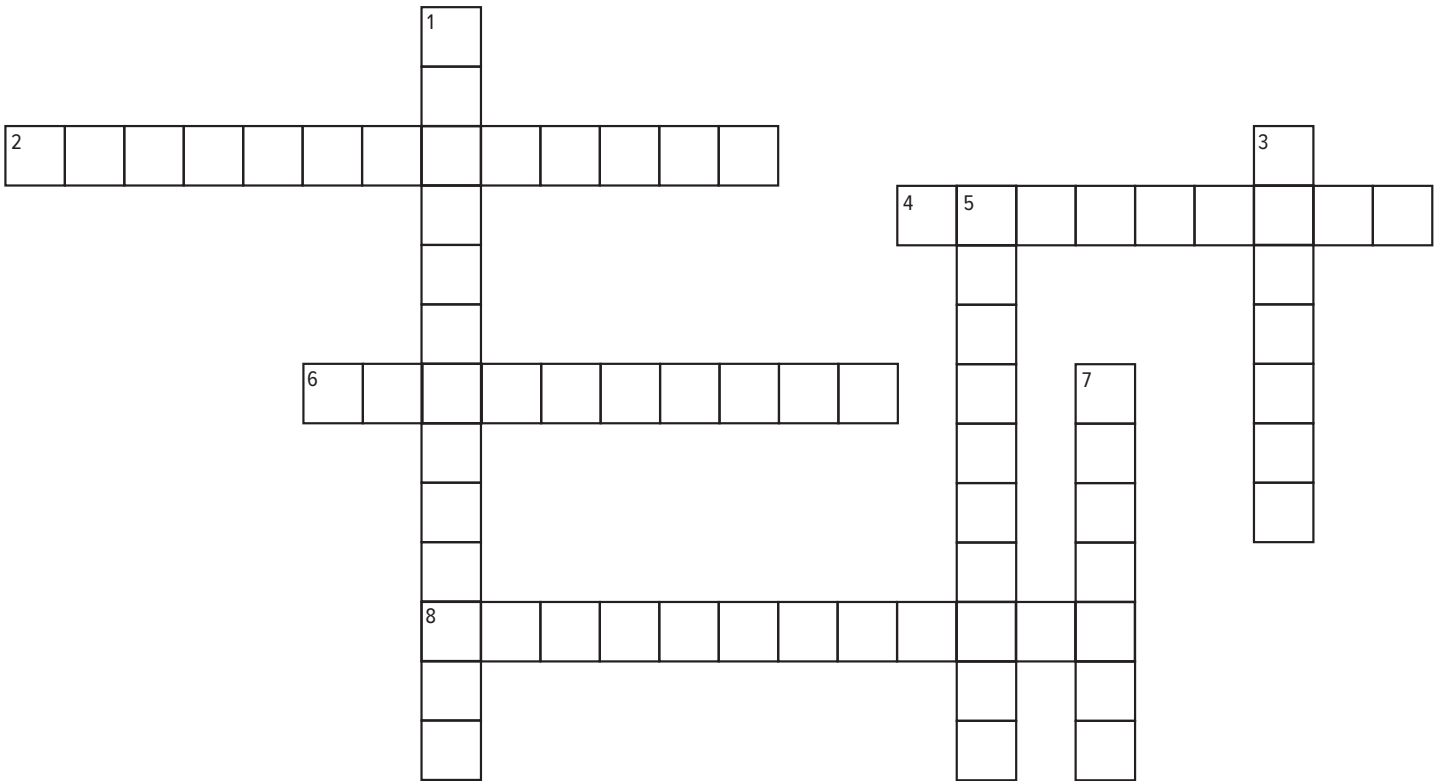


## FUN FACT

An adult human brain weighs around 3 pounds and is made up of about 73% water!

# TEST YOUR KNOWLEDGE OF COMMON MENTAL HEALTH DISORDERS AND TERMS

Use the word bank to solve the crossword clues below.



WORD BANK			
Anxiety	Neuroscience	Recover	Schizophrenia
Depression	Psychotherapy	Resilience	Treatment

## ACROSS

- 2. Another word for talk therapy, which can help people with a variety of mental disorders and emotional difficulties
- 4. A general word for getting medical care for a physical or mental illness
- 6. A mood disorder that causes people to feel extremely sad or hopeless
- 8. The field of study that researches how the brain works, diseases, and disorders

## DOWN

- 1. A disorder that could make people see, hear, or believe things that are not really there
- 3. A general word that means to heal or get better
- 5. The ability to handle and recover from tough times or situations
- 7. A feeling of being really worried or fearful

*Answers can be found on page 12.*

# A CRYPTIC MESSAGE ABOUT THE BLOOD VESSELS IN YOUR BRAIN

Solve the math problems, then use the letters below your answers to decode the hidden message in the blanks below.

$30 - 2$	$3 \times 0$	$50 + 6$	$2 \times 1$	$25 - 4$	$27 - 2$	$6 \times 1$	$30 + 5$	$20 - 2$	$10 + 6$	$1 \times 5$	$100 - 10$	$30 + 2$
A	B	C	D	E	F	G	H	I	J	K	L	M

$3 \times 1$	$15 + 9$	$60 - 3$	$1 \times 1$	$50 - 10$	$2 \times 2$	$60 + 6$	$8 + 4$	$40 + 20$	$2 \times 7$	$25 - 5$	$50 - 20$	$90 - 9$
N	O	P	Q	R	S	T	U	V	W	X	Y	Z

## HIDDEN MESSAGE

120,000

30 24 12 40    0 40 28 18 3    35 28 4    28 0 24 12 66

32 18 90 21 4    24 25    0 90 24 24 2    60 21 4 4 21 90 4

18 25    30 24 12    90 28 18 2    24 12 66    28 90 90    66 35 21

0 90 24 24 2    60 21 4 4 21 90 4    18 3    30 24 12 40

0 40 28 18 3    21 3 2    66 24    21 3 2    66 35 21 30

14 24 12 90 2    4 66 40 21 66 56 35    35 28 90 25 14 28 30

66 24    66 35 21    32 24 24 3

Answers can be found on page 13.

# FASTER THAN A SPEEDING NEURON!

Unscramble the words below by rearranging the order of the letters. Then use those words to fill in the blanks in the paragraph below, and learn more about how fast the neurons in your brain work!

**T R O O M**  
**R U N N E O S**  
**L A N G I S S**  
**A F S T**

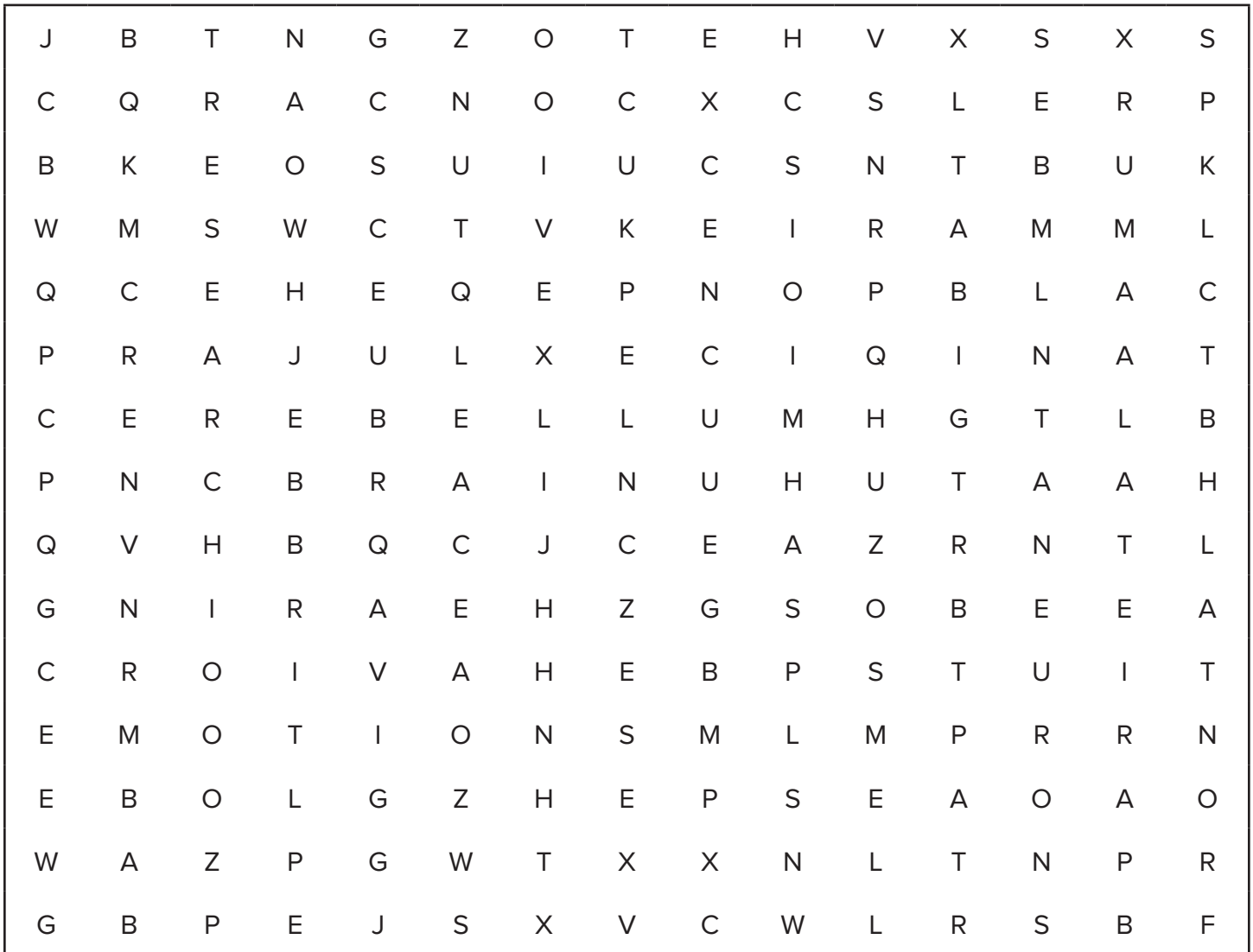
**N A I R T**  
**S A G E M E S S**  
**L I O N S M I L**  
**L C M E H A C I**

There are \_\_\_\_\_ of \_\_\_\_\_ in your brain that tell your whole body what to do. These neurons use electrical and \_\_\_\_\_ signals to send billions of \_\_\_\_\_ every day that help you think, feel, and do amazing things. They send information to and from your brain at more than 150 miles per hour, which is as fast as a \_\_\_\_\_. But if you need to act quickly, \_\_\_\_\_ neurons can send \_\_\_\_\_ at more than 200 miles per hour. That's \_\_\_\_\_!

*Answers can be found on page 14.*

# ALL ABOUT THE BRAIN

Search up, down, forward, backward, and diagonally to find the hidden words.  
Put your brain to the test, and see how many you can find!



**BALANCE**  
**CEREBELLUM**  
**FRONTAL**  
**LOBE**  
**PARIETAL**  
**TASTE**  
**TOUCH**

**BEHAVIOR**  
**CORTEX**  
**HEARING**  
**NEURONS**  
**RESEARCH**  
**TEMPORAL**  
**WELLNESS**

**BRAIN**  
**EMOTIONS**  
**LANGUAGE**  
**OCCIPITAL**  
**SMELL**  
**THINKING**

*Answers can be found on page 14.*

# ANSWERS TO ACTIVITY PUZZLES

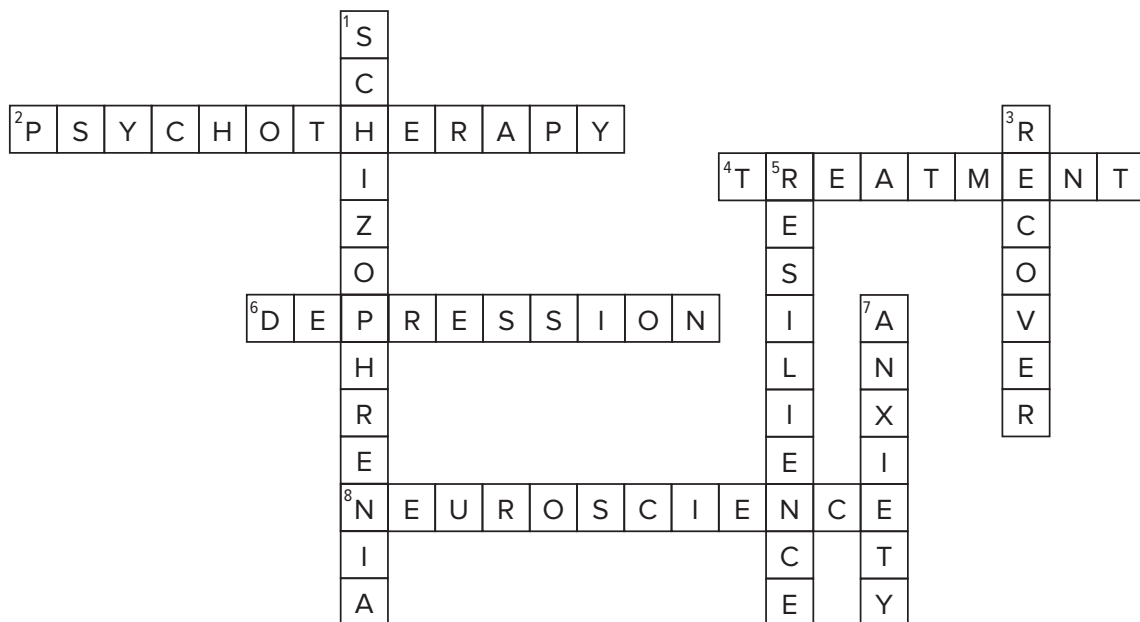
## ANSWERS TO "TEST YOUR KNOWLEDGE OF COMMON MENTAL HEALTH DISORDERS AND TERMS"

### ACROSS

2. Psychotherapy
4. Treatment
6. Depression
8. Neuroscience

### DOWN

1. Schizophrenia
3. Recover
5. Resilience
7. Anxiety



# ANSWERS TO "A CRYPTIC MESSAGE ABOUT THE BLOOD VESSELS IN YOUR BRAIN"

30 - 2	3 x 0	50 + 6	2 x 1	25 - 4	27 - 2	6 x 1	30 + 5	20 - 2	10 + 6	1 x 5	100 - 10	30 + 2
28	0	56	2	21	25	6	35	18	16	5	90	32
A	B	C	D	E	F	G	H	I	J	K	L	M

3 x 1	15 + 9	60 - 3	1 x 1	50 - 10	2 x 2	60 + 6	8 + 4	40 + 20	2 x 7	25 - 5	50 - 20	90 - 9
3	24	57	1	40	4	66	12	60	14	20	30	81
N	O	P	Q	R	S	T	U	V	W	X	Y	Z

## HIDDEN MESSAGE

Y o u r b r a i n h a s a b o u t 120,000  
 30 24 12 40    0 40 28 18 3    35 28 4    28 0 24 12 66

m i l e s o f b l o o d v e s s e l s .  
 32 18 90 21 4    24 25    0 90 24 24 2    60 21 4 4 21 90 4

I f y o u l a i d o u t a l l t h e  
 18 25    30 24 12    90 28 18 2    24 12 66    28 90 90    66 35 21

b l o o d v e s s e l s i n y o u r  
 0 90 24 24 2    60 21 4 4 21 90 4    18 3    30 24 12 40

b r a i n e n d t o e n d , t h e y  
 0 40 28 18 3    21 3 2    66 24    21 3 2    66 35 21 30

w o u l d s t r e t c h h a l f w a y  
 14 24 12 90 2    4 66 40 21 66 56 35    35 28 90 25 14 28 30

t o t h e m o o n !  
 66 24    66 35 21    32 24 24 3

# ANSWERS TO "FASTER THAN A SPEEDING NEURON!"

## UNSCRAMBLED WORDS

Motor

Neurons

Signals

Fast

Train

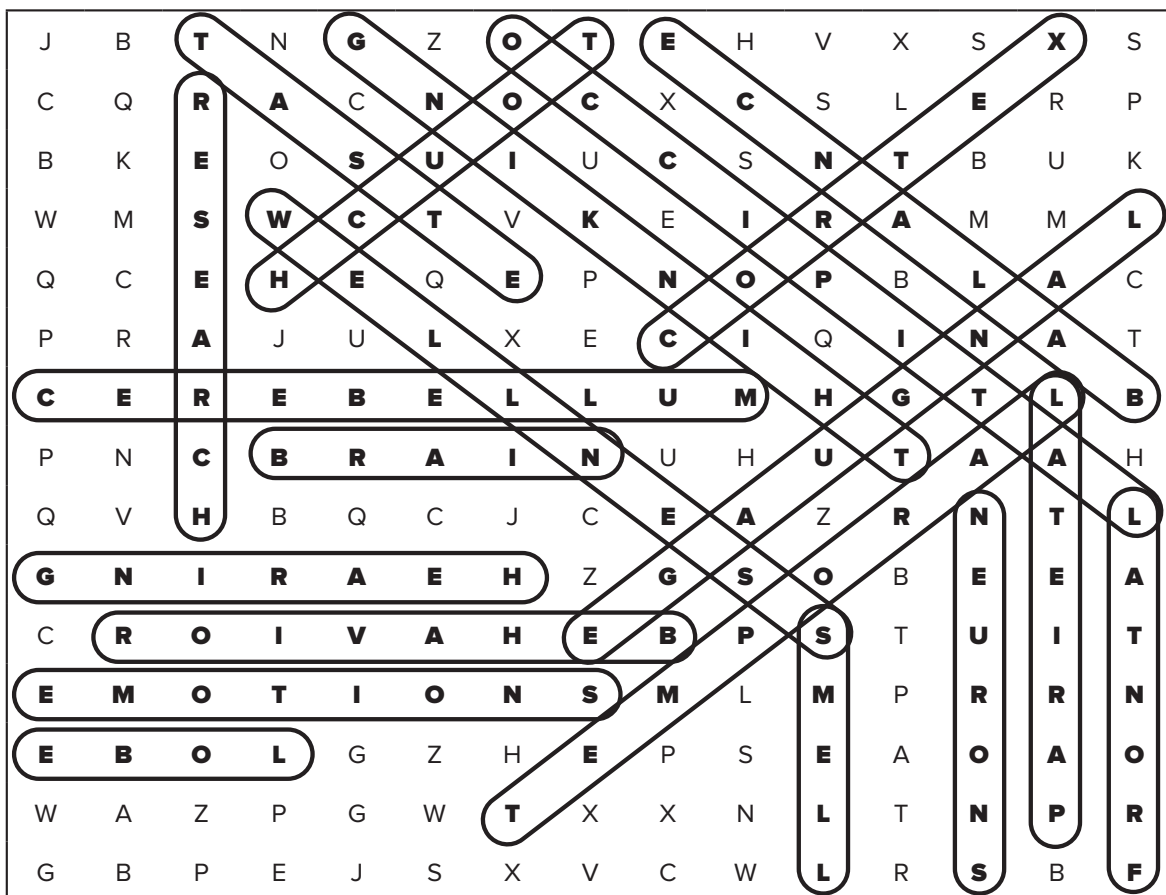
Messages

Chemical

Millions

There are **millions** of **neurons** in your brain that tell your whole body what to do. These neurons use electrical and **chemical** signals to send billions of **messages** every day that help you think, feel, and do amazing things. They send information to and from your brain at more than 150 miles per hour, which is as fast as a **train**. But if you need to act quickly, **motor** neurons can send **signals** at more than 200 miles per hour. That's **fast**!

# ANSWERS TO "ALL ABOUT THE BRAIN"







National Institute  
of Mental Health

U.S. DEPARTMENT OF HEALTH  
AND HUMAN SERVICES  
National Institutes of Health  
NIH Publication No. 23-MH-8117

---

For more information about mental health, visit the NIMH website at [www.nimh.nih.gov](http://www.nimh.nih.gov). For information on a wide variety of health topics, visit the National Library of Medicine's MedlinePlus service at <https://medlineplus.gov>.

## Reprints

The information in this publication is in the public domain and may be reused or copied without permission. Please cite the National Institute of Mental Health as the source. Read our copyright policy to learn more about our guidelines for reusing NIMH content at [www.nimh.nih.gov/copyright](http://www.nimh.nih.gov/copyright).