GET EXCITED
ABOUT THE BRAIN!

A COLORING &
ACTIVITY BOOK
FOR KIDS AGES 8–12

From the NATIONAL INSTITUTE of MENTAL HEALTH
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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.
GET EXCITED ABOUT 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 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.
FUN FACT
The human brain grows a lot between birth and the teenage years. Girls’ brains grow and mature a little sooner than boys’ brains. For girls, the brain reaches its largest physical size at around 11 years old. For boys, the brain reaches its largest size around age 14. Of course, this difference in age does not mean either boys or girls are smarter than one another!
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.

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

<table>
<thead>
<tr>
<th>DOWN</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A disorder that affects a person’s ability to think and feel clearly and to behave appropriately</td>
</tr>
<tr>
<td>3. A general word that means to heal or get better</td>
</tr>
<tr>
<td>5. The ability to handle and recover from tough times or situations</td>
</tr>
<tr>
<td>7. A feeling of being really worried or fearful</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>7 x 4</th>
<th>3 x 0</th>
<th>7 x 8</th>
<th>2 x 1</th>
<th>3 x 7</th>
<th>5 x 5</th>
<th>6 x 1</th>
<th>5 x 7</th>
<th>9 x 2</th>
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<tbody>
<tr>
<td>A</td>
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<td>4 x 10</td>
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<td>W</td>
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<td>Y</td>
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</tr>
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</table>

HIDDEN MESSAGE

| 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
D R O L W
R U N N E O S
L A N G I S S

N A I R T
S A G E M E S S
B I N A R
L I O N S M I L

There are __________ of ____________ in your brain that tell your body what to do. These neurons send more ____________ in your ______________ than all the text messages sent by mobile phones in the entire ______________. They send information in 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 fast!

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  BEHAVIOR  BRAIN
CEREBELLUM  CORTEX  EMOTIONS
FRONTAL   HEARING   LANGUAGE
LOBE      NEURONS   OCCIPITAL
PARIETAL  RESEARCH  SMELL
TASTE   TEMPORAL   THINKING
TOUCH   WELLNESS

Answers can be found on page 14.
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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”

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HIDDEN MESSAGE

Your brain has about 30,24120,000 miles of blood vessels. If you laid out all the blood vessels in your brain end to end, they would stretch halfway to the moon!
There are millions of neurons in your brain that tell your whole body what to do. These neurons send more messages in your brain than all the text messages sent by mobile phones in the entire world. They send information to 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!