



The **hypothalamus** (high-po-THAL-ah-muss) maintains your body temperature and helps to keep you cool in summer and warm in winter. If you become too hot, your hypothalamus tells your body to sweat to cool you down. If you're cold, your hypothalamus will start you shivering. Sweating and shivering are your body's attempt to keep you at a normal temperature of about 98.6°F.



The **amygdala** (a-MIG-da-la) is about the size of an almond, yet it is responsible for your emotions like anger and fear. When you look at a person's face, the amygdala helps you to get clues about how that person is feeling.



You have about 100 billion **neurons** (NYOU-rons) in your brain and many more throughout your body. These microscopic nerve cells send and receive chemical and

electrical signals nonstop, even when you're asleep. The signals travel along tiny neuron highways.

Suppose you touch a hot stove. The neurons in your fingers and hand send the information up the neuron network to your brain. The neurons in your brain receive the message and send information back to the motor neurons in your arm and hands, and you pull back your hand. This happens in a flash because motor neurons relay this information as quickly as 268 miles per hour.



is **75%** water.

uses about **20%** of the total oxygen and blood in your body.

**grows**

about three times its size in the first year of life and stops growing at about **age 18**.

processes about **70,000** thoughts every day and creates new connections between **neurons** every time you learn something new.

About That Gray Matter



**YOUR BRAIN . . .**

is called "gray matter" because the **cortex**, the outer layer of the **cerebrum**, is gray.

contains **100,000** miles of blood vessels.

contains **five times** as much information as an encyclopedia. Some scientists believe that the brain can store up to **1,000** terabytes (about 1,000 **trillion** bytes) of information.

doesn't **feel pain** because it doesn't contain pain receptors. When you have a headache, most likely the **nerve endings** in your neck or face are feeling the pain. Nerve endings throughout your body feel pain and send that **message** to your **brain**.

## Get Smart!

To keep your brain in shape, give it a good workout. Each time you have a new idea or learn something new, the neurons in your brain create new connections that help to make you

smarter. Here are some fun activities to keep making those connections:

- Put together a jigsaw puzzle
- Read
- Draw or paint
- Play an instrument
- Learn a new game or sport



## TAKE CARE OF YOUR BRAIN!

**EAT A BALANCED DIET** that includes fresh fruit, vegetables, and whole grains.

Limit the amount of sugar that you eat. Although you may get an extra boost of energy right after eating sugary foods, it is usually followed by a feeling of lack of energy.

**EXERCISE REGULARLY.** It makes your heart pump more oxygen throughout your body.

**DON'T SKIP BREAKFAST.** Studies show that students who haven't eaten for several hours do not do as well on tests as students who have had breakfast. Be sure to include protein in your breakfast. Scientists say that a breakfast of baked beans on toast has been shown to help keep you smart.

**DRINK PLENTY OF WATER.** If you don't drink enough water, you can become dehydrated, which can upset the balance of chemicals and hormones in your brain.

**GET PLENTY OF SLEEP.** A good night's sleep "repairs" the brain and keeps you alert the next day.

**ALWAYS WEAR A HELMET** when biking, skateboarding, or skiing.



## B·R·A·I·N·T·E·A·S·E·R·S

1. A famous magician claimed to be able to throw a ping-pong ball so that it would go a short distance, come to a complete stop, and then reverse itself. He also added that he would not bounce the ball off any object or tie anything to it. How could he perform this trick?
2. Mary's parents have four children; three are named Nana, Nene, and Nini. What is the fourth child's name?
3. What are the next three letters in the following sequence?

J, F, M, A, M, J, J, A, \_\_, \_\_, \_\_

- .....
1. He threw the ball straight up in the air.
  2. Mary
  3. S, O, N. The sequence is the first letter of the months of the year: September, October, and November are the next in the sequence.

**Did You Know?**

Because your brain can tell the difference between an unexpected touch and your own touch, it's impossible to tickle yourself.

**I like nonsense; it wakes up the brain cells.**

—Theodor Geisel  
("Dr. Seuss";  
1904–91)



## BRAIN JOKES

**Q.**  
Why didn't the brain want to take a bath?

**A.**  
It didn't want to get brainwashed.



**Q.**  
What do you call a hat for a brain?

**A.**  
A thinking cap.

**Q.**  
What did the doctor say to the man who had an elephant sitting on his head?

**A.**  
It looks like you have a lot on your mind.