

## Your Brain And You

The brain is one of the most important organs in your body. It is responsible for everything from your memories to your hormones. Your brain is made up of billions of neurons. They send and receive an incredible number of electrical signals every day. Without your brain you wouldn't have a personality.

Roughly 75 per cent of your brain is water. Being even slightly dehydrated can have an impact on how well your brain works. This is why it's so important to drink plenty of water throughout the day. If you don't, you'll struggle to remember everything your teacher just told you!

Your brain continues to grow until you reach the age of about 18. It increases the quickest in the first year of your life. It will have grown to three times its size by the time you are one year old. It will eventually weigh about 3 pounds.

There has been a myth for many years that humans only use about 10 per cent of their brain. We now know that this isn't true at all. Humans use pretty much every part of their brain. Each area is responsible for controlling different things. The frontal lobe (the bit just behind your forehead) controls things like your personality and behaviour. That's why bicycle helmets are so important. An injury to the front of the brain can be life-changing. The occipital lobe lies at the back of your head, where your skull meets your spine. This is responsible for handling everything to do with your vision. There are lots of other areas dotted around your brain that control many other things.

Your brain itself is split into two halves. Each one is called a *hemisphere*. Strangely, the left-hand hemisphere controls the right-hand side of your body and vice versa. It also appears that the left hemisphere may be responsible for managing things like maths and calculations. In contrast, the right hemisphere is responsible for things like recognising people's faces and playing music. Unfortunately, scientists just don't know enough about the brain yet to know for sure.

Information needs to get to your brain before you are aware of it. If you cut yourself, the nerves

in your skin must pass a signal to your brain before you feel the pain. These electrical signals can travel up to 250mph! The brain itself doesn't have any nerves, so can't feel any pain. A headache isn't your brain hurting. It's a result of chemical reactions in your brain and the nerves in the back of your head and neck.

Interestingly, brain-freeze is caused when you eat or drink something so cold that it chills the blood vessels in the back of your throat. These take blood to your brain, and the pain you feel is a warning sign that not enough is getting through. You can usually stop it by pressing your tongue against the roof of your mouth. This warms up the veins and opens them back up.



## RETRIEVAL FOCUS

1. How much of your brain is water?
2. What send and receive signals in your brain?
3. What has normally happened by age 18?
4. Complete: My brain is split into two \_\_\_\_\_
5. What can travel up to 250mph?

## VIPERS QUESTIONS

I

What can protect your brain in an accident?

V

What does the prefix hemi mean?

S

Why don't you feel pain immediately?

I

How does the author feel about the cause of brain freeze? How do you know?

S

How is brain freeze caused?

Answers:

1. 75%
2. Neurons (neurons are nerve cells, so nerves would be acceptable)
3. Your brain stops growing
4. Hemispheres
5. Electrical signals

I: A bicycle helmet

V: Half

S: The signal has to travel along your nerves to your brain

I: The author finds it interesting because they start the sentence with “interestingly”

S: Cold food or drink chills the veins in your throat. This restricts bloodflow to the brain.