



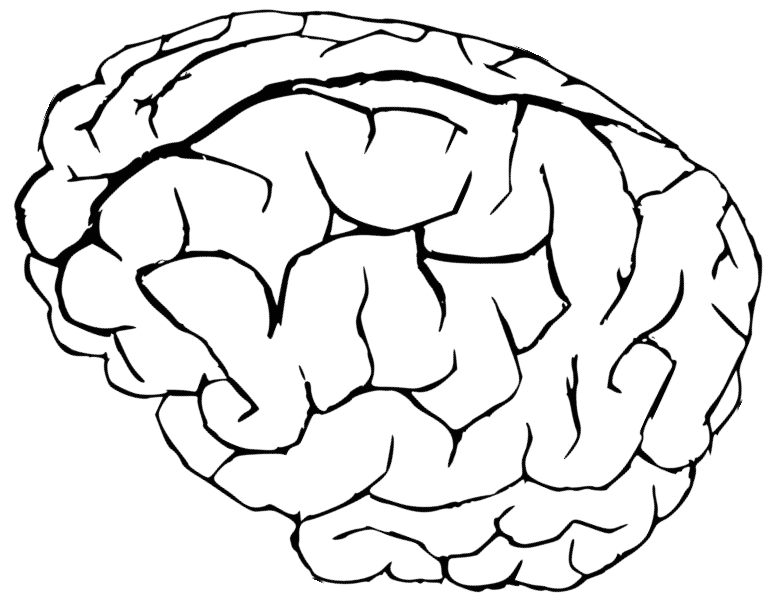
OUR AMAZING BRAIN

The brain is the control centre of the body. Our brains not only allow us to think and remember, but they also control every movement and function of the body - whether we are aware of it or not. The brain communicates with the rest of the body by sending electrical signals through the nervous system.

What do the different parts of the brain do?

The **cerebrum** is the largest part of the brain, and is not only where we think, but also the area of the brain that controls our muscles when we want to move.

Our memories are stored in the cerebrum. The cerebrum is divided into two halves (called 'hemispheres'), and scientists know that they each work slightly differently. The left half appears to control logical, planned functions such as maths or speech, whereas the right half seems to be where our more creative and artistic ideas originate.



The left side of the cerebrum controls movements on the right side of our body, while the right side of the cerebrum controls our left side.

The **cerebellum** controls our balance and the coordination of our body and muscles when we move, so that it is easy for us stand upright and walk smoothly.

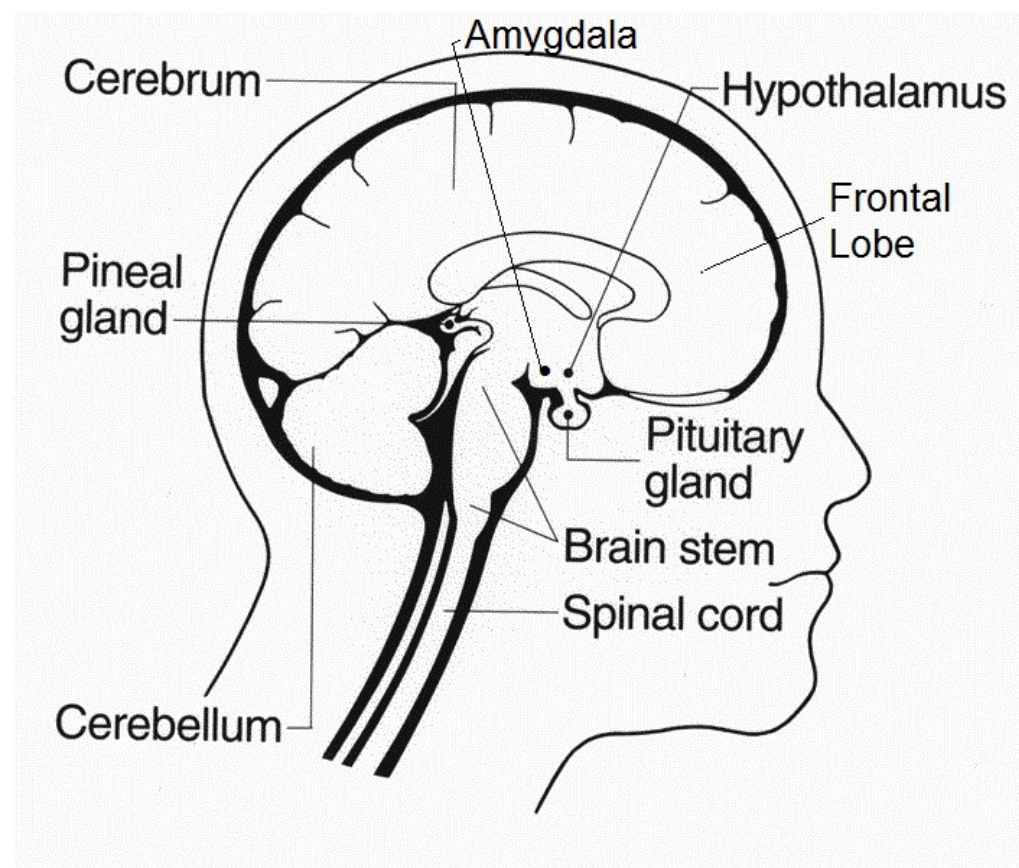
The **brain stem** controls our body's automatic (involuntary) functions such as breathing, swallowing, and digesting food, and keeps our heart beating in order to circulate blood around our body.

The **pituitary gland** produces hormones that control how, when, and how much we grow.



The **hypothalamus** is our temperature control mechanism. When we get too hot, the hypothalamus sends messages to start sweating - just as it sends messages to start shivering if we are too cold. It also controls our hunger, thirst, and sleep patterns.

The **amygdala** is the part of the brain that is associated with our emotions, especially fear. It is also active when we are learning new things, and it is the part of our brain that processes new memories, which will then be stored in the cerebrum.



Brain Facts

- There are an estimated 100 billion neurons (nerve cells) in our brain.
- Nerve cells can transmit 1000 impulses (messages) per second.
- Messages can travel from the brain as fast as 430km/hr.
- Our brains use over a quarter of all the oxygen we take in.
- Our brain is over three times as big as the brains of other mammals that are of similar body size to humans.
- The brain of an adult human weighs around 1.5 kg. Although it makes up just 2% of the body's weight, it uses around 20% of its energy.
- Our brains keep on growing until we are about 20 years old. However, we never stop being able to make new connections inside our brains, so that we can keep learning!

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