



BRAIN POWER

The brain has many different parts that help us to perform daily tasks

What do we already know about the human brain?

The brain sends messages to all parts of the body. It is responsible for our thoughts and personality and helps us with reasoning and making good judgments. Is it fair to say that the brain is like the boss of the body?

Parts of the brain

The brain can be divided into three main parts.



Cerebral cortex (or cerebrum)

The cortex is the large outer layer of the brain. It consists of two hemispheres that are connected by a thick strap of nerves called the 'corpus callosum'. It is responsible for complex brain functions such as thoughts, language, reasoning and information.

Cerebellum

The cerebellum is a small, ball-like part of the brain that sits behind the brain stem. It is responsible for our balance and co-ordination.

Brainstem

The brain stem is responsible for sending messages from the brain to the rest of the body. Basic things like breathing and heart rate are controlled by the brain stem.



Most activities we do require all parts of the brain to be working together. To ride her bike Maddie needs to decide where she wants to go and when to apply the brakes. This information is decided in the cortex. She needs to balance on the bike using her cerebellum. And her brain stem needs to tell her heart to work harder while she pedals.

Think of an activity that you enjoy doing which requires brain power. Describe how each part of the brain helps you perform the task.



EXPLORE!

There are lots of other important parts within the brain

Find out what these words mean so you can match them up with the best description.

Term	Description
Hippocampus	A nerve cell in the brain.
Nerve	Controls functions like thirst, appetite and sleep patterns.
Spinal cord	Responsible for storing our long-term memories and emotional responses.
Dendrite	The part of the neuron that looks like a tail which messages from the cell body travel along. This part transmits information to different neurons.
Pituitary gland	Releases growth hormones to allow the body to develop.
Axon	This part of the neuron receives messages from other neurons and delivers them to the cell body.
Neuron	A fibre in the body that messages travel through. Nerves send messages to the brain or to other parts of the body such as organs and muscles.
Hypothalamus	A bunch of nerve fibres that allow messages to be passed from the brain to the rest of the body. This is referred to as the nervous system.
Synapse	A chemical that helps messages to be transmitted across the tiny gap (synapse) between neurons.
Neurotransmitter	This is the tiny gap between neurons that messages travel across with help from neurotransmitters.

Using the information you now have about the brain, try drawing some diagrams to show your understanding of its different parts and what they do.

Can you describe the job of all these different parts in your own words? What other questions do you have about the parts inside the brain?

If you could interview someone to learn more about the brain, who would you choose? Why?