GirlsGotSTEAM x Simply Neuroscience Brain Building Workshop!

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What is the brain?

The brain is one of the largest and most complex organs in the human body. It sits in your head and only weighs around one to three pounds, but don't underestimate its importance—it is what allows you to talk, think, see, feel, move, breathe, and so much more!

In fact, the brain controls every one of your actions and movements, so it really is the big boss in your body. It is also what allows you to learn and remember things, and helps to define your personality and who you are! Amazing, isn't it?

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Today, we will build models of the brain using Play-Doh and learn about all of the different parts of this amazing organ. Let’s get started!

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1) Cerebrum

The largest and front most part of the brain made up of two halves. It is responsible for understanding the senses and emotions of the body. It also helps to control the body's physical movements.

2) Cerebellum

Located behind the brain stem, the Cerebellum helps the body control voluntary movement such as maintaining balance and speaking.

3) Brain Stem

Connects the brain and the spinal cord and helps the body and the brain communicate properly.

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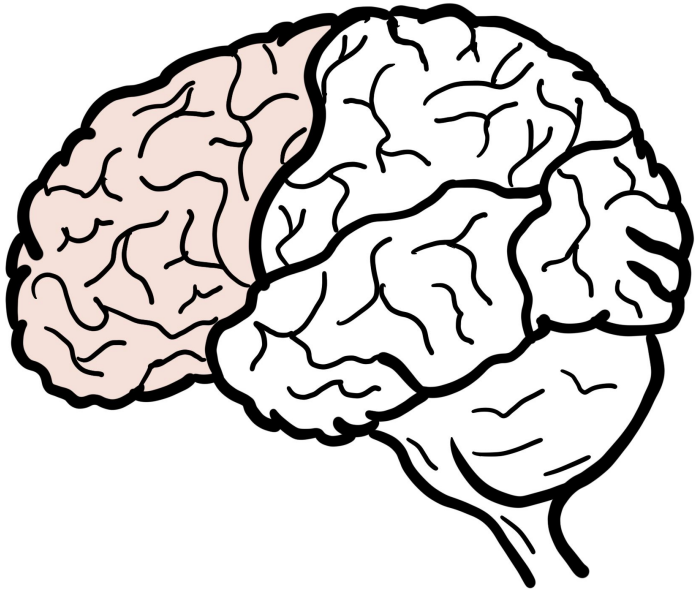
In your SciNotebook, color and label the **Frontal Lobe**, located in the Cerebrum!



Frontal Lobe:

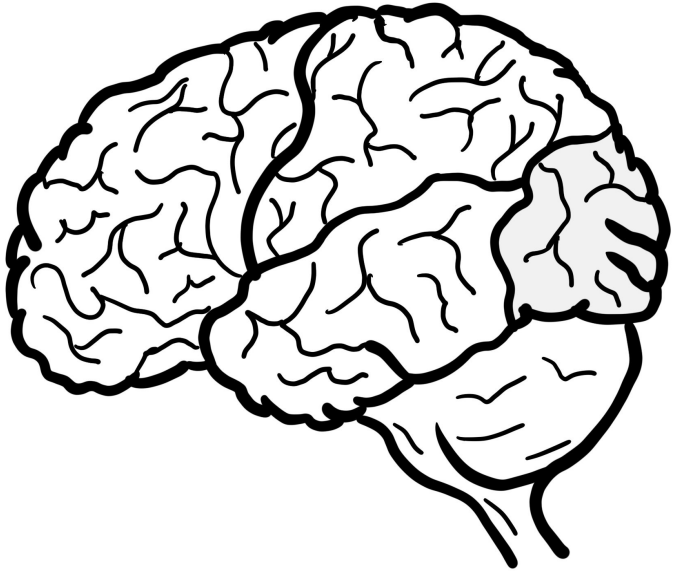
This lobe controls our cognitive skills such as problem solving, expression of thoughts, memory, and decision making skills based on judgement.

This lobe primarily aids us in our communication skills and is where we develop our unique personalities.

In your SciNotebook, color and label the **Occipital Lobe**, located in the Cerebrum!

Occipital Lobe:

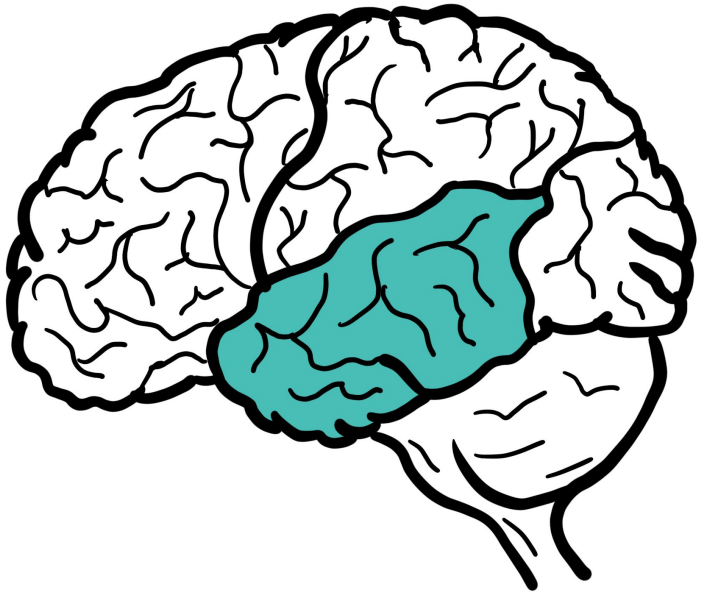
This lobe helps us process and interpret the visual stimuli from our eyes. This means that the lobe's primary function is to help us differentiate between colors that we see as well as our ability to see anything at all.



In your SciNotebook, color and label the **Temporal Lobe**, located in the Cerebrum!

Temporal Lobe:

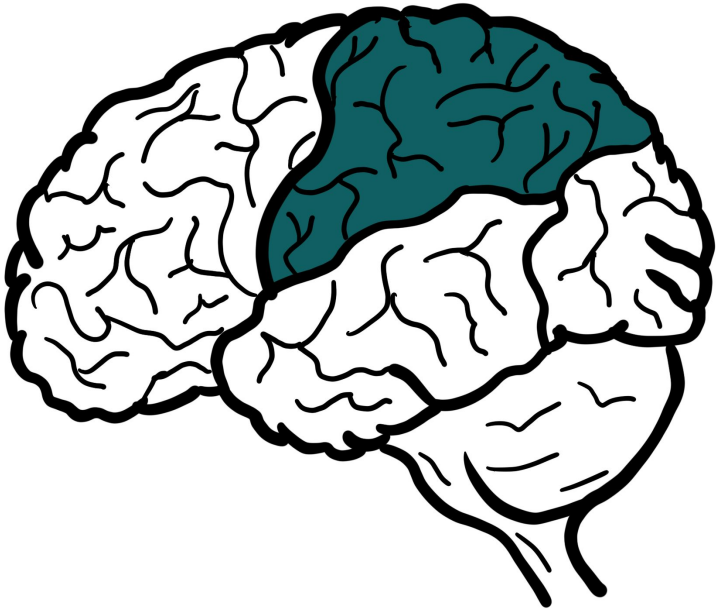
This lobe helps us process stimuli related to hearing and sensations such as pain. It also helps us differentiate languages and to process and remember emotions.



In your SciNotebook, color and label the **Parietal Lobe**, located in the Cerebrum!

Parietal Lobe:

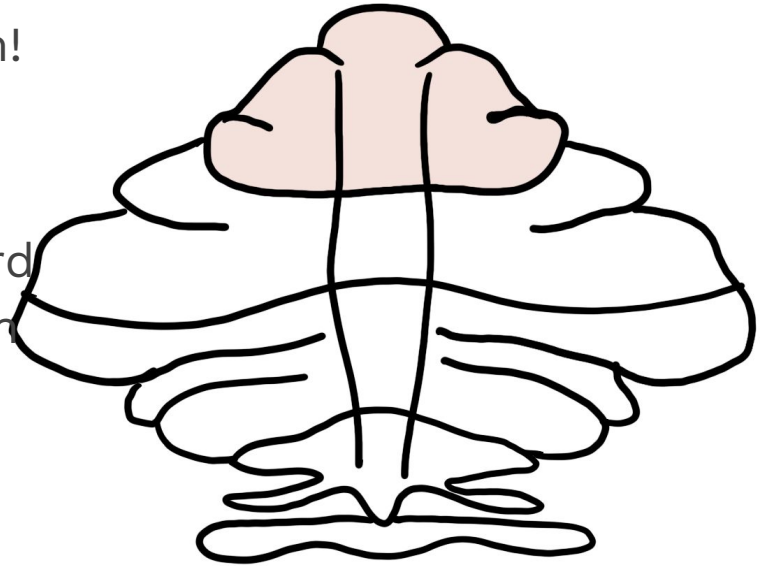
This lobe helps us associate images with specific memories, identify the body part in which we feel sensations at certain times, aid us in language interpretation and help us process how we learn such as remembering the steps to complete a math problem.



In your SciNotebook, color and label the **Anterior Lobe**, located in the Cerebellum!

Anterior Lobe:

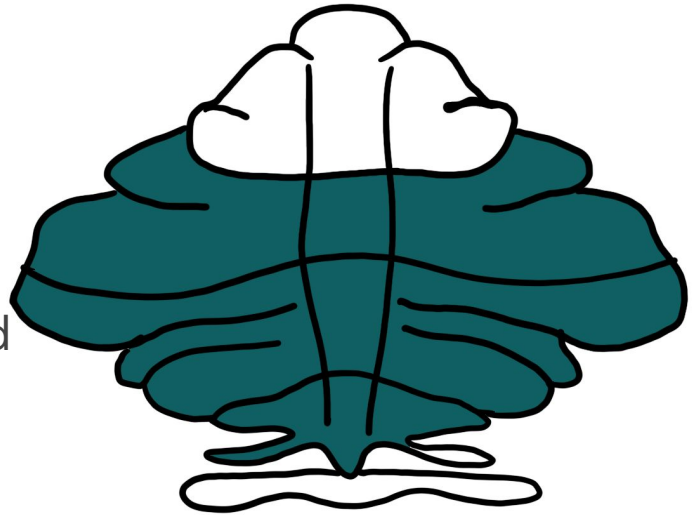
This lobe takes input from the spinal cord and processes it so that we can maintain our balance when we do activities such as walk and run.



In your SciNotebook, color and label the **Posterior Lobe**, located in the Cerebellum!

Posterior Lobe:

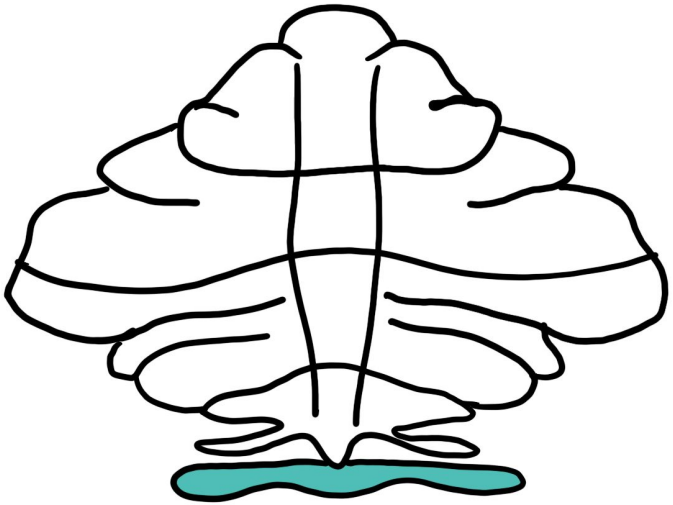
This lobe takes input from the spinal cord and processes it so that we can control our muscles and do specific actions such as picking up a pencil and writing with it.



In your SciNotebook, color and label the **Flocculonodular Lobe**, located in the Cerebellum!

Flocculonodular Lobe:

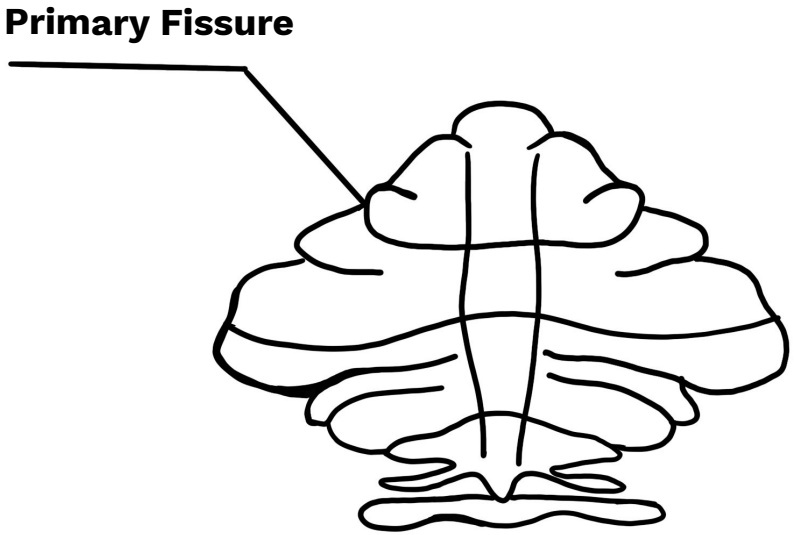
This lobe takes input from the spinal cord and helps us control our head and eye movements. It allows us to track what we want to see accurately.



In your SciNotebook, label the **Primary Fissure**, located in the Cerebellum!

Primary Fissure:

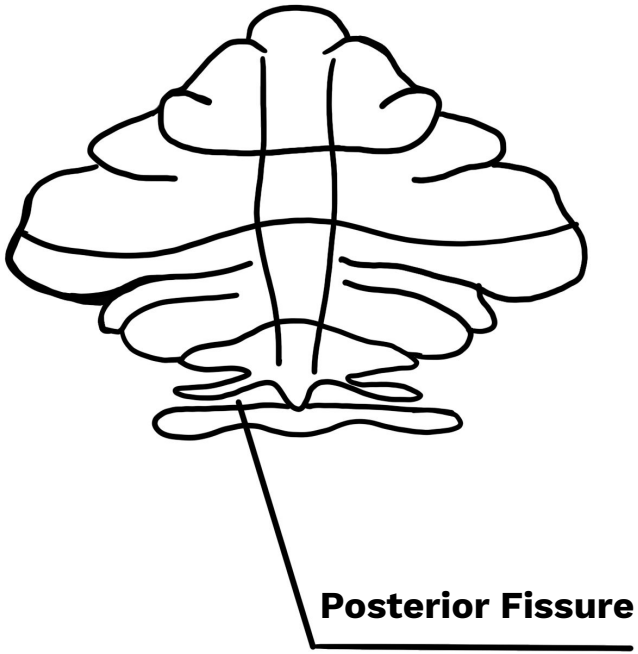
The primary fissure separates the cerebellum into the anterior and posterior lobes.



In your SciNotebook, label the **Posterior Fissure**, located in the Cerebellum!

Posterior Fissure:

The posterior fissure of the cerebellum separates the posterior lobe from the flocculonodular lobe.



In your SciNotebook, color and label the **Medulla**, located in the Brain Stem!

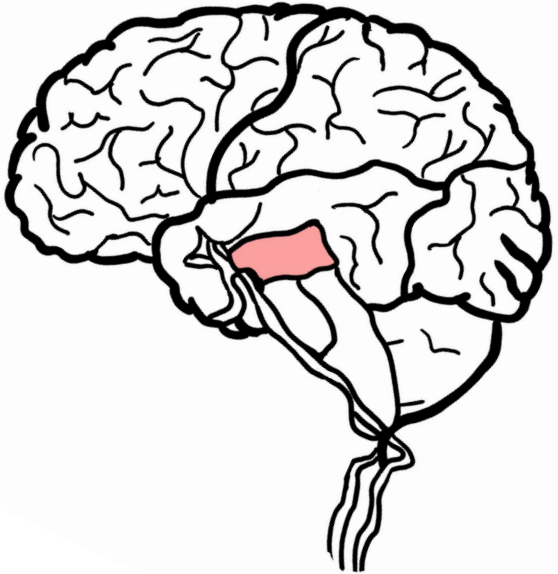
Medulla:

The medulla is responsible for functions that we don't control on purpose such as breathing, digestion and sneezing.

In your SciNotebook, color and label the **Midbrain**, located in the Brain Stem!

Midbrain:

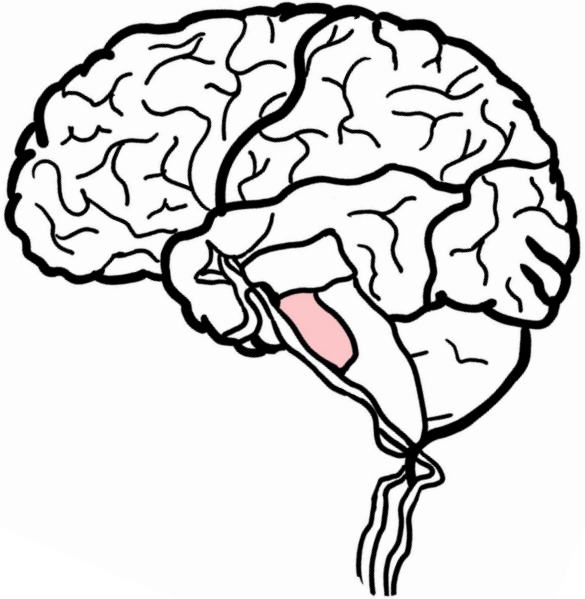
The midbrain helps us process the things we see and hear and how to control our physical reactions to them after we interpret them.



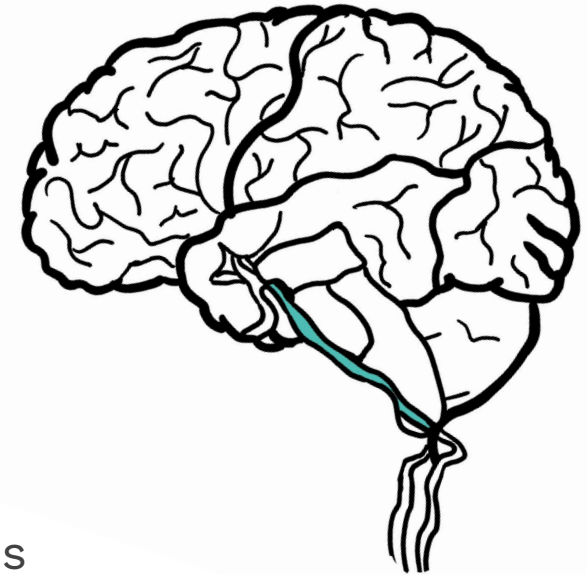
In your SciNotebook, color and label the **Pons**, located in the Brain Stem!

Pons:

The pons regulates our breathing and sleep cycle, and also controls the communication of our sensations such as hearing, seeing, and balancing to the other parts of the brain.



In your SciNotebook, color and label the **Basilar artery**, located in the Brain Stem!



Basilar artery:

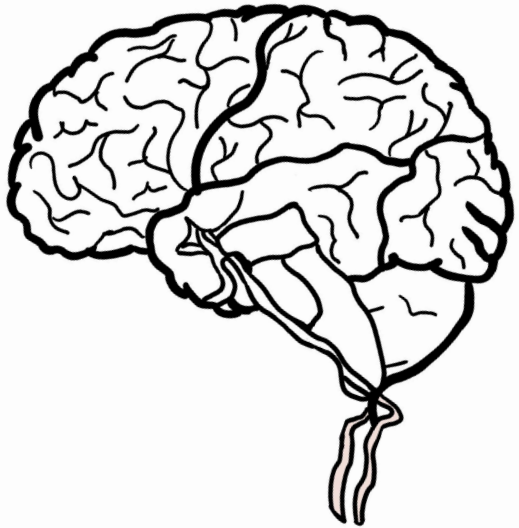
The basilar artery carries oxygen rich blood from the body to the brainstem, cerebellum, and occipital lobes.

The circulation of oxygen rich blood to the brain is important because it provides the brain with the energy it needs to carry out the body's functions.

In your SciNotebook, color and label the **Vertebral arteries**, located in the Brain Stem!

Vertebral arteries:

The vertebral arteries supply blood to the brainstem, cerebellum, and posterior lobes of the brain.



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Now that we've introduced you to different parts of the brain, let's get started on the model!

Based on your knowledge of these parts, create your own model of the brain with the materials provided!

Your instructor will walk you through the steps to building this model.

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Congratulations on completing the Brain Building Workshop! It’s time to end off with some discussion questions:

- What is something we learned today?
- Why is the brain important?
- What do these different parts do?
- What are the different parts of a brain?