

# Brain Caps

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## Objectives

1. Explain how different areas of the brain are involved in different processes

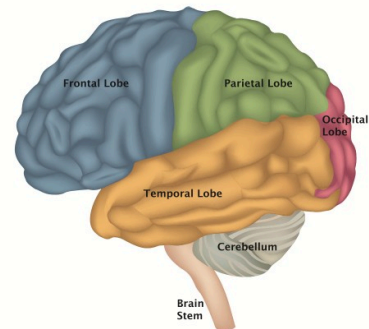
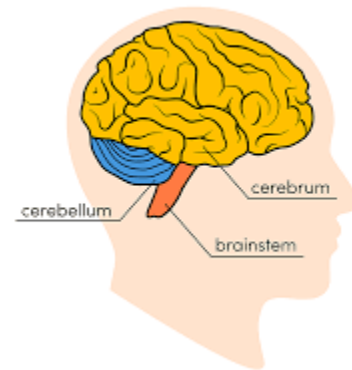
## Background Information

The brain is a complex organ that can be divided into three general regions: the cerebrum, cerebellum, and brainstem.

The cerebrum is the largest part of the brain. It is divided into two halves: the right and left brain hemispheres. The cerebrum performs many crucial functions like vision, hearing, speech, initiating movements, and interpreting touch. It's even in charge of reasoning, emotions, and learning. The cerebrum can be divided into four main lobes. The frontal lobe is a more uniquely human brain structure that is found at the front of the brain. It is important for conscious thought, personality, decision making, mood, and cognition. The parietal lobe plays important roles in integrating sensory information as well as maintaining spatial awareness and attention. The occipital lobe is located at the back of the brain and processes visual information. Lastly, the temporal lobe is located on the sides of the brain and handles hearing, memory, and language comprehension.

The cerebellum is located towards the back of the brain, under the temporal and occipital lobes. It plays a crucial role in motor coordination, motor adaptation, motor learning, and balance.

The brainstem connects the brain to the spinal cord and sits at the bottom of the brain. It acts as the control center for vital bodily functions like breathing, heart rate, blood pressure, sleep-wake, and consciousness. It is responsible for a number of reflexes that we don't even know are happening (i.e. steadying the eyes, adjusting pupil size, regulating blood pressure)!



## Materials

Item	Quantity	Notes
Brain cap	1 per person	- Attached

template		
11x17 ledger size paper	~300 sheets	<ul style="list-style-type: none"> <li>- Print copies of the brain template onto this paper</li> <li>- ~\$7 for one ream</li> <li>- Brain cap outlines can be cut out ahead of time</li> </ul>
Scissors	At least 2	<ul style="list-style-type: none"> <li>- Used to cut out the brain cap outlines</li> </ul>
Scotch tape	2-3 dispensers	<ul style="list-style-type: none"> <li>- Used to tape the brain caps together</li> </ul>
Markers/crayons	Several sets	<ul style="list-style-type: none"> <li>- Have multiple colors</li> </ul>

### In the Class

1. Allow students to color the cut-out brain cap sheets how they would like
  - a. Explain the role of each area as they color it, and have the students label what each area of the brain does. You can also discuss what damage to different areas does
2. After coloring and labeling, fold the brain cap along the dotted lines and tape the parts together (tape it so that (A) is on top of (a))
3. Let students wear it around and show off their brains!

### Image Credits (in order of appearance)

1. <https://www.hopkinsmedicine.org/health/conditions-and-diseases/anatomy-of-the-brain>
2. <https://braininjurycanada.ca/en/caregiver/about-brain-injury/how-brain-works/>

