



Anatomy Coloring

Lesson Plan

Learning Objectives:

1. Understand that the brain is located inside your head (inside your skull)
2. Understand that the brain is responsible for behavior (everything from muscle movement, the five senses, decision making, emotions, etc.)
3. Understand that the brain is made up of different parts that do different things by identifying them in the picture and coloring them different colors

Background information:

Depending on the background of the participants you may need to explain the following concepts:

- The brain is an organ in your body just like your heart and stomach are organs inside your body. The brain is located inside your head.
- Our brains have many different parts that work together, allowing the body to function and survive.
- Each part has a specialized function that allows our body to perform various tasks.
 - Voluntary tasks are those of which we consciously think about and control, e.g. lifting your arm in the air.
 - Involuntary tasks are things we do not consciously control but are important to stay alive, such as heart rate and breathing.

The following brain regions are covered in the worksheets provided for this activity:

- **Frontal Lobe** – The frontal lobe has two main functions: 1) motor control & 2) executive function. Motor control is localized to the primary motor cortex in the caudal most part of the lobe. Different body parts are represented in distinct areas of the motor cortex which helps to control movement. The rostral portion of the frontal lobe is responsible for executive functions like thinking, judgment, reasoning, planning and decision making. It is typically referred to as the prefrontal cortex.
- **Parietal Lobe** – The parietal lobe processes information about touch and helps us identify where our bodies are in space. The primary somatosensory cortex is located in the parietal lobe and information coming from each body part goes to a specific part of the somatosensory cortex.
- **Temporal Lobe** – The temporal lobe processes information about hearing, speech, and language.
- **Occipital Lobe** – The occipital lobe processes visual information.
- **Cerebrum** – The cerebrum is the largest part of the brain. It is separated into various “lobes” that are responsible for different functions. The cerebrum is involved in almost everything we do, like talking, thinking, sensory processing, learning, and voluntary

MATERIALS

- Coloring worksheets:
 - All about brains
 - The inside-outside brain
- Crayons

TIME

- Prep: 2 min
- Activity: ~15 min

TEACHING TIPS

- Keeps the students engaged by asking them simple questions
- Use simple analogies to describe functions
- Help students remember new concepts by asking them to repeat new words back to you after you introduce them



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movements. The cerebrum is also referred to as the cerebral cortex or simply cortex for short.

- **Cerebellum** – The cerebellum functions to coordinate gross and fine motor movements and balance. Performing voluntary actions such as jumping, catching a baseball, and swimming are all movements that the cerebellum plays a role in.
- **Brainstem** – The brainstem regulates the body's vital functions such as breathing and heart rate. It also helps relay sensory information from the body to the rest of the brain.
- **Thalamus** – The thalamus is the brain's post office. It receives sensory signals from our body, such as information about touch, vision and hearing and sends this information to the correct address in the brain to inform us about our senses.
- **Hypothalamus** – The hypothalamus is an important regulator of hormones. It controls things like sleep, hunger and thirst.
- **Corpus Callosum** – The corpus callosum is the brain's major bridge; it connects the left and right halves of the brain. This is important because the left and right sides of the brain can do different things and information about the right side of the body goes to the left hemisphere and vice versa.

Facilitating the activity:

Introduce students to the brain by asking them what they know. Focus on making sure they understand that the brain is located inside the head and controls every aspect of the body. Next, lead the students in identifying the various parts of the brain, coloring and labeling them as you describe their functions. Start first with the "All About Brains" worksheet and cover the different lobes of the cerebral cortex. Then, move on to the second worksheet, "The Inside-Outside Brain". For each brain region, instruct the students to pick any color crayon and fill in the region while you discuss it's function. Engage the students by asking them questions about the functions you describe and having them to point to the different parts on their own head (e.g. different lobes.) Repetition is helpful; ask questions at the beginning of the task, and again at the end to help reiterate facts. Help familiarize students to the brain by asking them to repeat new terms as you introduce them (e.g., temporal lobe, corpus callosum).

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