

Papier-Mâché Fun

Are you ready to put your “thinking cap” on? Learn about the four lobes of the brain while you create your own paper mâché hat that allows you to see where the different lobes are on your own head.

TEKS:

6.12A Understand that all organisms are composed of one or more cells.

7.12B Identify the main functions of the systems of the human organism, including the circulatory, respiratory, skeletal, muscular, digestive, excretory, reproductive, integumentary, nervous, and endocrine systems.

How To:

1. Before beginning, cut or rip the newspaper into strips about 1 inch wide. Then, mix a paper mâché paste inside a large bowl using the ratio of 2 parts glue to 1 part water.
2. Start making your “thinking cap” by blowing up your balloon until it is roughly the size of your head or slightly larger than your head. It is better to make your hat a little too big rather than too small.
3. Dip the strips of newspaper into the paper mâché paste and cover the top half of the balloon. Make sure you put on at least three layers to help provide a strong structure, but remember that the more layers you add, the longer it will take to dry. Also make sure that you don’t see any holes in the newspaper layers once you are done.
4. Place your hat in a cardboard box and set it outside to dry.
5. Once your hat has dried, pop the balloon and remove it from the inside of your hat.

Materials:

- Balloon (at least 9 in. diameter)
- White school glue
- Water
- Measuring cup
- Newspaper
- Large bowl
- Cardboard box
- Paper plate
- 4 different colors of paint
- Paint brushes with bristles
- Sharpie
- Lobes of the Brain Picture (see below)

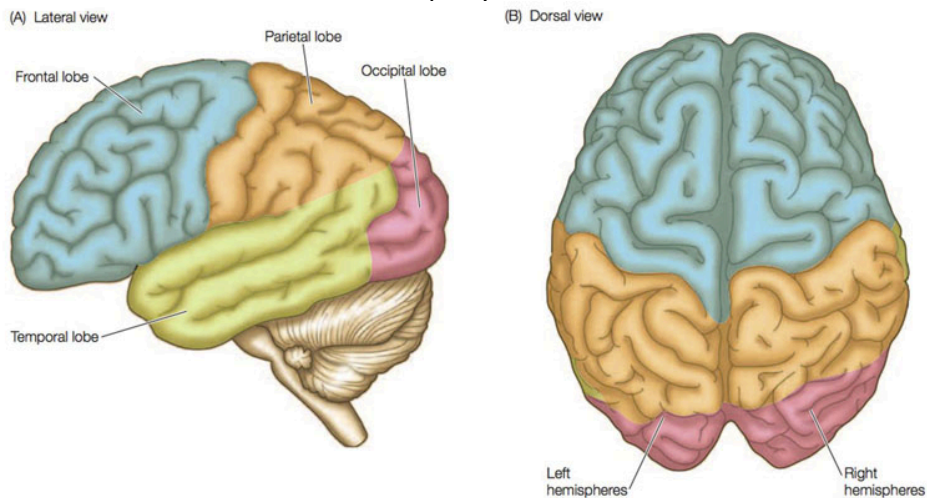
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How To (continued):

- Next, draw lines on the outside of your cap to indicate the 4 lobes of the brain. Use the diagram below as a guide. The cap should be divided into 5 different sections: 1 for the frontal lobe, 1 for the parietal lobe, 1 for the occipital lobe, and 2 for the temporal lobes (one on each side) because the 2 temporal lobes aren't connected.
- Paint each lobe a different color. Remember that the temporal lobes aren't connected but you should still paint them the same color. Place your hat back in the box to dry.
- Once the paint has dried, your "thinking cap" is ready to go! You can use a sharpie to label each of the lobes or you can leave them unlabeled to quiz yourself.



<http://sites.sinauer.com/animalcommunication2e/chapter08.07.html>

The STEM Explanation:

The brain is made up of four lobes: frontal, parietal, temporal, and occipital. Each of the lobes has a different task that it is responsible for performing.

- The frontal lobe is where higher brain functions take place like reasoning, critical thinking, decision-making, speech, movement, and emotions.
- The parietal lobe is responsible for touch. It tells the brain whether something is hot, cold, soft, hard, rough, etc.
- The temporal lobes are in charge of hearing. That's why they are located on each side of the brain near the ears.
- The occipital lobe is used for vision and helps the brain decipher what is being seen through the eyes.

Career Connection:

A *neurologist* is a medical doctor or osteopath who has trained in the diagnosis and treatment of nervous system disorders, including diseases of the brain, spinal cord, nerves, and muscles. Neurologists perform neurological examinations of the nerves of the head and neck; muscle strength and movement; balance, ambulation, and reflexes; and sensation, memory, speech, language, and other cognitive abilities.

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