

Nurturing the Brain

February 2024

Columbia University Neuroscience Outreach

Objectives:

- Learn the anatomy of the human brain
- Learn that different brain regions are involved in different functions

Materials:

- Brain hat printouts
- Coloring utensils
- Scissors
- Tape

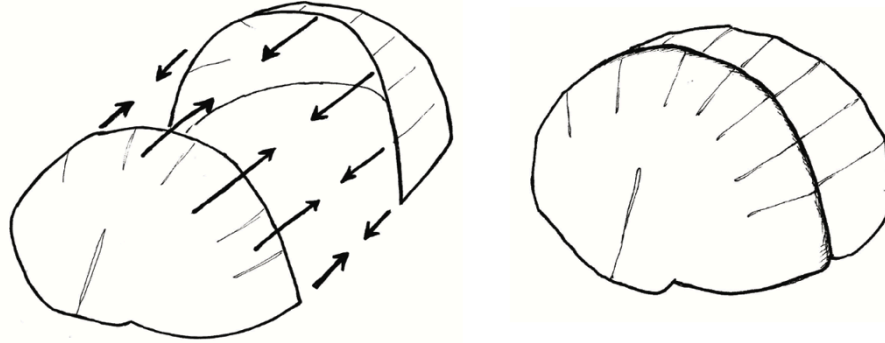
Introduction:

- **Q:** What do you know about the structure of your brain? (hemispheres, lobes, folds, etc.)
- **Q:** What kinds of things does your brain do? Would your brain work better if it had different parts to do those things (i.e., specialization), or if your whole brain did everything?
- Today, we will make our own 3D brain hats to learn what the human brain looks like and the kinds of functions it performs!

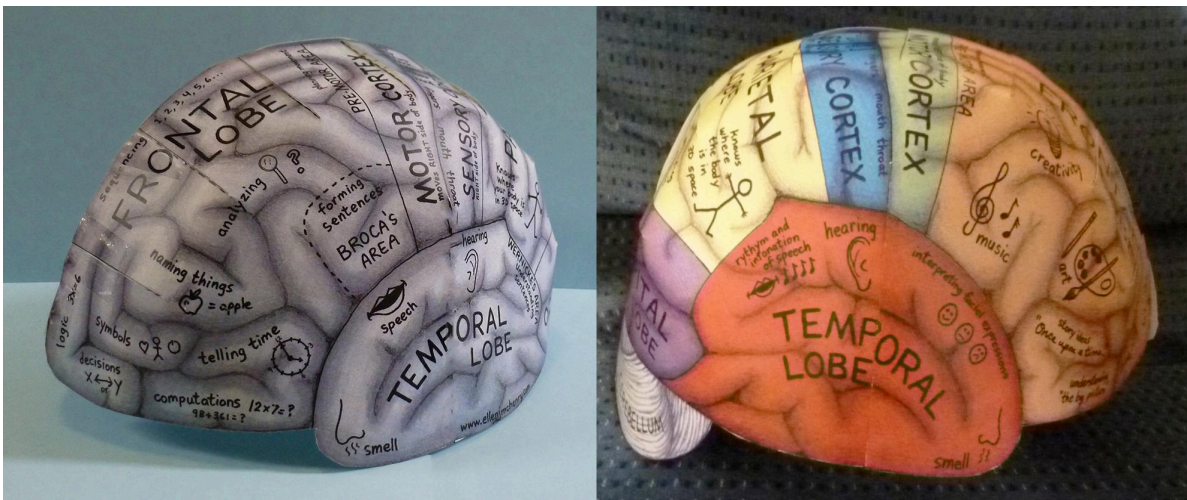
Activity:

- Have students cut out both sides of the brain hat, including the pieces in the corners for the cerebellum.
- Have students color each lobe of the brain the same color on both sides: the frontal, parietal (including the motor and sensory cortex), occipital, and temporal lobes.
- Along the outer edge of both sides, cut slits into the brain at the eight designated spots (solid lines) so it folds into a hat.
- For each slit, tuck the area of the triangle under the cut edge and tape it on the back side of the sheet. Do this on both sides.

- Match up the tops of the two brain halves (near the tops of the lobes) and tape them together on the inside of the brain. Keep taping along this edge to make a dome shape.



- Tape each half of the cerebellum in the back of the brain under each occipital lobe. The completed hat should look like this:



- Talk about the different brain-boosting factors we have labels for (i.e. exercise, healthy food, sleep, social connections, etc.). Ask students to populate their brain with these labels to nurture their brain.

Possible wrap-up/follow-up:

- **Q:** As you can see, different parts of the brain do all sorts of different things. Can you find the parts of your brain involved in hearing? Speaking? Seeing?

- Have kids play a game with fellow students: point out a function on the brain hat, and the first student to do that function wins. Or have them race to see who can find different parts of the brain first.