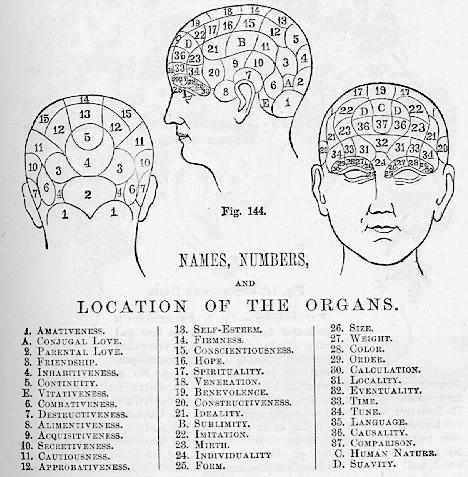
Class Activities

# Chapter 2: The Brain: An Overview of Structure and Function

## 1. Phrenology

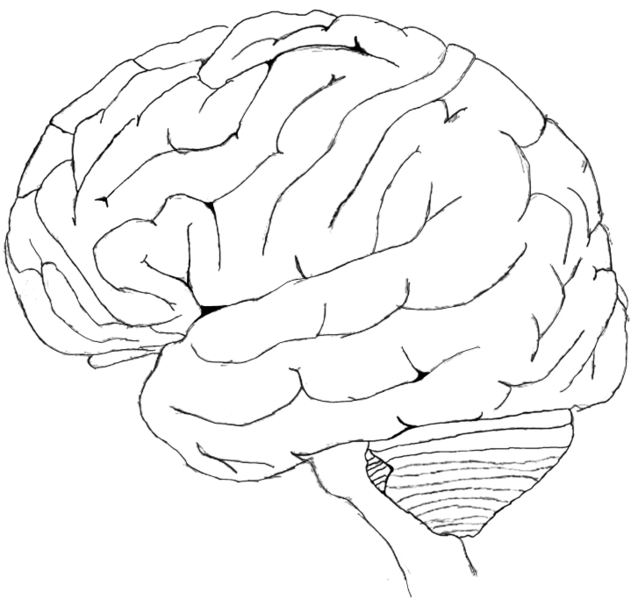
Begin by discussing what phrenology is and describe how it was commonly used to assess personality in the late 1800s. Next, divide students into small groups and distribute phrenology charts to each student (<http://www.bc.edu/bc_org/avp/cas/fnart/phrenology/3headphren.jpg>). Ask students to act as phrenologists and record on the phrenology chart where on their classmate’s skull they feel bumps and depressions. Have each student examine the results of their phrenology reading. Was it accurate? Are the personality traits and characteristics identified based on the shape of their skull according to the phrenology chart accurate? Use this demonstration to discuss pseudoscience and why phrenology is no longer taken seriously today (This activity is adapted from Simon-Dack, 2011).



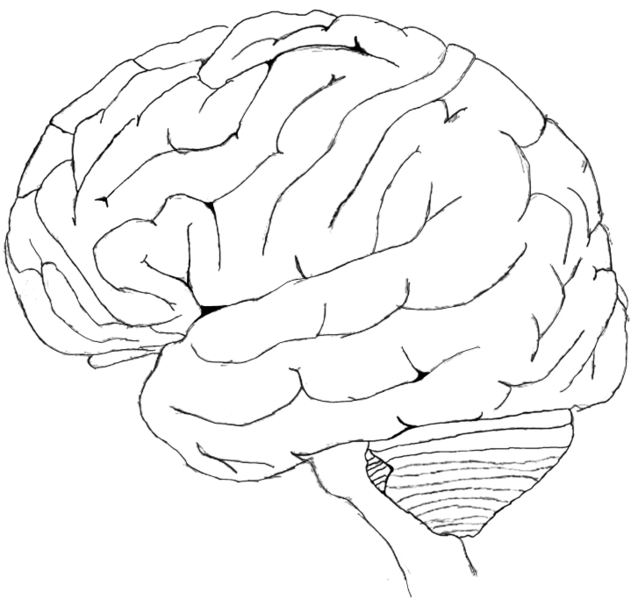
## 2. Getting to know the Four Lobes

The purpose of this activity is to help students learn the functions of the four lobes of the brain. First, print the “Frontal Lobe,” “Occiptial Lobe,” “Temporal Lobe,” and “Parietal Lobe” handouts on card stock. Then, print the list of functions associated with each lobe. Give each volunteer a sign and have them stand in one corner of the classroom. Read the list of functions and have the rest of the class go to the corner (lobe) that they believe is responsible for that function. This exercise will help students make the association between brain and behavior and will also help you gauge their level of knowledge.

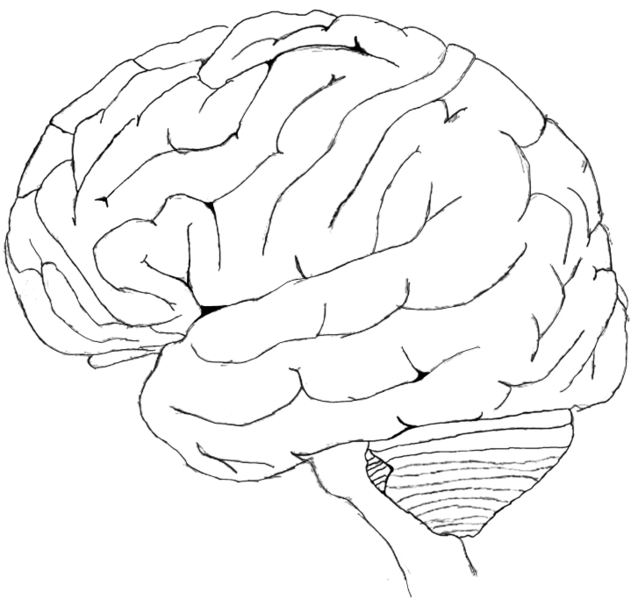
FRONTAL LOBE



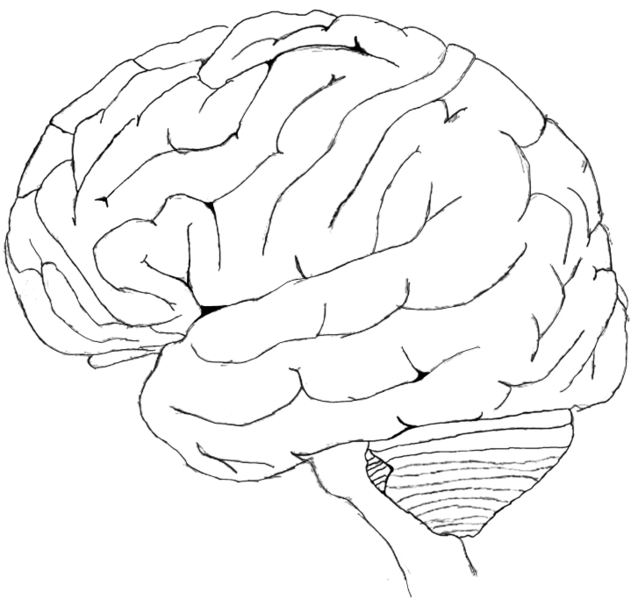
TEMPORAL LOBE



PARIETAL LOBE



OCCIPITAL LOBE



|  |  |
| --- | --- |
| Processes sensory information about pain | Parietal lobe |
| Involved in planning movement | Frontal lobe |
| Processes visual information | Occipital lobe |
| Associated with personality | Frontal lobe |
| Damage can lead to memory deficits | Temporal lobe |
| Processes sensory information about touch | Parietal lobe |
| Receives information from our eyes | Occipital lobe |
| Damage can result in an increase in inappropriate behavior | Frontal lobe |
| Processes sensory information about pressure | Parietal lobe |
| Processes auditory information | Temporal lobe |

## 3. Split Brain Demonstration

This activity is designed to help students understand what life may be like for a split-brained individual. Pair students into teams of two and seat them side by side at a table. Ask them to cross their arms that are touching and to put their outside arms behind their back (See Illustration below). Under normal conditions, a person’s right brain controls their left hand (and vice versa). This configuration of the student pairs creates a sort of split-brained individual because now the left arm of the student who is the right brain becomes the right arm, and the right arm of the student who is the left brain becomes the left arm. In other words, as shown in the illustration, the female student’s left arm is now the right arm of the male student. Clearly this is a brain-body disconnect that simulates the split-brain condition. Then, ask the pair to perform a couple of everyday tasks (i.e., tie shoe, trace a circle and cut it out, clap hands). These tasks will be very difficult to coordinate and will demonstrate how vital communication between the right and left hemisphere is.



Right Brain

Left Brain

Left Arm Right Arm