

In this activity, we will learn some of the physical characteristics of the brain.

Background

Despite the fact that everybody has one, many misconceptions exist about the nature of the brain. Some people believe that the brain is hard and gray. However, a living brain is soft; while it is somewhat grayish on the outside, it also has a pinkish cast due to the presence of a very rich blood supply. Brain size is another area of confusion. An adult human brain weighs about three pounds. If an average person weighs about 150 pounds, then the brain accounts for approximately 2% of body weight.

Brain function is an area in which myths abound. Many people connect thinking and memory with the brain, but they do not understand that it also controls processes like respiration and heart rate, movement, hearing, and seeing. In fact, the brain is the body's command center. It controls all of the body's activities.

Since the brain controls everything the body does, changes in this organ can affect how the body functions. Strokes, tumors, infections, and trauma are a few of the things that can alter brain function.

This activity was adapted from one in Brain Power: It's All in Your Head by The Pacific Science Center and Group Health Cooperative.





You've been left holding the bag!

How is the "Potato Brain" similar to and different from the real deal?

Materials

- 2.5 cups instant potato flakes
- 2.5 cups hot water
- 2 cups clean sand
- one 1-gallon size Ziploc[®] bag
- measuring cup
- spoon

Procedure

1. Make the "potato brain" model by combining potato flakes, hot water, and clean sand in a Ziploc[®] bag. Mix everything together thoroughly with the spoon. Close the Ziploc[®] bag.

2. Examine the "potato brain" and answer the questions in the "Potato Prain" section.

3. Next, with the help of our neuroscientists, answer the questions in the Adult Human Brain section.

4. Finally, tell how the "potato brain" and a real adult human brain are similar and different in the Conclusions section.





"Potato Brain"

1. Is it hard or soft?

2. What color is it?

3. How is it shaped? Draw a picture to show its general shape below:

4. Is it made up of different parts that do different things?

5. Take a guess, how much do you think the potato brain weighs?





Adult Human Brain

1. Is it hard or soft?

2. What color is it?

3. How is it shaped? Draw a picture to show its general shape below:

4. Is it made up of different parts that do different things?

Conclusions

- 1. Describe two ways in which the "potato brain" is similar to an adult human brain.
- 2. Describe three ways in which the "potato brain" is different from an adult human brain.

