



PLTW Virtual Learning

Medical Detectives

Lesson 27

May 12, 2020



7 & 8 Grade Medical Detectives
Lesson: Brain Dissection Part 1, May 12, 2020

Objective/Learning Target:
Lesson 27, Part 5

Students will be able to explain the process of dissecting a sheep brain and the external regions of a sheep brain.

Warm-Ups:



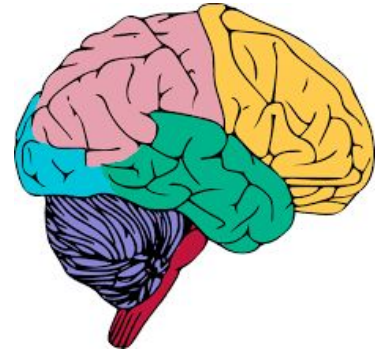
In your science classes, or at any other time, have you ever had the opportunity to dissect something?

****What did you dissect?**

****Did you like it? What did you learn?**

If you've never had the chance, do you think you would like to dissect a sheep brain? What do you think it would be like? What would you learn? Would you be willing to handle and touch the brain?

[One Minute Timer](#)



Lesson Introduction/Background Information:

Sheep brains are used to dissect because their brain structure and functions are similar to the human brain. They are also used to teach about memory and where it takes place in the brain since they are so similar to human brains.

Watch the video [Sheep Brain Dissection](#) that demonstrates the beginning steps of dissecting a sheep brain. The next slide will take you step-by-step through the first part, External Brain Anatomy, of the dissection. Please follow along with each step as if you were performing the dissection yourself.

Practice:

Steps in Dissecting the Sheep Brain, Part 1:

External Brain Anatomy

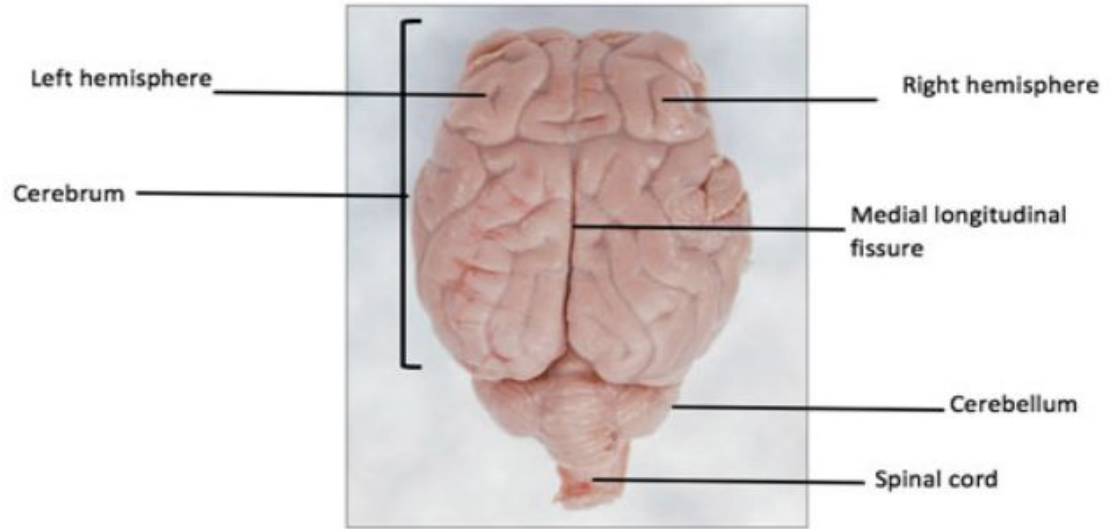
1. Place the brain in the dissecting pan, dorsal surface up.
2. Observe the dura mater, or outer meninges (if present). The remaining meninges, pia mater and arachnoid mater, form a thin covering that adheres to the surface of the cerebrum. Use forceps to gently remove these layers.
1. Observe the external anatomy of the brain.
 - a. Cerebrum
 - b. Cerebellum
 - c. Spinal cord
 - d. Medial longitudinal fissure
 - e. Right and left hemispheres



At this stage of the brain dissection, you would use toothpicks with labels attached to label each region of the external brain anatomy listed above. Looking at the image, can you do this? Can you label each one of the regions?

Practice:

After reviewing the example of the brain below, did you know where the different regions of the brain were located? Would you have gotten them correct?



Self Assessment:

Watch the video [Sheep Brain Dissection -- Parts and Functions](#) showing a complete sheep brain dissection and explaining the various regions and parts of the external and internal brain. As you watch, please answer the following questions.

1. What is the cerebrums function? _____
2. What is the cerebellums function? _____
3. The spinal cords main function is to _____
4. The right hemisphere is known for being _____
5. The left hemisphere is known for having more _____
6. The frontal lobe provides us with _____
7. What is the temporal lobes function? _____
8. The medulla is a part of the _____.
9. The purpose of the optic nerve is to _____.
10. Helping us to sleep and wake up is the _____.

Extend Your Learning/Continued Practice:

Watch the following video about the top 10 lab safety rules. After you've finished the video, how many can you remember? Can you remember all 10? What should you ALWAYS wear in a science lab? What do you feel is the most important rule?

[Laboratory Safety Precautions -Top 10 - General Lab Safety](#)

(Warning, a computer voice is used to speak in the video, which can be boring to listen to, but the information is exactly what you need to know for a safe lab experience, so please watch the entire video.)

Answer Key:

Self Assessment Quiz

1. Known as the big brain. Provides for the personality, intelligence and thought patterns of an individual.
2. Known as the little brain. Gives us muscle coordination and balance.
3. Provide connection between the brain and the body, sends information from the brain to the body.
4. Is known for creativity
5. Is known for more logical reasoning
6. Provides for problem solving, reasoning and speaking
7. Provides for hearing, memory and speech
8. Is a part of the brain stem
9. Connects our eyes to the brain enabling vision
10. Thalamus

