

**Question:** What are the principal structures of the brain, and what are their functions?

### Safety Precautions

- Use caution when handling sharp instruments.
- Wash your hands well when finished the dissection.
- Disinfect the equipment and area when finished.

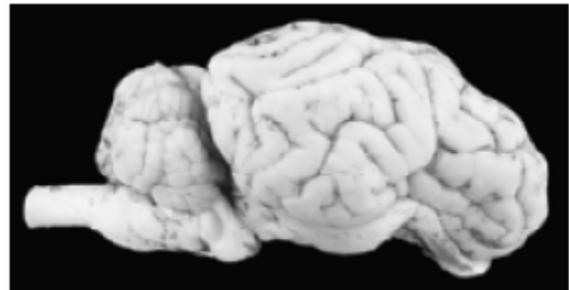
### Materials

- preserved sheep brain
- paper towel
- 10 percent bleach solution (to clean the dissecting tray)
- dissecting tray
- dissecting kit

## Part 1: Lateral View—Whole Brain

### Procedure

1. Obtain a sheep brain from your teacher. Follow your teacher's instructions for rinsing the brain. Then place the brain in the dissecting tray.
2. Examine photograph A, showing a lateral view of the sheep brain. Identify the frontal, parietal, temporal, and occipital lobes of the cerebrum.
3. If possible, examine the outer surface (dura mater) of the brain. Notice the convolutions and fissures on the outer surface. Also notice that the cerebrum is divided into a right side and a left side.
4. Sketch and label the outer surface of the brain.



**A. Lateral view—whole brain**

<b>CHAPTER 11</b>	<b>Investigation 11.D: The Brain</b> <b>(cont'd)</b>	<b>BLM 11.2.7</b>
HANDOUT		

**Analysis**

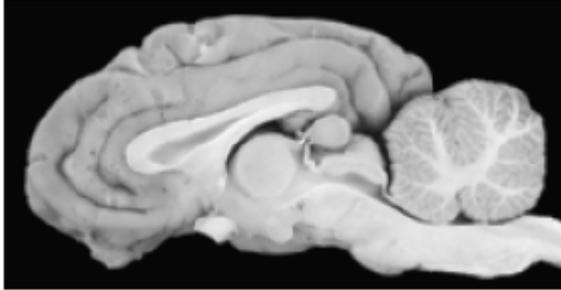
1. In the following table, record the functions of the structures you labelled in your diagram.

Structure	Function

2. In humans, the left and right cerebral hemispheres of the brain are associated with different dominant functions. Describe these differences.

**Part 2: Lateral View—Cross-Section****Procedure**

1. Examine photograph B, showing a cross-section of the sheep brain.

**B. Lateral view—cross-section**

2. Make a gentle incision through the corpus callosum of the sheep brain to separate the right and left hemispheres. Then separate the rest of the brain by cutting through the centre of the mid and hind parts.
3. Using photograph B as a guide, identify, sketch, and label the following structures: spinal cord, cerebellum, medulla oblongata, pons, midbrain, thalamus, hypothalamus, pituitary gland, corpus callosum, and cerebrum. Try to identify the small olfactory bulbs (connected to smell receptors) on the underside of the frontal lobes, as well.
4. Follow your teacher's instructions to dispose of the sheep brain and wash the dissecting tray.

**Analysis**

1. Examine your diagram of the cross-section of the dissected brain. Make a table to record the functions of the structures you labelled in your diagram.

Structure	Function

**Conclusion**

1. Compare the sheep brain with the human brain shown in Figure 11.29 in the text. What similarities and differences can you identify?

**Extension**

2. With a partner, build a model of the human brain and present it to the class. Include all the key structures and functions on your model.