

1  
  
Wernicke's area

1  
  
center for understanding  
language

1  
  
temporal/parietal lobe  
(left side)

2  
  
Broca's area

2  
  
center for expressing  
language

2  
  
frontal lobe (left side)

3  
  
auditory cortex

3  
  
center for hearing

3  
  
temporal lobe

4  
  
primary visual cortex

4  
  
reconstruct

4  
  
occipital lobe

5  
  
thalamus

5  
  
sends sensory and motor  
messages to other parts  
of the brain

5  
  
forebrain

|                          |  |  |
|--------------------------|--|--|
| 6<br><br>cerebellum      | 6<br><br>controls walking,<br>balance, and<br>coordination                                 | 6<br><br>hindbrain                           |
| 7<br><br>cerebral cortex | 7<br><br>center for information<br>processing, rational<br>thought, and decision<br>making | 7<br><br>forebrain (thick outer<br>covering) |
| 8<br><br>medulla         | 8<br><br>regulates vital functions<br>such as breathing and<br>blood flow                  | 8<br><br>hindbrain                           |
| 9<br><br>pituitary gland | 9<br><br>controls the body's<br>endocrine system   | 9<br><br>beneath the<br>hypothalamus         |
| 10<br><br>hypothalamus   | 10<br><br>regulates emotions,<br>hunger, and thirst  | 10<br><br>between thalamus and<br>pituitary  |

## Key Structures of the Brain

### Part A.

After matching the number of three cards, write the appropriate structure, function, and location of each brain part given.

| Structure | Function | Location |
|-----------|----------|----------|
| 1.        |          |          |
| 2.        |          |          |
| 3.        |          |          |
| 4.        |          |          |
| 5.        |          |          |
| 6.        |          |          |
| 7.        |          |          |
| 8.        |          |          |
| 9.        |          |          |
| 10.       |          |          |

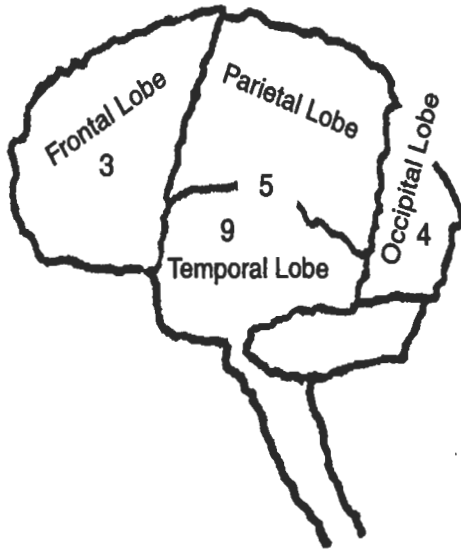
**Part B.**

For each of the following activities, indicate which structure of the brain is responsible.

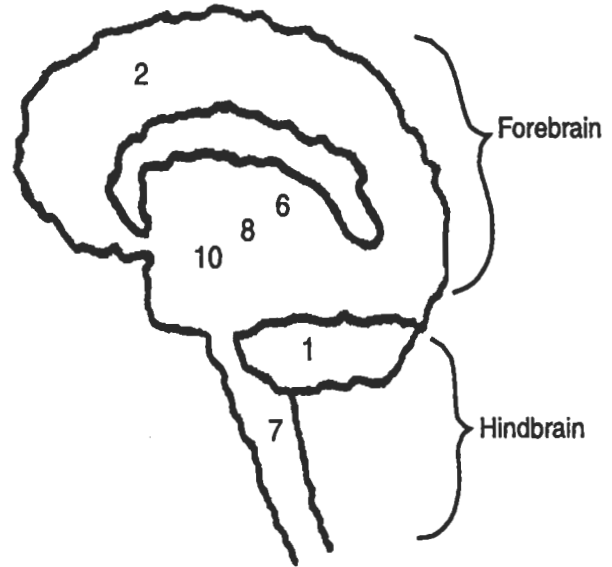
- \_\_\_\_\_ 1. Sends adrenaline into the blood stream to handle an emergency situation
  
- \_\_\_\_\_ 2. Controls blood circulation
  
- \_\_\_\_\_ 3. Makes sense of stimuli received from the eye
  
- \_\_\_\_\_ 4. Enables speech
  
- \_\_\_\_\_ 5. Makes sense of stimuli received from the ear
  
- \_\_\_\_\_ 6. Acts as a relay station to other parts of the brain
  
- \_\_\_\_\_ 7. Stimulates the desire to eat
  
- \_\_\_\_\_ 8. Makes decisions and solves problems
  
- \_\_\_\_\_ 9. Coordinates physical movements such as walking
  
- \_\_\_\_\_ 10. Makes it possible to understand directions

## Mapping the Brain

Left view—Lobes



Cross section



Use the information gathered in **Handout 22** to identify the numbered brain structures in the diagrams.

- |    |     |
|----|-----|
| 1. | 6.  |
| 2. | 7.  |
| 3. | 8.  |
| 4. | 9.  |
| 5. | 10. |

## **Damage to Brain Structures**

For each of the brain structures listed, speculate what could happen if that area is damaged.

1. Thalamus
2. Primary visual cortex
3. Cerebral cortex
4. Pituitary gland
5. Hypothalamus
6. Auditory cortex
7. Cerebellum
8. Broca's area
9. Wernicke's area
10. Medulla