

The Brain: Our Control Center Reading Guide

Biology & Behavior

Name _____

Date _____

Period _____

Read pages 59-67 and answer the following questions about the **brain**.

1. How did ancient people explain the **differences** between **animals** and **humans**?

2. Why do you think the **Egyptians** and **Greeks** believed what they did about the **origins of behavior** in the human body?

Parts of the Brain

3. Describe the function of the three sections of the brain:

hindbrain

midbrain

forebrain

4. What sorts of **problems** would a person have if he/she had an **injury** to the following structures of the **hindbrain**?

pons

cerebellum

medulla

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5. What sorts of **problems** would a person have if he/she had an **injury** to the following structures of the **forebrain**?

thalamus

hypothalamus

limbic system

cerebrum

The Cerebral Cortex: What Makes Us Unique

6. Why does the author compare the brain to a **walnut**?

7. What is the function of the **corpus callosum**?

What would you expect to happen if a person's **corpus callosum** was **cut**?

8. What **problems** would you expect a person to have if they had **damage** to the following **lobes** of the brain?

frontal

parietal

temporal

occipital

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9. What are **association areas**?

10. What is **aphasia**?

11. Describe the **location** and **function** of **Wernicke's area**.

12. Describe the **location** and **function** of **Broca's area**.

13. Where are **language abilities** located in the brain for most people?

14. Can someone be truly "**left-brained**" or "**right-brained**"? Why or why not?

15. What is a **split-brain operation** and why is it done?

16. What types of **effects** does a split-brain operation have on a person's functioning?

Methods of Studying the Brain

17. How can **accidents** teach us about how the brain works?

18. How has **electrical stimulation** been used to study the brain? How can it be **unreliable**?

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19. What can an **electroencephalogram** (EEG) tell us?
20. Describe the **differences** between the following three kinds of **brain scans**:
- CAT scan*
- MRI*
- PET scan*

Read the story of Phineas Gage on page 65 (*Is Phineas Gage Still the Same Man?*) and answer the following questions.

21. Who was Phineas Gage and what happened to him?
22. How did Gage **change** after his accident?
23. What **part** of Gage's brain was injured?
24. Phineas Gage's story is retold in most psychology textbooks. What do you think makes his story **special** and **important** in the history of psychology?