

## Unit 2 Study Guide – Biological Basis of Behavior (Modules 5-6)

### Psychology I

#### Module 5 Learning Targets

**2A - I can explain the structure and process of the Nervous System.**

#### **Key Terms**

1. Neurons
2. Dendrites
3. Axon
4. Action potential
5. Resting potential
6. All-or-none principle
7. Synapse
8. Neurotransmitter
9. Central Nervous System
10. Peripheral Nervous System
  - a. Somatic nervous system
  - b. Autonomic nervous system
    - i. Sympathetic division
    - ii. Parasympathetic division
11. Endocrine system
12. Hormones
13. Pituitary gland

#### **Answer the following questions:**

1. Summarize the neural chain, and describe how information passes through the nervous system.
2. What is a simple reflex and why does our body respond with a simple reflex at times?
3. How are the endocrine and nervous system similar? How are they different?
4. List different glands and what their role is.

## Module 6 Learning Targets

***2B - I can explain what tools are available to psychological scientists for studying the brain.***

***2C - I can describe what kinds of behaviors and thoughts are controlled by the innermost and lower level brain structures.***

***2D - I can explain the function of the outer surface of the brain as well as the left and right hemispheres and how they are related to human thought and behavior.***

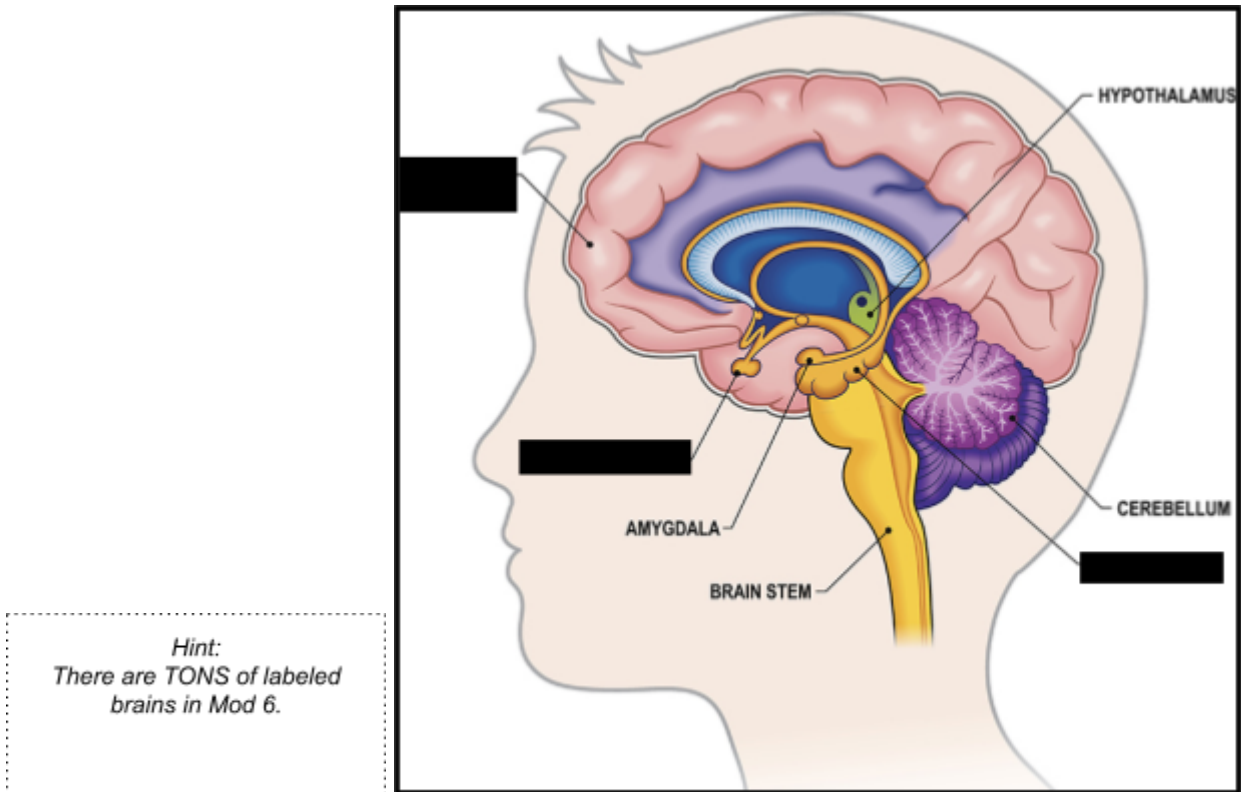
## Key Terms

1. Case study:
2. Computed Axial Tomography (CT or CAT)
3. Magnetic Resonance Imaging (MRI)
4. Functional MRI (fMRI)
5. Electroencephalogram (EEG)
6. Positron Emission Tomography (PET)
7. Brainstem
8. Medulla
9. Reticular Formation
10. Thalamus
11. Cerebellum
12. Limbic system
13. Hypothalamus
14. Hippocampus
15. Amygdala
16. Cerebral cortex
17. Longitudinal fissure
18. Broca's area
19. Wernicke's area
20. *The Split Brain: What would happen if the two halves of your brain were separated? Could you still function as a normal person?*

## Answer the following questions:

1. What tools are available to psychological scientists for studying the brain? Explain how these tools differ from one another.
2. What kinds of behaviors and thoughts are controlled by the innermost parts of our brain, the lower-level brain structures. (brainstem, thalamus, cerebellum & limbic system)

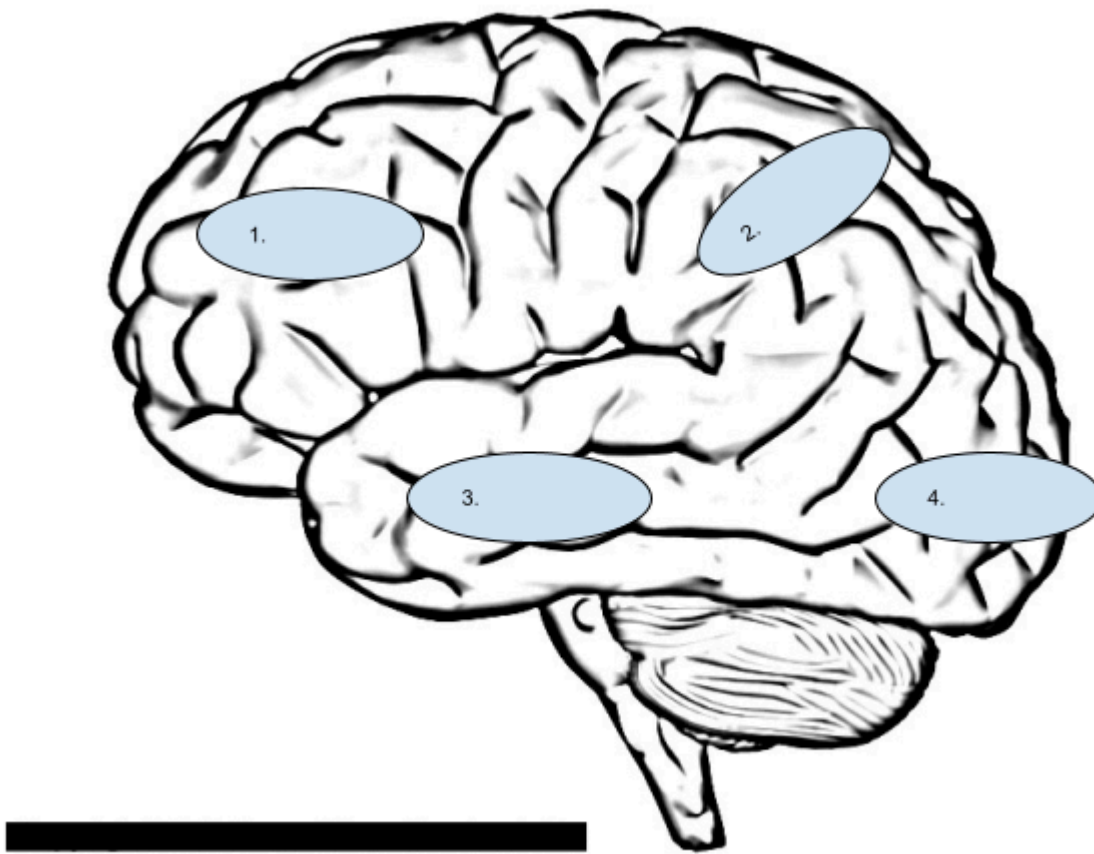
3. What are the regions of the outer surface of the brain, the cerebral cortex, and what are the functions of these regions?
4. Are the left hemisphere and right hemisphere responsible for different thoughts and behaviors?



**Test Yourself:**

Looking at this brain diagram, how might each of one these brain areas contribute to your response if you got into a car accident? (Bonus: can you label the parts that are blocked out?)

Amygdala	
Brain Stem	
Cerebellum	
Hypothalamus	



Label (and color if you're feeling nifty!) these four areas of the brain:

- 1.
- 2.
- 3.
- 4.