

AP Psychology - Unit 2 Assignment

Biological Psychology

Big Question: Is our brain and our mind the same thing? How does the brain function to create the "human experience?"

Biological Psychology Objectives:

- Describe the structure and types of neurons and explain how neural impulses are generated.
- Describe how nerve cells communicate and discuss the impact of neurotransmitters and drugs on human behavior.
- Identify the major divisions of the nervous system.
- Identify the methods used to study the brain.
- Describe the overall organization of the brain.
- Describe the functions served by the various structures within the brainstem.
- Describe the structure and functions of the limbic systems and explain the relationship between the hypothalamus and the endocrine system.
- Describe the structure and functions of the cerebral cortex and discuss how damage to different cortical areas can impair language functioning.
- Discuss the capacity of the brain to reorganize following injury or illness.
- Describe research on the split brain and discuss what it reveals regarding normal brain functioning.

Biological Psychology Overview

Neuroscience is concerned with the functions of the brain, its component neural systems, and their genetic blueprints, which provide the basis for all human behavior. Under the direction of the brain, the nervous and endocrine systems coordinate a variety of voluntary and involuntary behaviors and serve as the body's mechanisms for communication with the external environment.

The brain consists of the brainstem, the limbic system, and the cerebral cortex. Knowledge of the workings of the brain has increased with recent advances in neuroscientific methods. Studies of split-brain patients have also given researchers a great deal of information about the specialized functions of the brain's right and left hemispheres.

The chapter concludes with a discussion of how psychologists use evolutionary principles to answer universal questions about human behavior and specific questions about individual differences.

Many students find the technical material in this chapter difficult to master. Not only are there many terms for you to remember, but you must also know the organization and function of the various divisions of the nervous system. Learning this material will require a great deal of rehearsal. Working the chapter review several times, drawing and labeling brain diagrams, and mentally reciting terms are all useful techniques for rehearsing this type of material.

Unit 2 Reading Assignment(s)

You are responsible for the reading listed below; it is meant to supplement the material discussed in class and there may be a pop quiz at any point.

- **OpenStax Psychology Textbook:** Chapter 3 (Posted on Class Website)

Unit 2 Vocabulary Terms & Flip Book

Psychology is a term heavy course; you are responsible for the terms below. You will have a vocabulary quiz every other unit. For the quiz I will pull terms from the Unit vocabulary lists.

Unit 2 Flip Book: Each term should be on its own card. Each card will have the term thoroughly and clearly defined on the back. Each card will be taped into a manila folder and turned in the day of the unit test.

1. Biological Psychology
2. Neuron
3. Sensory Neurons
4. Motor Neurons
5. Interneurons
6. Dendrite
7. Axon
8. Myelin Sheath
9. Action Potential
10. Threshold
11. Synapse
12. Neurotransmitters
13. Endorphins
14. Nervous System
15. Central Nervous System (CNS)
16. Peripheral Nervous System (PNS)
17. Somatic Nervous System
18. Autonomic Nervous System
19. Sympathetic Nervous System
20. Parasympathetic Nervous System
21. Reflex
22. Endocrine System
23. Hormones
24. Adrenal Glands
25. Pituitary Gland
26. Lesion
27. Brainstem
28. Medulla
29. Reticular Formation
30. Thalamus
31. Cerebellum
32. Limbic System
33. Amygdala
34. Hypothalamus
35. Cerebral Cortex
36. Glial Cells (Glia)
37. Frontal Lobes
38. Parietal Lobes
39. Occipital Lobes
40. Temporal Lobes
41. Motor Cortex
42. Sensory Cortex
43. Association Areas
44. Aphasia
45. Broca's Area
46. Wernicke's Area
47. Plasticity
48. Corpus Callosum
49. Split Brain
50. Consciousness
51. Agonist
52. Antagonist
53. Hippocampus
54. Cerebrum

Part II - AP Questions

Directions: Thoroughly answer the following questions. All answers must be handwritten in complete sentences and in your own words.

1. Create a scenario/situation that involves your sympathetic nervous system becoming activated and then your parasympathetic nervous system being activated.
2. The doctor taps your knee with a hammer and your leg juts out without your control. How does this reflex work? Explain the role of the sensory neurons, spinal cord, interneurons, and motor neurons.
3. How does someone suffering from aphasia to Broca's area differ from someone suffering from aphasia to Wernicke's area?
4. Describe the roles of acetylcholine, dopamine, serotonin, and endorphins in psychological functions.

5. Which behavioral functions are controlled by the hindbrain structures including the medulla, pons, and the cerebellum? What occurs with damage to these structures?
6. What role does the hypothalamus have in motivating behavior, hunger, pleasure-pain, and hormonal functions?

Part III - Student Choice

Choice A: Personal Connection/Impact

Type a brief description concerning an experience, memory, story, event, etc that connects to key concepts associated with the unit. Relevant vocabulary must be properly utilized throughout and responses must connect in a coherent and logical manner. The purpose of this assignment is to build personal connections with course content to your own lives. By doing so, content becomes more meaningful and retention becomes easier.

Responses must at least one full page, typed, double-spaced, with 12 pt. Times New Roman font. Reasonable margins and paragraph spacing must be used.

-OR-

Choice B: Concept Map

Create a Unit Concept Map that can be used to review/relearn the terms and concepts from this Unit.

NOTE: Use the directions posted on the website to complete your concept map.

Requirements:

- Must be hand drawn on one 8.5" x 11" sheet of paper
- Essential vocabulary for each concept must be appropriately located/placed