

Unit Three

The Biological Aspects of Psychology

Directions: As an introduction to the unit, this is a quote to give you the chance to think about the concepts we are about to discuss. Determine which letter from the choices above is the correct one and fits into the spaces below. When you are finished fill in the quote below.

A quote from a Dutch person:

A	O		O	U		A			O	U		P		T	I		N	R	E		I	S	
W	N	R	T	H	N	C	E	P	O	F	N	D	A	O	F	E	B	C	A	I	N	S	

□ □   □ □ □ □ □   □ □   □ □ □ □ □ □ □ □ □   □ □  
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DISCOVERING PSYCHOLOGY

THE BEHAVING BRAIN

Directions: This will be due at the end of this film. You are to answer the following questions. The concepts are presented chronologically during the film.

1. About how many neurons does an average brain have?
2. What are the two types of synaptic junctures?
3. What is the basic idea behind the new Neuro Science?
4. What is the purpose and or function of the brain stem?
5. What is the purpose and or function of the cerebellum?
6. What is the purpose and or function of the limbic system?
7. What is the purpose and or function of the amygdala?
8. What is the purpose and or function of the hippocampus?
9. What is the purpose and or function of the hypothalamus?
10. What is the purpose and or function of the thalamus?
11. What is the purpose and or function of the cerebrum?
12. What is the purpose and or function of the corpus callosum?
13. What is an E.E.G.?
14. What is a basic definition for the word "neurometrics"?
15. What is the black box theory?
16. How does scopolamine affect the synaptic juncture and in this case memory?
17. How does physostigmine affect the synaptic juncture and in this case memory?

DISCOVERING PSYCHOLOGY

THE RESPONSIVE BRAIN

Directions: This will be due at the end of this film. You are to answer the following questions. The concepts are presented chronologically during the film.

1. The film suggests that the brain is reciprocal. What does that mean?
2. What does research seem to suggest about the differences between people who are "touchers" and people who are "not touchers"?
3. In a recent study about premature infants, what variable was found to help the babies grow faster and have greater cognitive ability later in life?
4. How is the production of O.D.C. an enzyme effected by mothers touch?
5. As a result of studies involving O.D.C. research in rats, what do we believe about mother's touch?
6. What can be done to reverse the deprivation in touch deprived rats?
7. What is psychosocial dwarfism, and what do we believe is its cause?
8. How is the hypothalamus effected by attention and touch?
9. How tall did children who were therapeutically touched grow in one year?
10. What is the relationship between glucocorticoids a hormone and the hippocampus?
11. As a result of this research, what do we know about "handled animals" and the stress response?
12. In the African Cyprid Fish Studies, what happens to the male fish's ability to reproduce if it is not social successful and or dominant?
13. In the baboon studies, what happens to baboons who become social successful?
14. What seems to be the logical conclusion drawn from each of these studies?

Unit Three

The Biological Aspects of Psychology

Directions: match each concept to the appropriate statement, and write the corresponding letter in the space provided. Be ready to justify your answers.

1. \_\_\_\_\_ Share the same heredity
2. \_\_\_\_\_ Relays message from the sense organs to the cerebral cortex
3. \_\_\_\_\_ Carry impulses across the synaptic gap
4. \_\_\_\_\_ Transmit impulses away from the neuron cell body
5. \_\_\_\_\_ Regulates specific body functions
6. \_\_\_\_\_ Send messages between the central nervous system and the body
7. \_\_\_\_\_ Connects the left and right hemispheres
8. \_\_\_\_\_ Passes x-ray beams through the head
9. \_\_\_\_\_ Consists of two hemispheres
10. \_\_\_\_\_ Regulates body functions, such as respiration
11. \_\_\_\_\_ Junction between the terminal buttons and dendrites
12. \_\_\_\_\_ Contains genes, the basic units of heredity
13. \_\_\_\_\_ Building block of heredity
14. \_\_\_\_\_ Secrete hormones in the bloodstream
15. \_\_\_\_\_ Records the electrical activity of the brain
16. \_\_\_\_\_ Building block of the Nervous System
17. \_\_\_\_\_ Transmission of traits from one generation to the next
18. \_\_\_\_\_ Fibers branching out from an axon
19. \_\_\_\_\_ Receives impulses and conducts them toward the cell body
20. \_\_\_\_\_ Located above the kidney

Concepts

- |                             |                   |             |           |
|-----------------------------|-------------------|-------------|-----------|
| a. NEUROTRANSMITTERS        | g. AXON TERMINAL  | m. THYROID  | s. R.A.S. |
| b. CORPUS COLLOSUM          | h. OCCIPITAL LOBE | n. CEREBRUM | t. AXON   |
| c. AUTONOMIC NERVOUS SYSTEM | i. THALMUS        | o. DENDRITE | u. PONS   |
| d. IDENTICAL TWINS          | j. HORMONE        | p. HEREDITY | v. NEURON |
| e. ADRENAL GLANDS           | k. CHROMOSOME     | q. SYNAPSE  | w. GENE   |
| f. ENDOCRINE GLANDS         | l. PERIPHERAL     | r. CAT SCAN | x. EEG    |

Unit Three

The Biological Aspects of Psychology

DIRECTIONS: Define or explain the significance of each of the following concepts. These concepts are directly taken from the Chapter Test.

ABILITY TO CREATE LANGUAGE

-----

ADRENAL GLANDS

-----

ALCOHOLISM

-----

ANXIETY

-----

ASSOCIATION AREA

-----

AUTONOMIC NERVOUS SYSTEM

-----

AXON

-----

BROCA

-----

CENTRAL

-----

CEREBELLUM

-----

CEREBRAL CORTEX

-----

CEREBRUM

-----

DENDRITE

-----

DIZYGOTIC

-----

DEPRESSION

-----

ELECTROENCEPHALOGRAMS

-----

ENDOCRINE SYSTEM

-----

FIGHT-OR-FLIGHT

-----

FOREBRAIN

-----

FOUR

-----

GENES

-----

HORMONE

-----

HYPOTHALAMUS

-----

KINSHIP

-----

LEFT HEMISPHERE OF THE BRAIN

---

LIMBIC SYSTEM

---

MASTER GLAND

---

MEDULLA

---

MYELIN

---

NEURON

---

NEUROTRANSMITTER

---

PARASYMPATHETIC

---

PERIPHERAL

---

PINEAL

---

PONS

---

RIGHT HEMISPHERE OF THE BRAIN

---

SCHIZOPHRENIA

---

SOMATIC NERVOUS SYSTEM

---

SPINAL CORD

---

SYMPATHETIC

---

SYNAPSE

---

THALAMUS

---

THE CORPUS CALLOSUM

---

THE PITUITARY GLAND

---

THYROID

---

TWINS STUDIES

---

TWO MAIN DIVISIONS

---

WERNICKE

---

X-RAY

---

Unit Three

The Biological Aspects of Psychology

The crossword puzzle grid consists of 38 numbered starting points for words. The grid is composed of empty squares for letters, with some squares missing to form the crossword pattern. The numbers are as follows:

- 1: 6 letters, horizontal
- 2: 5 letters, horizontal
- 3: 11 letters, horizontal
- 4: 10 letters, horizontal
- 5: 8 letters, horizontal
- 6: 12 letters, horizontal
- 7: 10 letters, horizontal
- 8: 11 letters, horizontal
- 9: 10 letters, horizontal
- 10: 8 letters, horizontal
- 11: 8 letters, horizontal
- 12: 10 letters, horizontal
- 13: 12 letters, horizontal
- 14: 14 letters, horizontal
- 15: 10 letters, vertical
- 16: 10 letters, horizontal
- 17: 10 letters, horizontal
- 18: 14 letters, horizontal
- 19: 10 letters, horizontal
- 20: 10 letters, horizontal
- 21: 10 letters, horizontal
- 22: 10 letters, horizontal
- 23: 6 letters, horizontal
- 24: 10 letters, vertical
- 25: 6 letters, horizontal
- 26: 6 letters, horizontal
- 27: 3 letters, horizontal
- 28: 3 letters, horizontal
- 29: 8 letters, horizontal
- 30: 4 letters, horizontal
- 31: 6 letters, horizontal
- 32: 4 letters, horizontal
- 33: 4 letters, horizontal
- 34: 4 letters, horizontal
- 35: 6 letters, horizontal
- 36: 6 letters, horizontal
- 37: 10 letters, horizontal
- 38: 6 letters, horizontal

## Across

1. An injury to the \_\_\_\_\_ cord could interfere with the transmittal of messages to the muscles.
5. The hindbrain includes the medulla, cerebellum, and \_\_\_\_\_.
6. Most likely, the interaction between heredity and \_\_\_\_\_ shapes human behavior.
7. An injury to the spinal cord could \_\_\_\_\_ the transmittal of messages from the brain.
8. Our thinking processes take place in the \_\_\_\_\_.
9. Cortical \_\_\_\_\_ are secreted by the adrenal glands.
10. A \_\_\_\_\_ is a chemical produced by the endocrine glands that regulates specific body functions.
11. The \_\_\_\_\_ nervous system is the part of the peripheral nervous system that controls voluntary activities.
13. When \_\_\_\_\_ is released into the bloodstream, one's breathing and heartbeat increase.
14. Fraternal twins are also called \_\_\_\_\_ twins.
16. The \_\_\_\_\_ nervous system regulates the action of the involuntary muscles and organs.
17. An insufficient amount of \_\_\_\_\_ in the bloodstream causes laziness and lethargy.
18. The \_\_\_\_\_ areas of the brain mediate between other areas and do most of the synthesizing of information.
20. Identical twins share many common \_\_\_\_\_.
21. The all-or-none principle describes how the \_\_\_\_\_ fire.
22. In the nature-nurture question, nature refers to \_\_\_\_\_ makeup.
26. The brain's \_\_\_\_\_ hemisphere controls speech in most people.
27. In a grand \_\_\_\_\_ seizure uncontrolled electrical activity in one hemisphere of the brain spreads to the other hemisphere.
29. The brain and spinal cord make up the \_\_\_\_\_ nervous system.
31. The \_\_\_\_\_ sheath is a white, fatty substance that insulates axons and enables rapid transmissions of neural impulses.
33. Identical twins develop from a single fertilized \_\_\_\_\_.
35. Dominance is based on which \_\_\_\_\_ of the brain has more influence over bodily function.
37. The EEG monitors \_\_\_\_\_ activity in the brain.
38. The \_\_\_\_\_ gland may affect the sleep cycle and inhibits reproductive functions.

## Down

2. The \_\_\_\_\_ is involved in producing the chemicals that the body needs to sleep.
3. The nervous system and the \_\_\_\_\_ system send information to and from the brain.
4. The \_\_\_\_\_ nervous system works to conserve energy.
5. The "master gland" of the endocrine system is the \_\_\_\_\_ gland.
12. Synapses are the \_\_\_\_\_ between neurons.
13. The reticular \_\_\_\_\_ system alerts the rest of the brain to incoming signals.
15. An injury to the spinal cord could result in \_\_\_\_\_.
19. The \_\_\_\_\_ system receives messages through receptors to carry out routine activities like breathing and digestion.
23. The band of nerves that connects the hemispheres of the brain is the corpus \_\_\_\_\_.
24. Testosterone is a \_\_\_\_\_ that is important to the physical development of men.
25. Regions of the \_\_\_\_\_ cortex are referred to as lobes.
28. The \_\_\_\_\_ system contains the structures of the brain that regulate our emotions and motivations.
30. The spinal cord is protected by \_\_\_\_\_.
32. Identical twins may have similar \_\_\_\_\_.
34. Identical twins share the same \_\_\_\_\_.
36. Researchers verified Dr. \_\_\_\_\_ Broca's discovery of the connection between the brain and speech using PET scans.