

Worksheet For Nervous System Answer Key PDF

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Part 1: Building a Foundation

Which part of the nervous system is responsible for processing and sending out information?

undefined. A) Peripheral Nervous System

undefined. B) Central Nervous System ✓

undefined. C) Autonomic Nervous System

undefined. D) Somatic Nervous System

The Central Nervous System is responsible for processing and sending out information.

Which of the following are types of neurons? (Select all that apply)

undefined. A) Sensory neurons ✓

undefined. B) Motor neurons ✓

undefined. C) Interneurons ✓

undefined. D) Neuroglia

Sensory neurons, Motor neurons, and Interneurons are types of neurons.

Describe the function of neurotransmitters in the nervous system.

Neurotransmitters are chemicals that transmit signals across synapses between neurons, playing a crucial role in communication within the nervous system.

List the major parts of the brain and provide a brief function for each.

1. CEREBRUM

Responsible for higher brain functions such as thought and action.

2. CEREBELUM

Coordinates voluntary movements and maintains posture.

3. BRAINS STEM

Controls basic life functions such as breathing and heartbeat.

Major parts of the brain include the cerebrum (responsible for higher brain functions), cerebellum (coordination and balance), and brainstem (regulates vital functions).

Part 2: Understanding and Interpretation

What is the primary role of the autonomic nervous system?

undefined. A) Control voluntary movements

undefined. B) Process sensory information

undefined. C) Regulate involuntary body functions ✓

undefined. D) Facilitate neuron communication

The primary role of the autonomic nervous system is to regulate involuntary body functions.

Which neurotransmitters are primarily involved in mood regulation? (Select all that apply)

undefined. A) Dopamine ✓

undefined. B) Serotonin ✓

undefined. C) Acetylcholine

undefined. D) GABA

Dopamine and Serotonin are primarily involved in mood regulation.

Explain how the sympathetic and parasympathetic systems differ in their effects on the body.

The sympathetic system prepares the body for 'fight or flight' responses, increasing heart rate and energy, while the parasympathetic system promotes 'rest and digest' functions, slowing heart rate and conserving energy.

Part 3: Application and Analysis

If a person touches a hot surface, which type of neuron is first activated to initiate a reflex action?

undefined. A) Motor neuron

undefined. B) Sensory neuron ✓

undefined. C) Interneuron

undefined. D) Efferent neuron

The sensory neuron is first activated to initiate a reflex action.

In a scenario where a person is preparing for a public speech, which parts of the nervous system are likely to be activated? (Select all that apply)

undefined. A) Sympathetic nervous system ✓

undefined. B) Parasympathetic nervous system

undefined. C) Central nervous system ✓

undefined. D) Peripheral nervous system ✓

The sympathetic nervous system and the Central nervous system are likely to be activated.

Describe how the brain processes visual information when reading a book.

The brain processes visual information by first receiving light through the eyes, then interpreting shapes and colors in the occipital lobe, and finally integrating this information with language centers for comprehension.

Which lobe of the brain is primarily responsible for processing visual information?

undefined. A) Frontal lobe

undefined. B) Parietal lobe

undefined. C) Temporal lobe

undefined. D) Occipital lobe ✓

The Occipital lobe is primarily responsible for processing visual information.

Analyze the relationship between the central and peripheral nervous systems. Which statements are true? (Select all that apply)

undefined. A) The CNS sends commands to the PNS. ✓

undefined. B) The PNS processes information independently of the CNS.

undefined. C) The PNS transmits sensory information to the CNS. ✓

undefined. D) The CNS and PNS operate in isolation from each other.

The CNS sends commands to the PNS and the PNS transmits sensory information to the CNS.

Discuss the role of interneurons in reflex actions and how they contribute to the speed of response.

Interneurons act as intermediaries in reflex actions, allowing for faster responses by connecting sensory and motor neurons within the spinal cord.

Part 4: Evaluation and Creation

Evaluate the impact of a neurotransmitter imbalance on human behavior. Which neurotransmitter is most commonly associated with depression?

undefined. A) Dopamine

undefined. B) Serotonin ✓

undefined. C) Acetylcholine

undefined. D) GABA

Serotonin is the neurotransmitter most commonly associated with depression.

Create a plan to improve cognitive function in older adults. Which strategies are likely to be effective? (Select all that apply)

undefined. A) Regular physical exercise ✓

undefined. B) Cognitive training exercises ✓

undefined. C) Increased social interaction ✓

undefined. D) High-sugar diet

Regular physical exercise, cognitive training exercises, and increased social interaction are effective strategies to improve cognitive function.

Propose a hypothetical experiment to study the effects of a new drug on neurotransmitter activity in the brain. Describe the methodology and expected outcomes.

A proposed experiment could involve administering the drug to a test group and measuring changes in neurotransmitter levels using brain imaging techniques, with expected outcomes including altered neurotransmitter activity and behavioral changes.