

## Worksheet For Nervous System Questions and Answers PDF

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### Part 1: Building a Foundation

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

*Hint: Think about the main divisions of the nervous system.*

- A) Peripheral Nervous System
- B) Central Nervous System ✓
- C) Autonomic Nervous System
- 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)**

*Hint: Consider the different roles neurons play in the nervous system.*

- A) Sensory neurons ✓
- B) Motor neurons ✓
- C) Interneurons ✓
- D) Neuroglia

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

**Describe the function of neurotransmitters in the nervous system.**

*Hint: Think about how neurotransmitters facilitate communication between neurons.*

**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.**

*Hint: Consider the main regions of the brain and their roles.*

1. CEREBRUM

Responsible for higher brain functions such as thought and action.

2. CEREBELLUM

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

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### What is the primary role of the autonomic nervous system?

*Hint: Consider the functions that occur without conscious control.*

- A) Control voluntary movements
- B) Process sensory information
- C) Regulate involuntary body functions ✓
- 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)

*Hint: Think about the chemicals that affect emotions and mood.*

- A) Dopamine ✓
- B) Serotonin ✓
- C) Acetylcholine
- 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.

*Hint: Consider the fight or flight response versus rest and digest.*

■ 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

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

*Hint: Think about the pathway of a reflex arc.*

- A) Motor neuron
- B) Sensory neuron ✓
- C) Interneuron
- 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)**

*Hint: Consider the systems that prepare the body for action.*

- A) Sympathetic nervous system ✓
- B) Parasympathetic nervous system
- C) Central nervous system ✓
- 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.**

*Hint: Think about the steps involved in visual perception and comprehension.*

■ 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?**

*Hint: Consider the different lobes of the brain and their functions.*

- A) Frontal lobe
- B) Parietal lobe
- C) Temporal lobe
- 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)**

*Hint: Consider how these two systems interact.*

- A) The CNS sends commands to the PNS. ✓
- B) The PNS processes information independently of the CNS.
- C) The PNS transmits sensory information to the CNS. ✓
- 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.**

*Hint: Think about the pathway of reflexes and the role of different neurons.*

■ 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

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

*Hint: Consider the neurotransmitters that influence mood.*

- A) Dopamine

- B) Serotonin ✓
- C) Acetylcholine
- 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)**

*Hint: Think about activities that stimulate the brain.*

- A) Regular physical exercise ✓
- B) Cognitive training exercises ✓
- C) Increased social interaction ✓
- 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.**

*Hint: Consider how you would design an experiment to test drug effects.*

■ 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.