

The Nervous System

Chapter 10: The Nervous System · Topic 1

Key Concept

A neuron consists of a cell body, dendrites (receiving signals), and an axon (transmitting signals), with synapses connecting neurons together.

The central nervous system (CNS) includes the brain and spinal cord, processing information and coordinating responses to stimuli.

The peripheral nervous system (PNS) includes all nerves outside the CNS, connecting the CNS to the rest of the body's organs and muscles.

A reflex arc is a rapid, automatic response to a stimulus, bypassing conscious brain processing for faster reaction times, like pulling away from heat.

Quick Revision Notes

- Neuron: cell body, dendrites, axon.
- Synapses connect neurons.
- CNS: brain and spinal cord.
- CNS processes info, coordinates responses.
- PNS: nerves outside the CNS.
- PNS connects CNS to organs and muscles.
- Reflex arc: rapid automatic response.
- It bypasses conscious brain processing.

Practice Questions

- 1 Diagram a neuron showing its main parts.
- 2 Explain the difference between CNS and PNS.
- 3 Discuss the reflex arc using a real-life example.
- 4 Research how synapses transmit signals.
- 5 Explain why reflexes are faster than conscious responses.
- 6 Explain the nervous system in your own words.