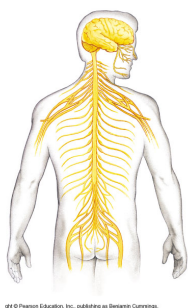


Functions of the Nervous System

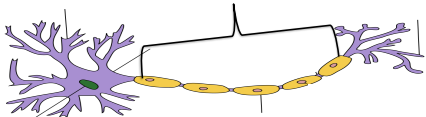
- **Main Job:** _____ and _____
 - Adapt and respond to changes from both inside and outside the body
- **Parts:** Two main divisions
 1. _____ nervous system (CNS): brain and spinal cord
 2. _____ nervous system (PNS)- the nerves



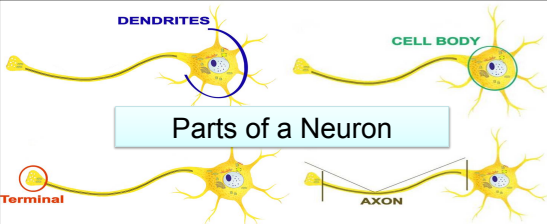
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Neuron

- Basic structural unit of the nervous system
- Passes signals throughout the body



Parts of a Neuron



_____ - contains the nucleus and other organelles

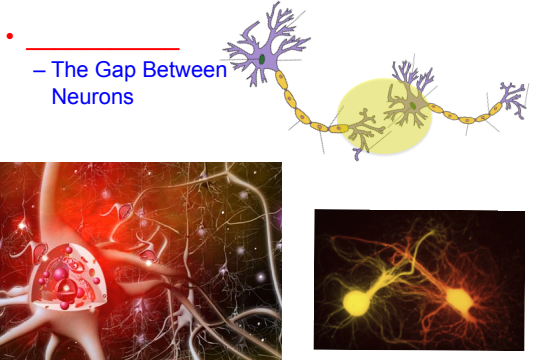
_____ - transmit electrical impulses TO the cell body

_____ - transmits impulse AWAY from the cell body axons can be several feet long

_____ : Protects and insulates the axon so the nerve signal doesn't escape!

How are neurons connected?

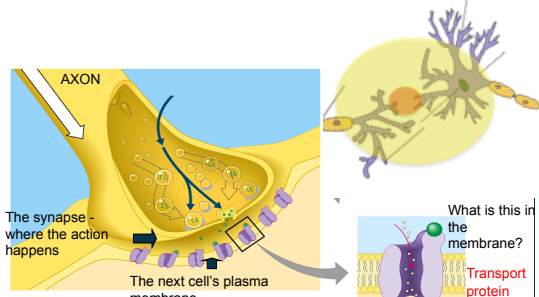
- The Gap Between Neurons



The diagram shows two neurons with their cell bodies and branching dendrites. One neuron's axon is shown connecting to the next neuron's dendrite. Below the diagram are two microscopic images: one showing a neuron with a glowing red nucleus and another showing a neuron with a glowing yellow nucleus.

Close up look at your synapse: What passes between Neurons?

Chemicals called Neurotransmitters
Example: Acetocholine



The diagram illustrates a synapse. An axon is shown on the left, containing vesicles of neurotransmitters. These vesicles are moving towards the synapse, where they release neurotransmitters into the synaptic cleft. The neurotransmitters then cross the next cell's plasma membrane. A callout box asks "What is this in the membrane?" and points to a "Transport protein" that is shown moving a neurotransmitter back into the axon.
