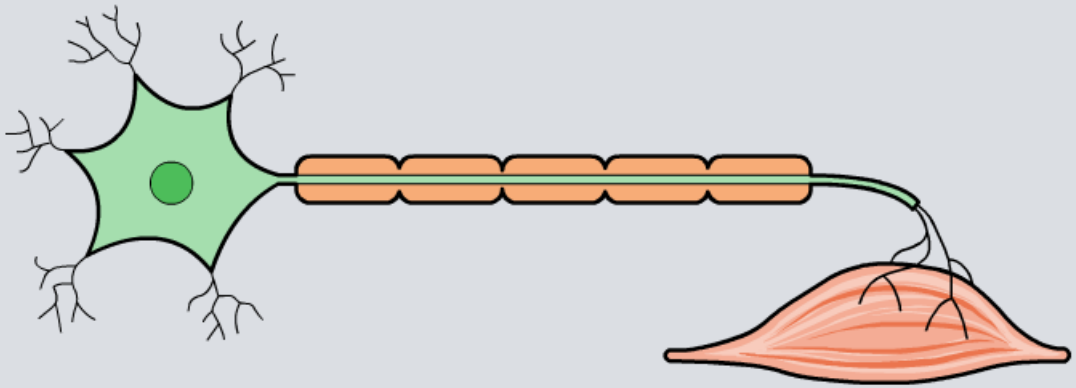
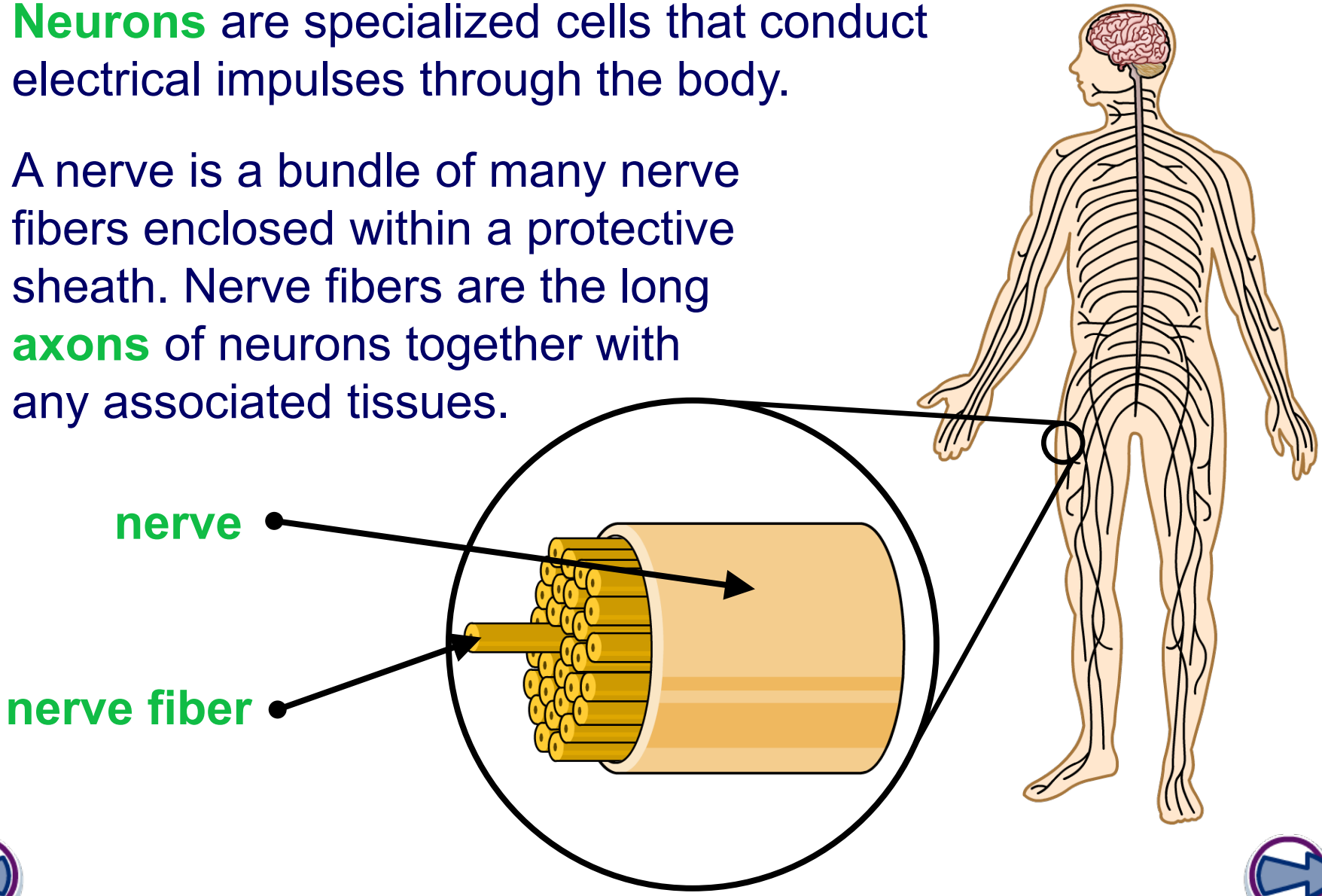
Nerve Impulses



What are neurons?

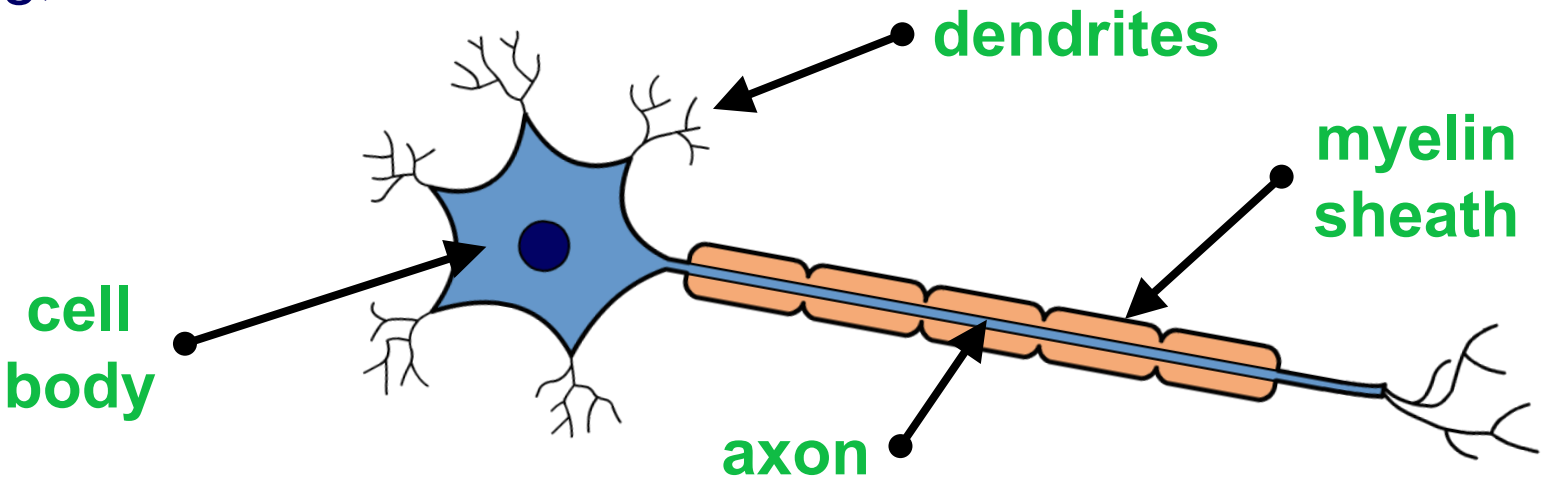
Neurons are specialized cells that conduct electrical impulses through the body.

A nerve is a bundle of many nerve fibers enclosed within a protective sheath. Nerve fibers are the long **axons** of neurons together with any associated tissues.



What do neurons look like?

Neurons are elongated cells consisting of a cell body and long, thin **axon**.

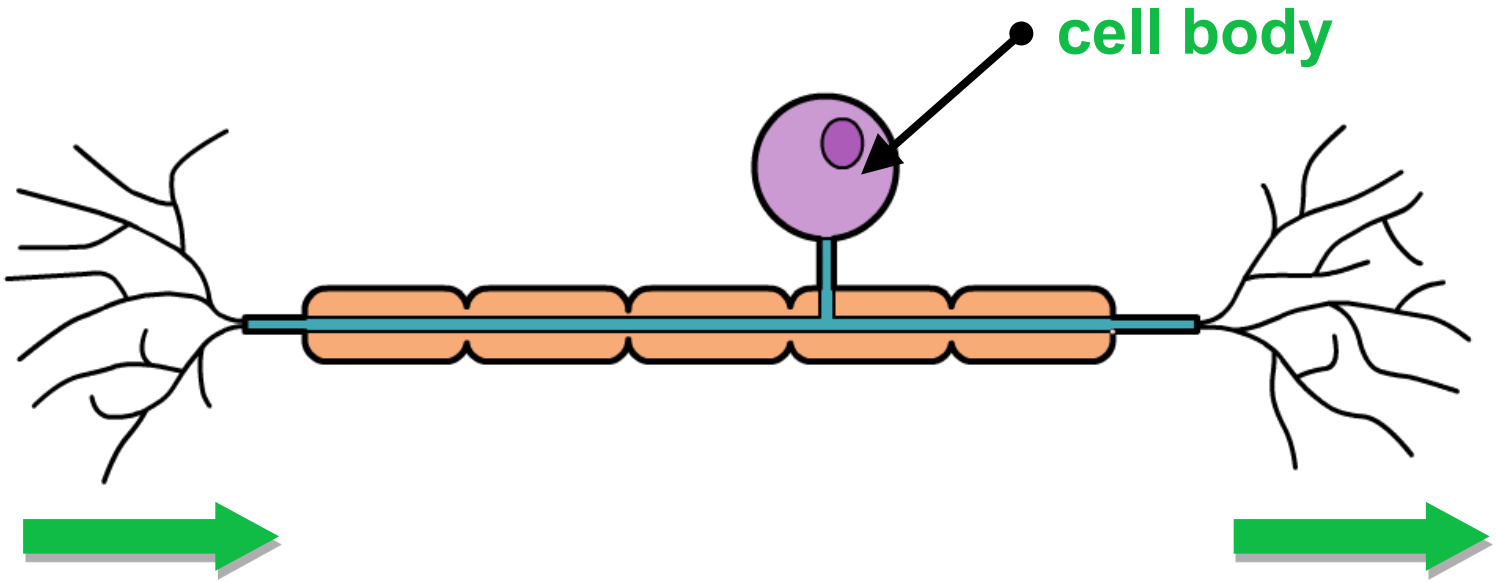


Thin projections called **dendrites** extend from the cell body and connect with other neurons, allowing electrical impulses to pass from one to the other.

The axons of most neurons are wrapped in an insulating lipid layer called the **myelin sheath**. Why is this important?

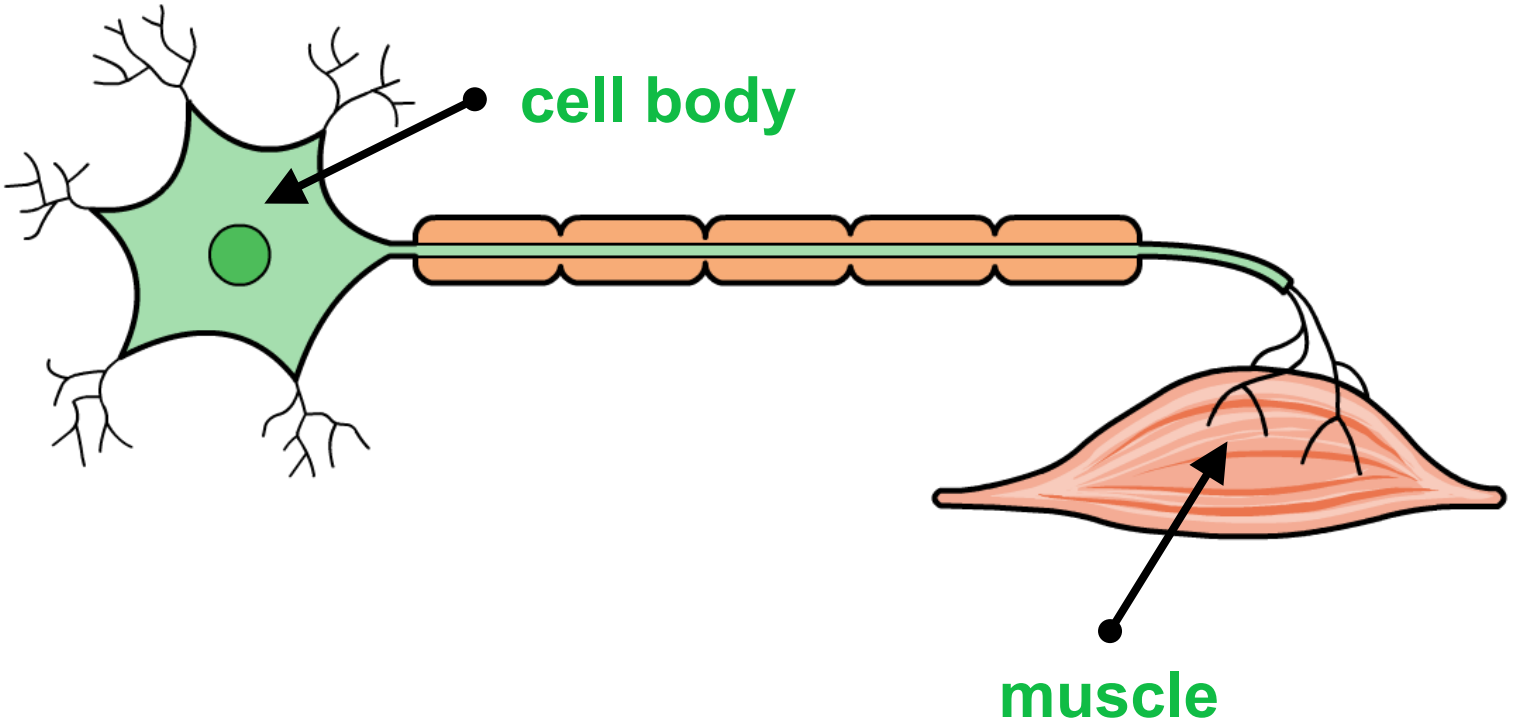
What are sensory neurons?

Sensory neurons transmit messages from sense receptors, such as the eye or nose, to the brain or spinal cord.



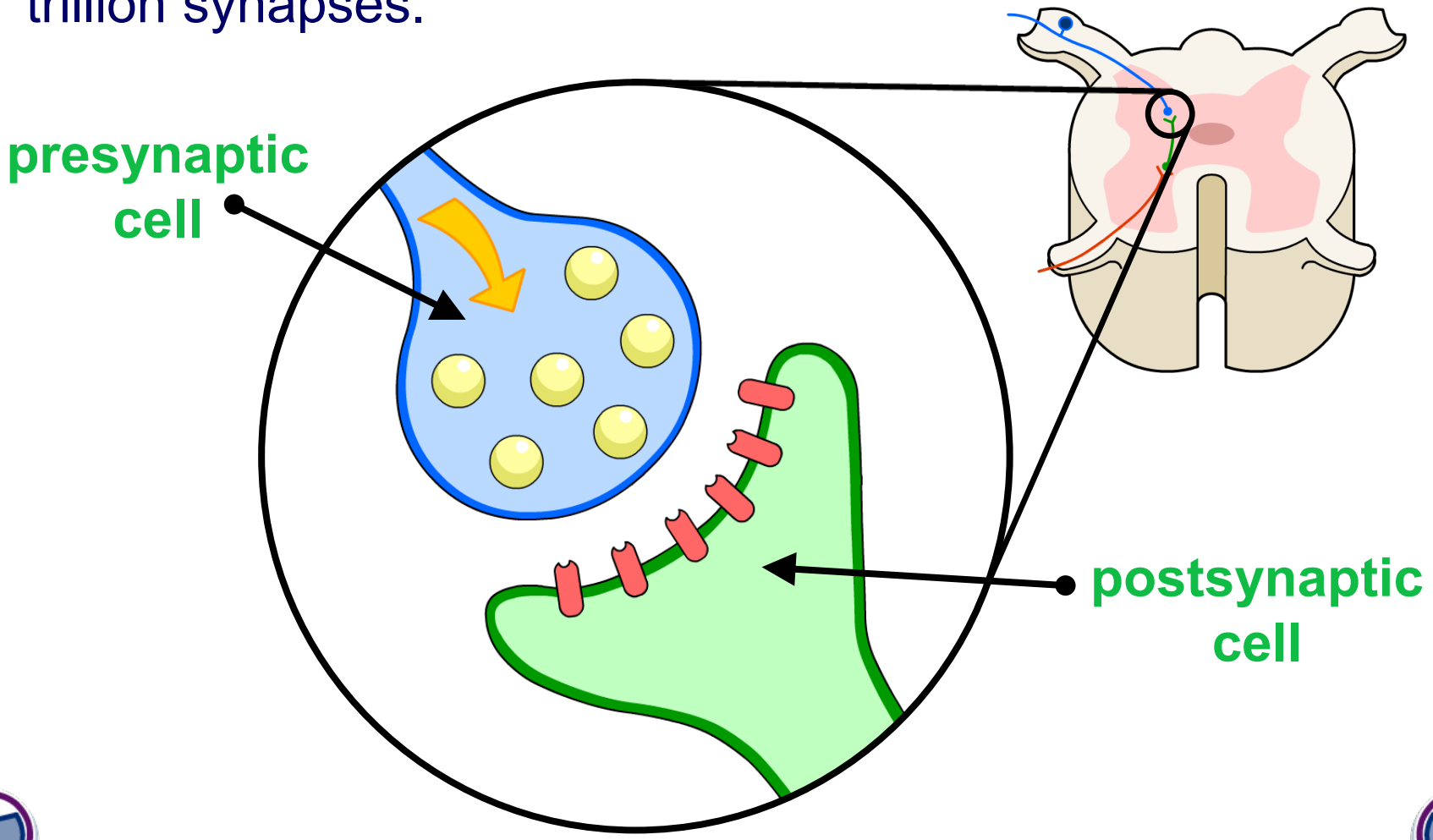
What are motor neurons?

Motor neurons transmit messages from the brain and spinal cord to the muscles and glands.



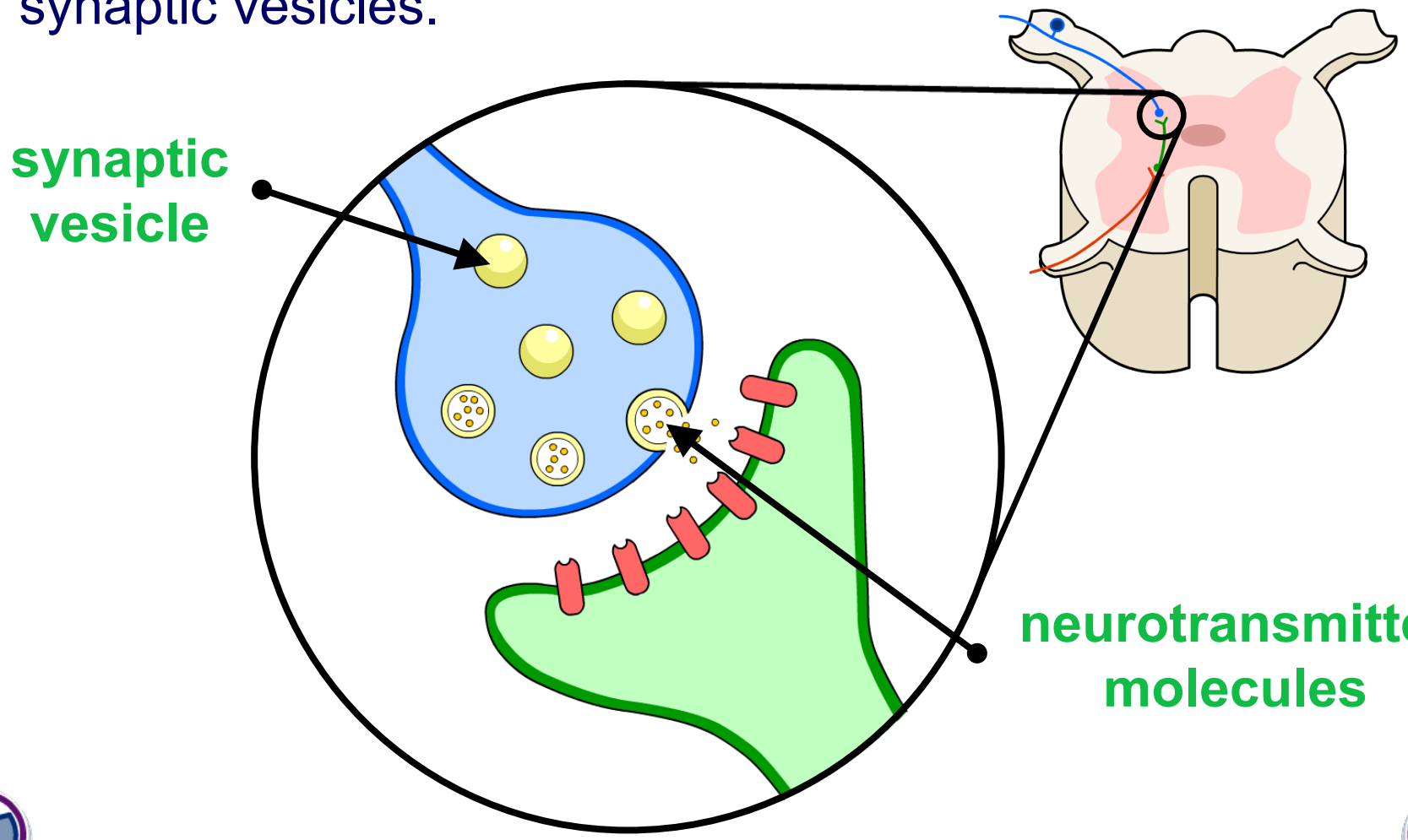
What is a synapse?

A **synapse** is a junction between two neurons across which electrical signals pass. The human body contains up to 500 trillion synapses.



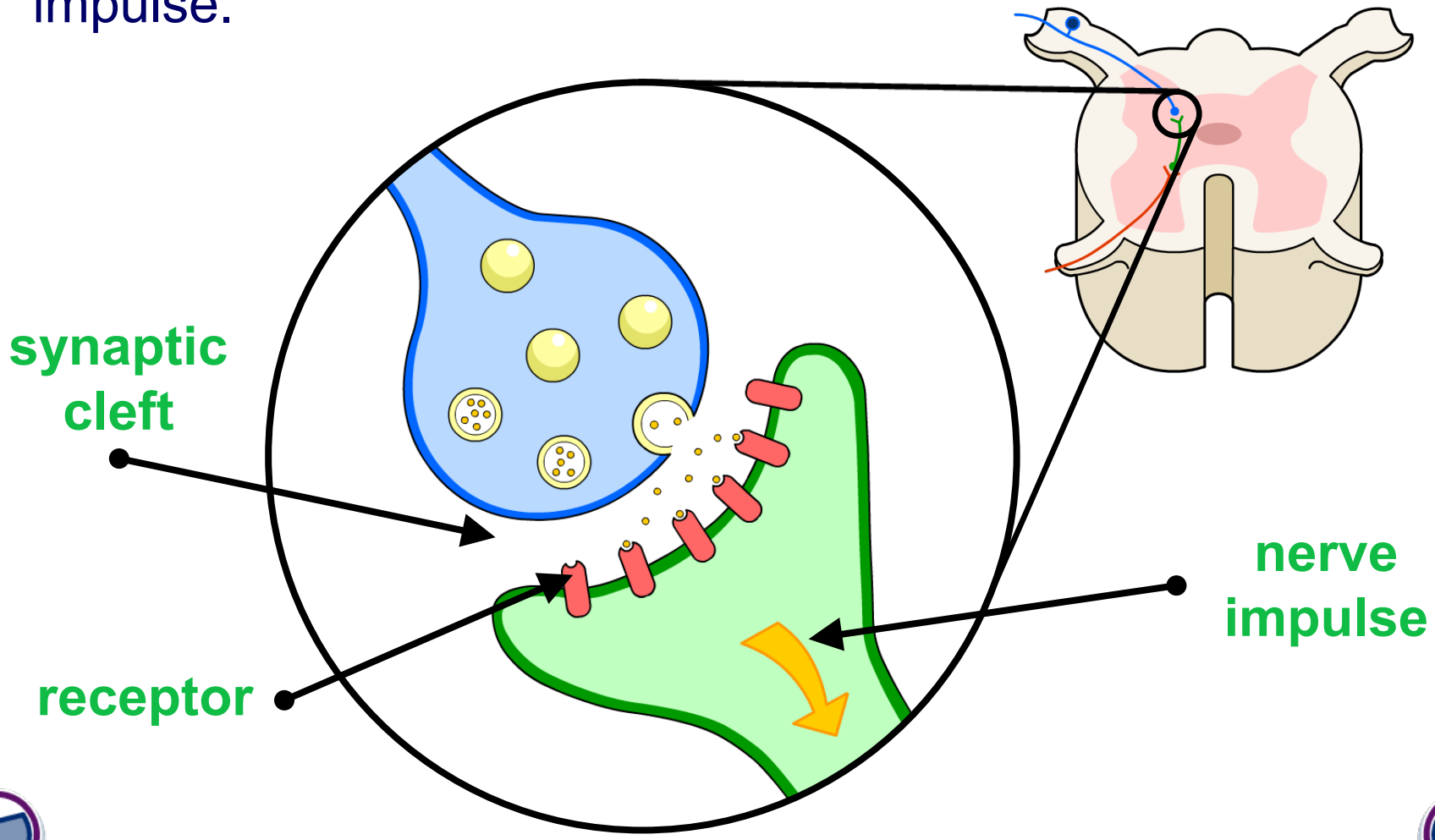
The release of neurotransmitters

When a nerve impulse arrives at the end of one neuron it triggers the release of **neurotransmitter** molecules from synaptic vesicles.



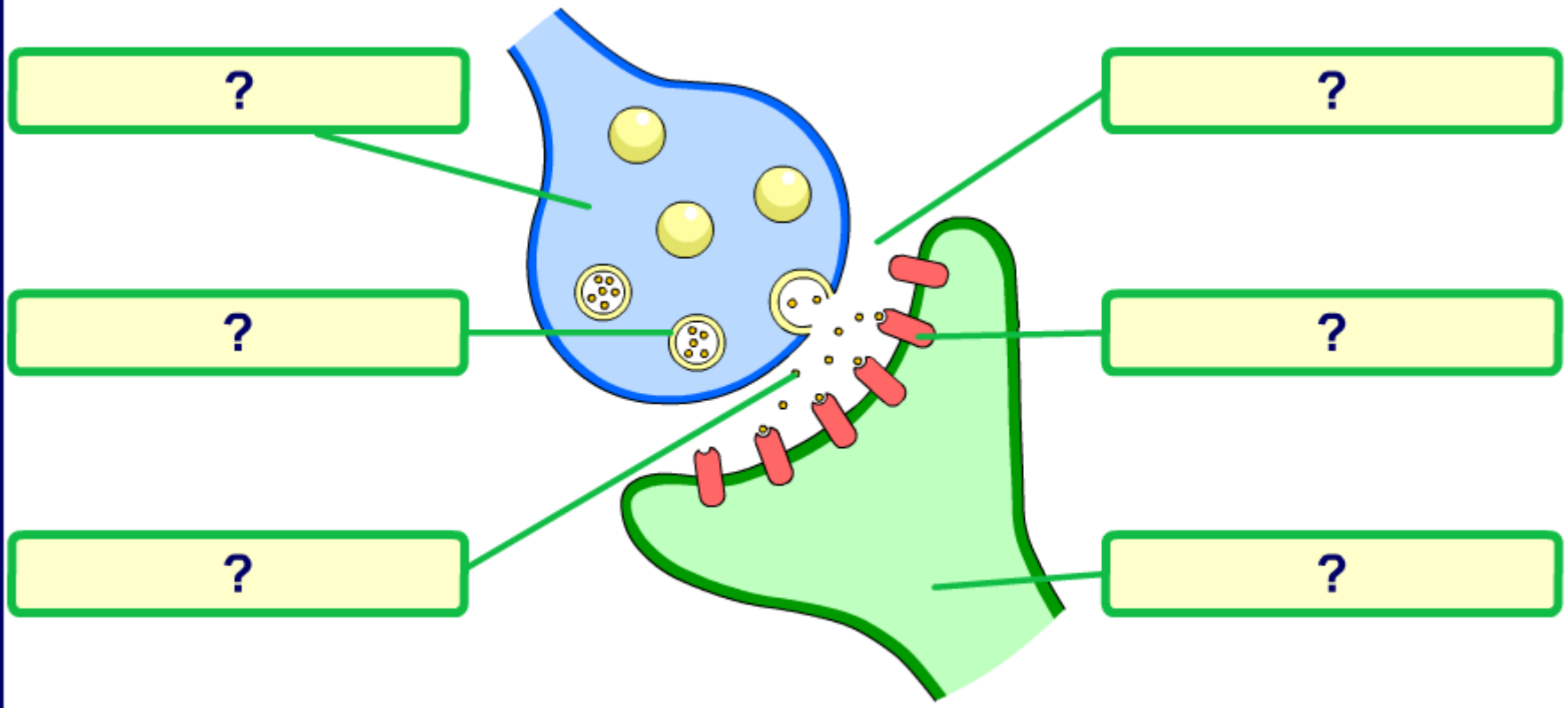
Continuing the impulse

The neurotransmitters diffuse across the **synaptic cleft** and bind with receptors on the next neuron, triggering another impulse.



The structure of a synapse

What are the parts of a synapse?



solve