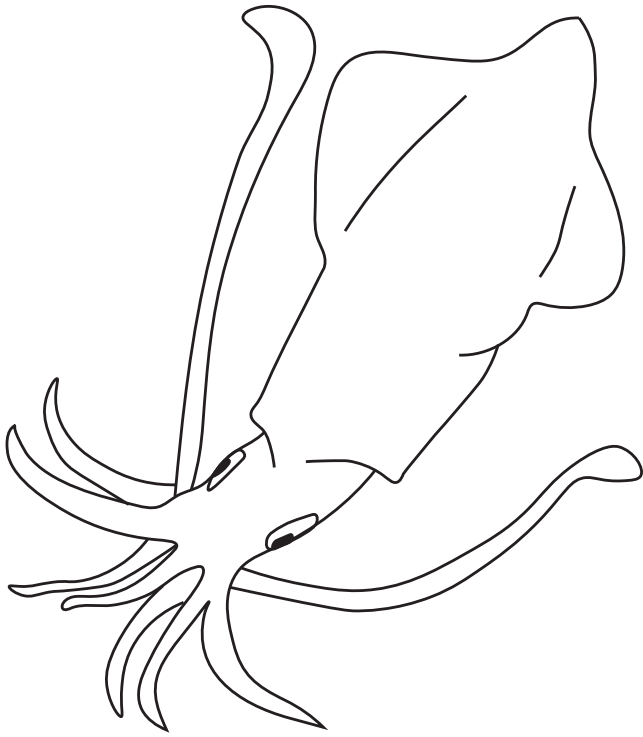
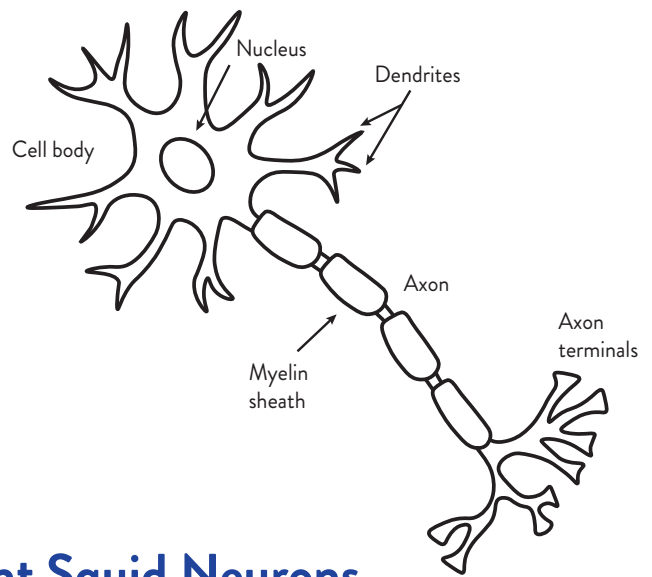


What is a neuron?

Neurons

Neurons, a type of cell that make up the brain, have projections called axons, which allow these cells to communicate across a distance. Axons can be very long - some start in the brain and travel all the way down the spinal cord into the body!

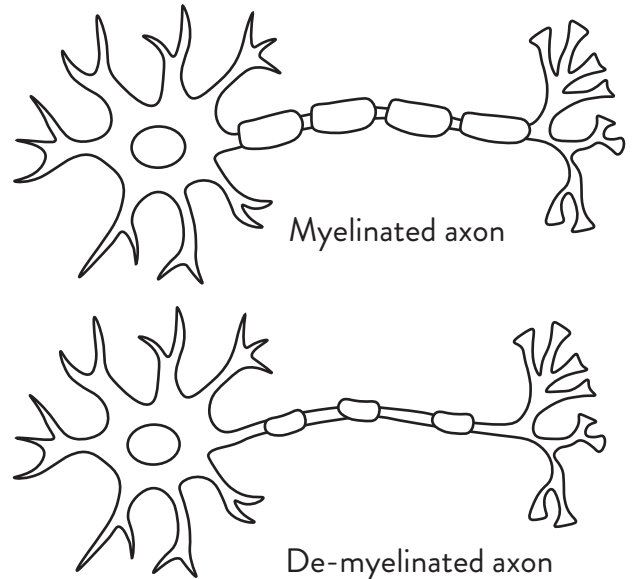


Giant Squid Neurons

Neurons can shift their electrical charge, which is called an action potential. When an action potential reaches the terminal, this triggers the release of chemicals called neurotransmitters, which enable signaling to other neurons. Squids have giant axons, which help them engage in fast electrical and chemical signaling, allowing them to perform evasive actions when confronted by predators. Scientists Alan Hodgkin and Andrew Huxley earned a Nobel Prize in 1963 for their work using early recording technologies to discover how neurons have axon potentials!

The Myelin Sheath

Axons can be very long, which means that the action potentials might have long distances to travel. A fatty substance called the myelin sheath surrounds and insulates axons just like plastic coating insulates wires. Some neurodegenerative diseases, like multiple sclerosis (MS), involve a breakdown of the myelin sheath, which can lead to a loss of function. For example, MS causes neurons linking the brain to the spinal cord to lose their myelin sheath, which can impact movement. Scientists study this process in mice and other model animals, who also have myelin sheaths around their neurons!



BRAD

A project of Americans for Medical Progress
www.bradglobal.org



www.acnp.org

AMP

AMERICANS FOR MEDICAL PROGRESS

www.ampprogress.org