Neuron Function Guided Practice

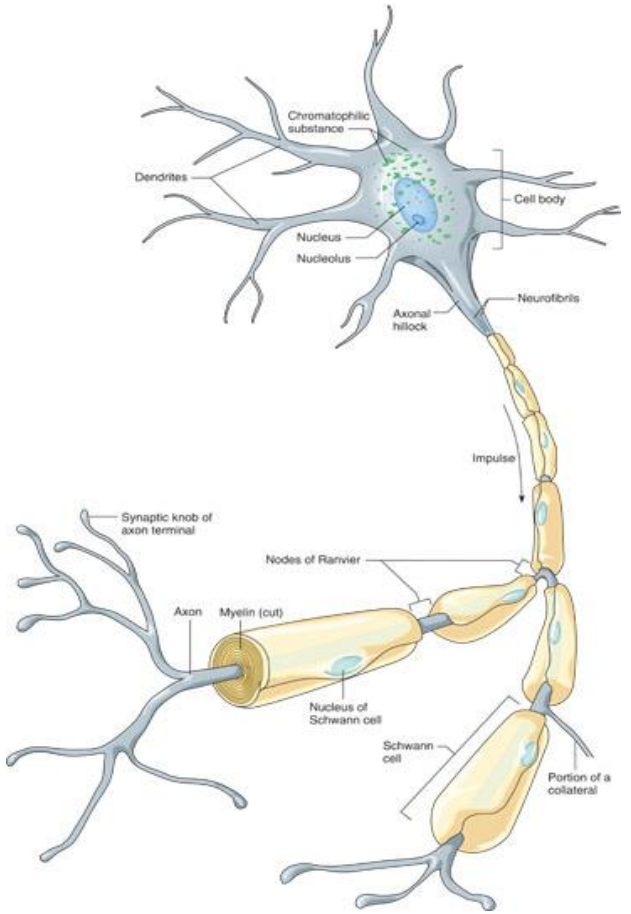
THINK DEEPER

Excess neuroglial cells can harm health. Fast-growing gliomas are brain tumors consisting of rapidly-dividing neuroglia (recall that neurons do not divide). Immediately after a spinal cord injury, destruction of neuroglia strips axons of myelin. Subsequent overgrowth of neuroglia forms scars, which impede recovery of function.

1. What is the function of myelination of neurons?
2. Why is damage to myelin harmful?

Neurons deprived of oxygen change shape as their nuclei shrink, and they eventually disintegrate. Oxygen deficiency can result from lack of blood flow (ischemia) through nerve tissue, an abnormally low blood oxygen concentration (hypoxemia), or toxins that prevent neurons from using oxygen by blocking aerobic respiration.

3. Why is damage to neurons so dangerous?

Neuron Function Independent Practice

1. Distinguish between a dendrite and an axon.
2. Describe the components of a neuron.
3. Describe how a myelin sheath forms.
4. Explain why axons of peripheral nerves can regenerate, but axons of CNS nerves cannot.
5. Name and describe the three groups of neurons based on structure and three groups based on function.