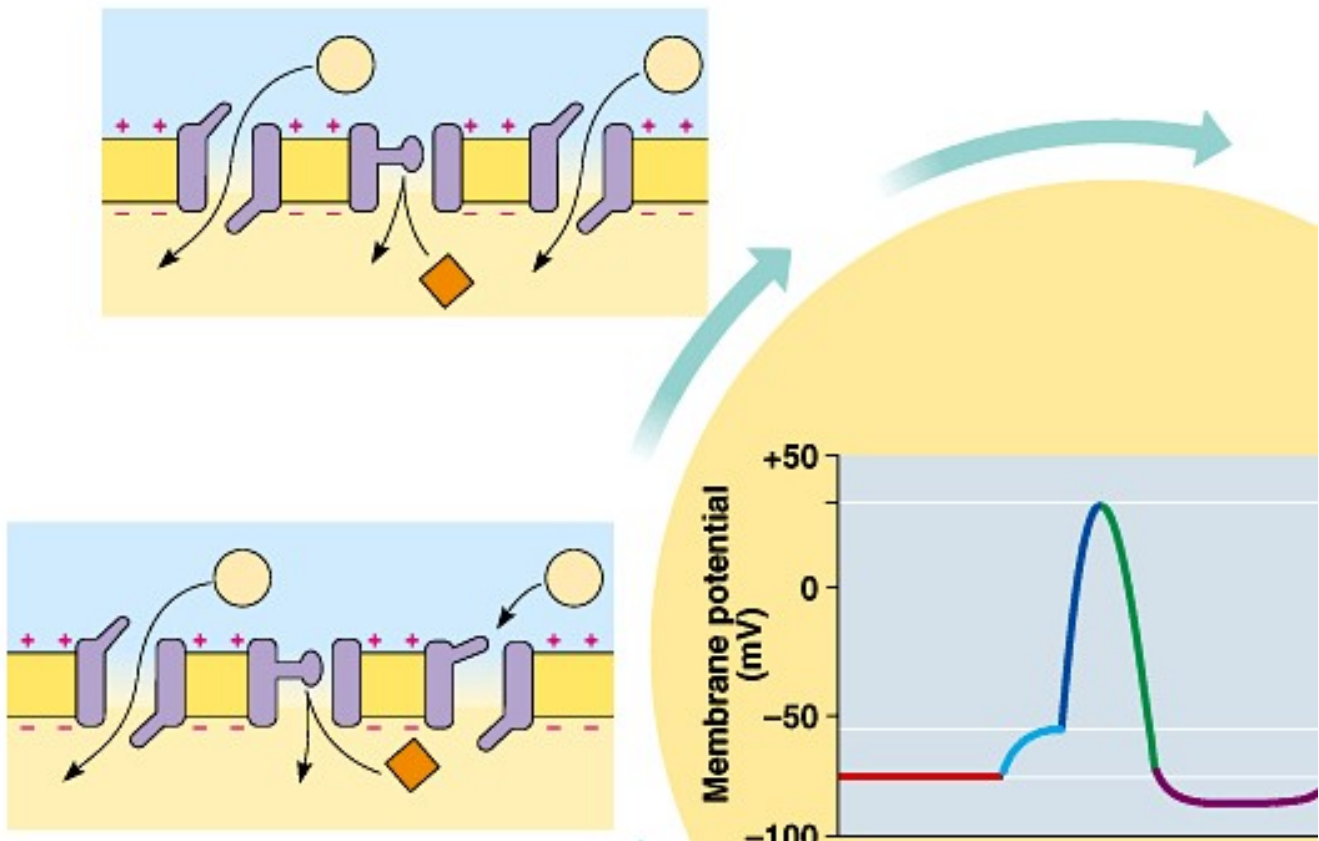


Study Guide for the Nervous System

(In textbook p. 754-762)

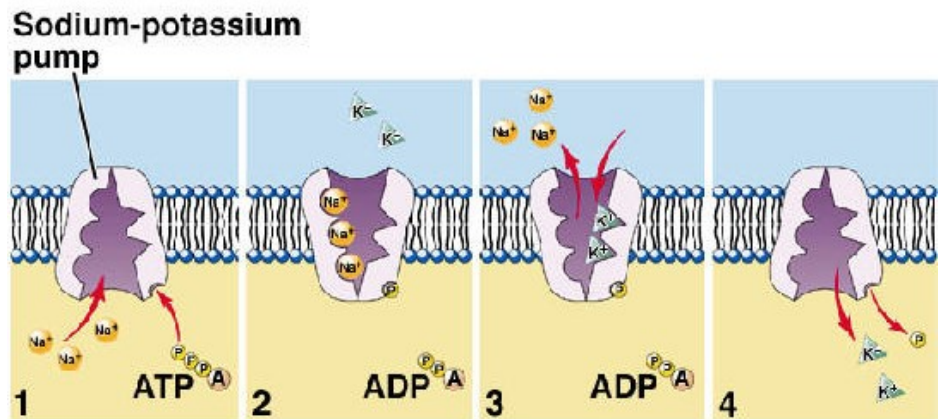
Section 37.2 & 37.3—Getting to know the neuron

- 1) What is membrane potential? How is it measured? What causes membrane potential?
- 2) What's resting potential?
- 3) What's an action potential? How is this different than resting potential?
- 4) What is a gated ion channel?
- 5) What's the difference between a chemically-gated and voltage-gated ion channel?
- 6) What triggers an action potential? Label the diagram below.



Don't be nervous ... it's just another system!

- 7) Differentiate between hyperpolarization, and depolarization. (It would be wise to sketch the basic appearance of a hyperpolarization & depolarization graph from p. 757!)
- 8) Explain the significance of a refractory period.
- 9) How does the nervous system distinguish between a strong stimulus and a weak stimulus?
- 10) Explain the importance of the sodium-potassium pump in maintaining resting potential.

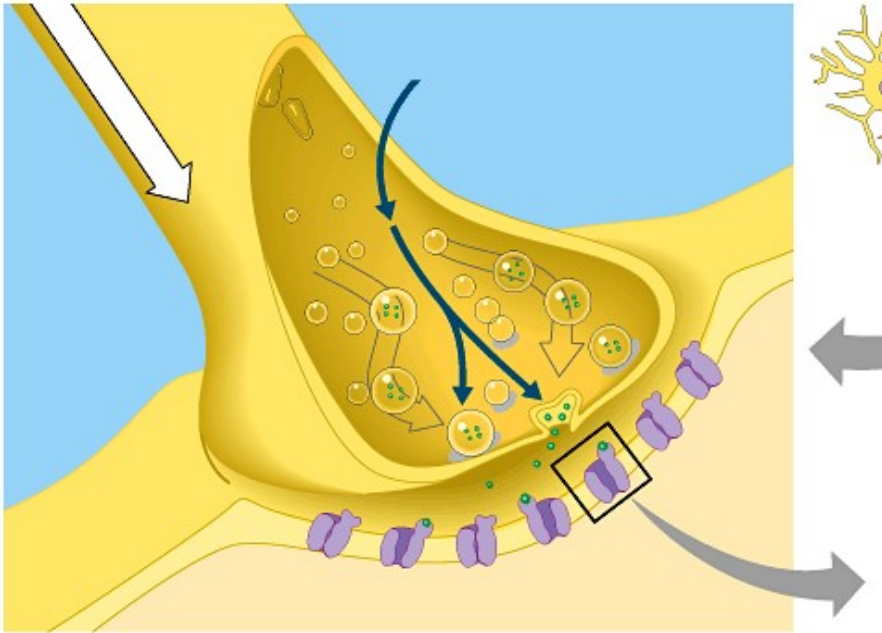


Section 37.4—Sending Signals Between Nerves:

- 11) Define the following: All of these terms relate to the chemical / electrical communication between cells via synapses.
- presynaptic cell
 - postsynaptic cell
 - synaptic cleft
 - synaptic vesicle
 - neurotransmitter
 - presynaptic membrane
 - postsynaptic membrane

Don't be nervous ... it's just another system!

- 12) Explain how a neurotransmitter moves from a presynaptic cell to a postsynaptic cell and how it passes on the message. Also, label the diagram below.



- 13) How can the same neurotransmitter produce different effects on different types of cells? Give an example.

Don't be nervous ... it's just another system!