

Name _____

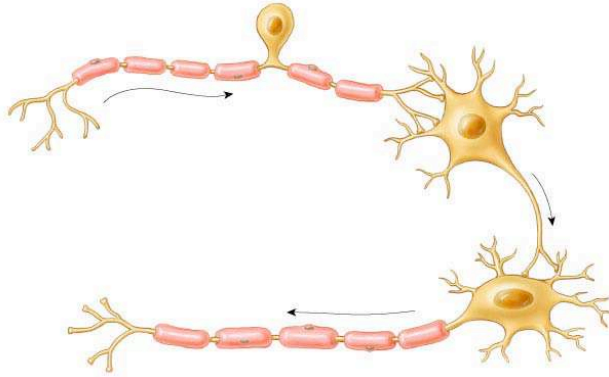
Period _____

AP Biology

Date _____

RAVEN CHAPTER 45 GUIDED NOTES: THE NERVOUS SYSTEM

1. Label the different types of neurons and make notes about their function.

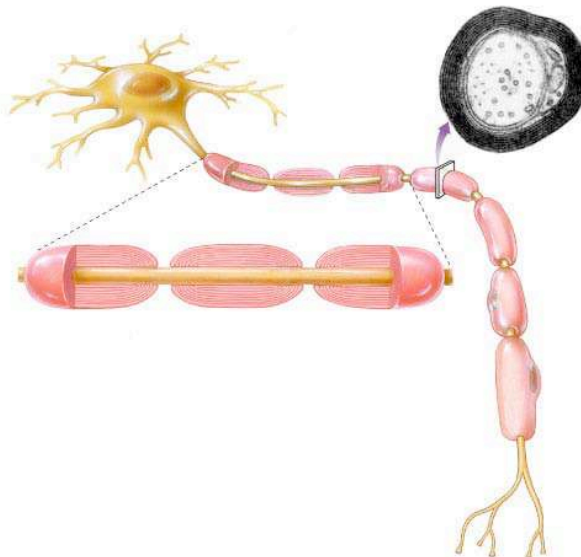


2. Outline the organization of the vertebrate nervous system.

a. Central nervous system _____

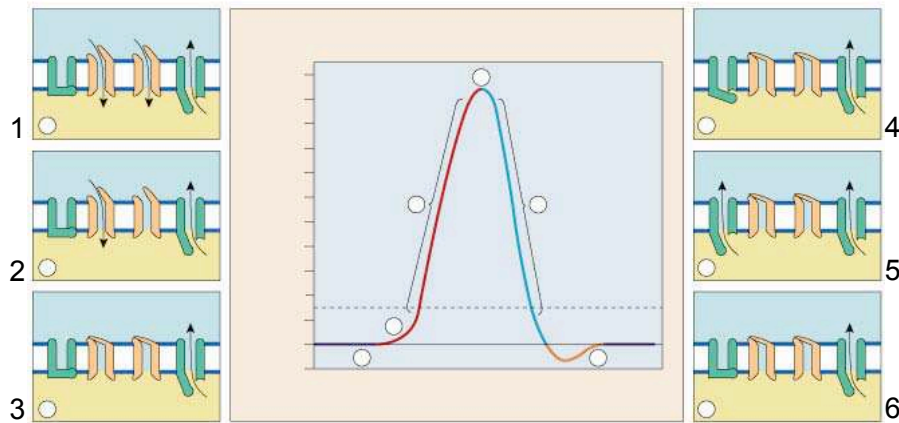
b. Peripheral nervous system _____

3. Label the diagram of a typical neuron



4. Explain how a neuron maintains a -70 mV potential.

5. Detail the stages of the “action potential.” Use the graph and diagrams below to indicate what is happening at the membrane in each stage.



1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

6. Describe what happens in the pre-synaptic axon when an impulse reaches the terminal end of the axon.

7. How does an impulse propagate down the axon?

8. Describe what happens at the synapse.

9. How are "messages" carried...

- a. in neurons _____
- b. between neurons _____

10. Make some brief notes about the differential action of neurotransmitters

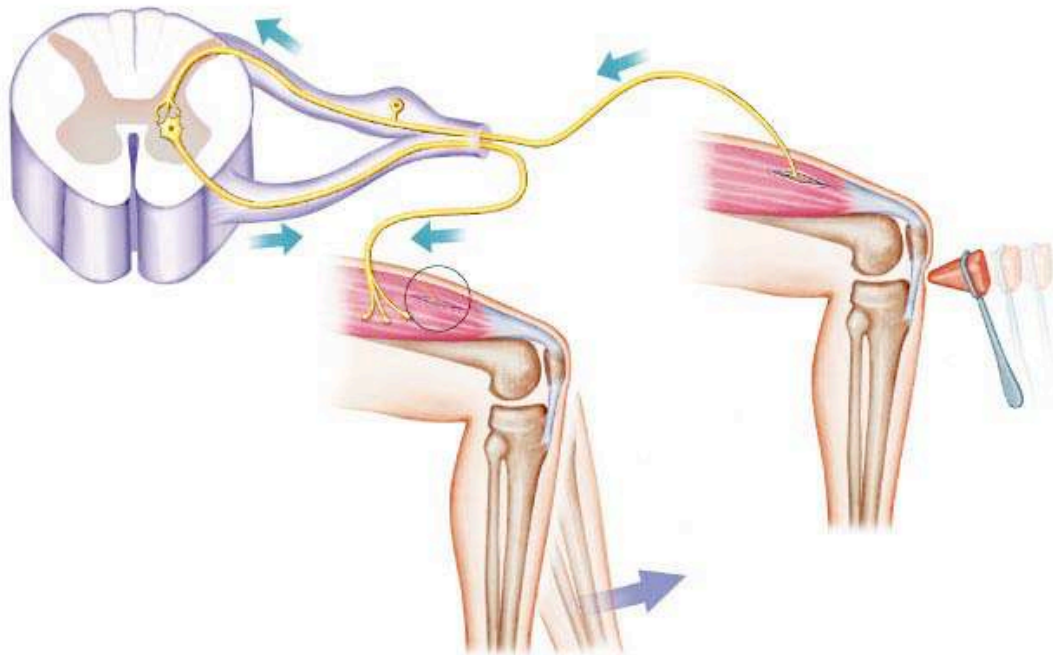
- a. acetylcholine _____

- b. dopamine _____
- c. serotonin _____
- d. norepinephrine _____
- e. glutamate _____
- f. glycine & GABA _____
- g. substance P _____
- h. nitric oxide _____

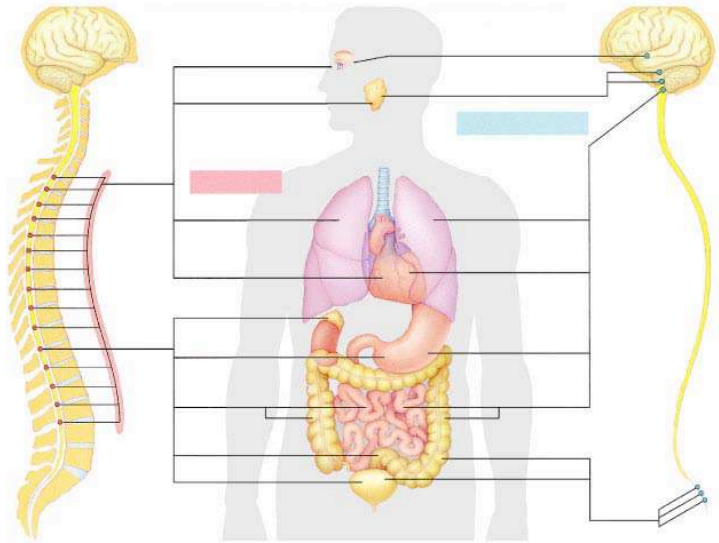
11. Take notes on the relationship between drug addiction and neurotransmitters (include tobacco)

12. Trace the variations in nervous systems in the animal kingdom.

13. Trace the reflex pathway by naming the structures.



14. Use the following diagram to explain how the sympathetic and parasympathetic divisions of the autonomic nervous system work together.



15. Explain the fight-or-flight mechanism.

16. List the major components of the human brain and indicate their functions.

