

Name _____

Period _____

AP Biology

Date _____

RAVEN CHAPTER 42 GUIDED NOTES: THE ANIMAL BODY & HOW IT MOVES

1. Describe the overall body plan of vertebrates.

2. List and briefly define the 4 levels of organization of the vertebrate body.

a. _____

b. _____

c. _____

d. _____

3. List the 4 primary tissues in vertebrates.

4. List the 11 principal organ systems of the vertebrate body.

5. List some examples of epithelial tissues in the vertebrate body.

6. From which embryonic germ layer(s) is epithelial tissue derived?

7. Describe the functions of epithelial tissues.

8. Discuss the remarkable regenerative property of epithelial tissue. How does this make the liver different from other organs?

9. List some examples of connective tissue *proper* in the vertebrate body.

10. From which embryonic germ layer is connective tissue derived?

11. Describe the functions of connective tissues.

12. What characteristic distinguishes *special* connective tissue?

13. List some examples of *special* connective tissue in the vertebrate body.

14. Briefly describe the structure, development, and function of each of the special connective tissues.

a. cartilage _____

b. bone _____

c. blood _____

15. Briefly describe the characteristics and functions of the 3 types of muscle tissues.

a. smooth _____

b. skeletal _____

c. cardiac _____

16. Briefly describe the characteristics and functions of nerve tissues.

17. List and briefly describe the function of the 3 types of nerve tissue.

a. _____

b. _____

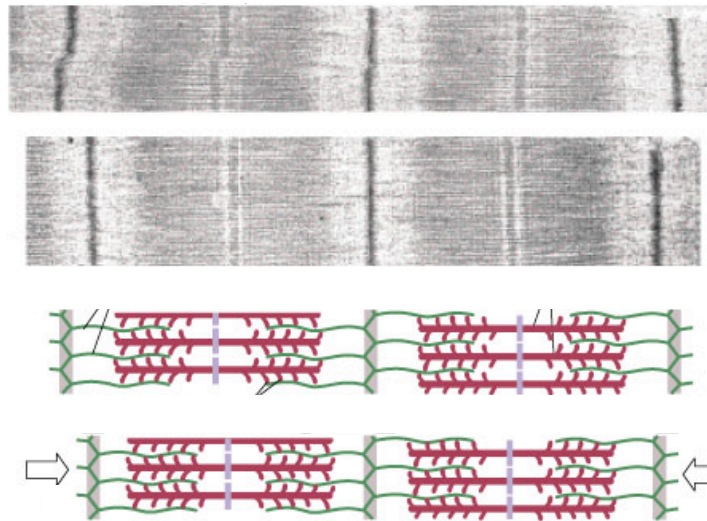
c. _____

18. Distinguish between an exoskeleton and an endoskeleton.

19. Explain how the skeleton combines with an antagonistic muscle arrangement to provide a mechanism for movement.

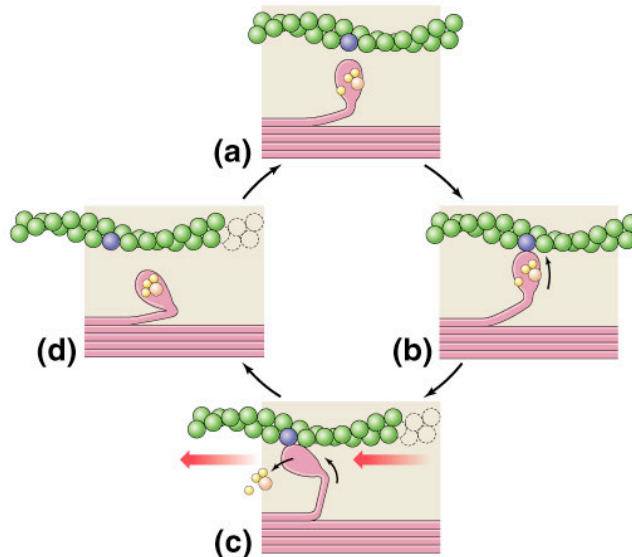
20. Describe the structure of a skeletal muscle.

21. Label the structure of a sarcomere on the diagram below:

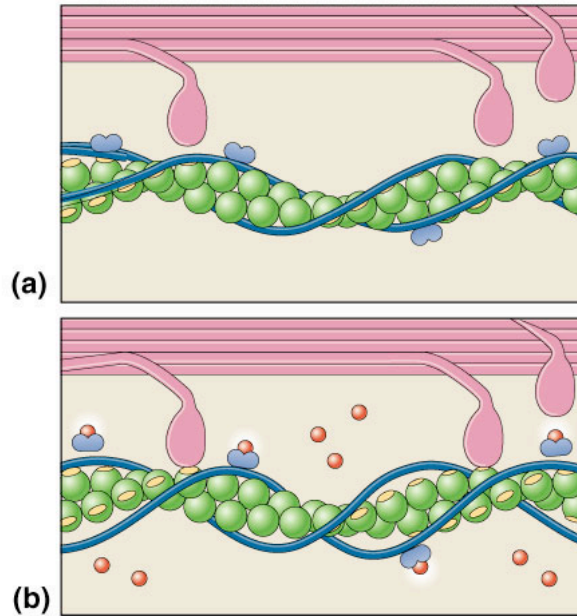


22. Explain the sliding filament mechanism of muscle contraction.

23. Label the diagram below and explain the cross-bridge cycle in muscle contraction. Be sure to highlight the role of ATP.



24. Label the diagram below and explain how a muscle contraction is controlled. Be sure to discuss the role of calcium.



25. Explain how a motor neuron stimulates a muscle to contract.

26. Explain how the nervous system produces *graded* contractions of whole muscles.

27. Distinguish between fast twitch and slow twitch muscles.
