

# Muscle Anatomy & Organization

Name:

Instructor:

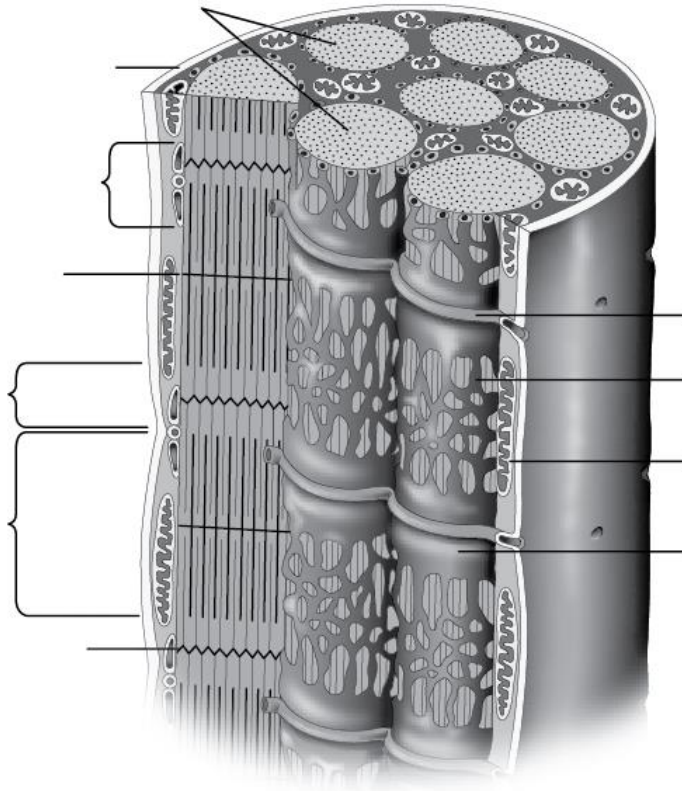
Date:

1. What are the major histological differences between skeletal, cardiac and smooth muscle?

Muscle Organization:

2. When viewing skeletal muscle under the light microscope, the presence of striations is obvious. Describe the structure of a sarcomere and how the organization of the sarcomere results in striations:

3. Label the following illustration with the following terms: A band, I band, M line, Z line, mitochondrion, myofibrils, sarcolemma, sarcoplasmic reticulum, terminal cisternae, transverse tubule, triad of the reticulum.



4. Beginning at the neuromuscular junction, describe the physiological steps resulting in skeletal muscle contraction at the level of the myofilaments:

## Skeletal Muscle Action and Naming:

5. Define the following terms used to describe muscles:

Agonist-

Antagonist-

Synergist-

Fixator-

6. List six criteria that are used to name muscles. Provide an example for each one.

7. Define the following terms:

Origin-

Insertion-

8. List the muscles that are part of the quadriceps group located in the anterior compartment of the thigh. What are their primary functions (actions)?

9. List the muscles that are part of the hamstring group (posterior compartment of the thigh) and identify their primary functions.

10. List the muscles that are found in the anterior leg compartment. What are their primary functions (actions)?

11. When considering the type of movements that the muscles allow at the wrist and phalanges, in general, how do the muscles of the anterior forearm differ from those of the posterior forearm?