

The Muscular System: Skeletal Muscle Tissue

1. Fill in the characteristics of the three muscle types:

| Muscle Type | Cardiac | Skeletal | Smooth |
|---------------|---------|----------|--------|
| Shape of cell | | | |
| # of nuclei | | | |
| Striations | | | |
| Control | | | |

2. What attaches muscles to bone? _____.
3. The whole muscle is composed of muscle cells (fibers) grouped in bundles called _____.
4. Name the connective tissue coverings surrounding the following:

Whole muscle _____

Fascicles _____

Muscle cell _____

5. Match the following three terms with their definitions:

Sarcolemma - endoplasmic reticulum in muscle cell

Sarcoplasmic reticulum - intracellular fluid around organelles

Cytosol - plasma membrane of muscle cell

6. Match the following three terms with their definitions:

Terminal cisternae - T-tubule + 2 terminal cisternae

T-tubules - part of sarcolemma—carries action potential

Triad - part of sarcoplasmic reticulum—stores calcium ions

7. Myofibrils consist of contractile proteins called _____.

Name the two types and what they're composed of:

_____ composed of _____

_____ composed of _____

8. Arrangement of myofilaments. Give the letter name of each band:

Dark band → ___ band

Light band → ___ band

Match two definitions with each band:

- contains only thin filaments
- contains both thick and thin filaments
- defined by length of thick filament
- defined as distance between two thick filaments

9. Define the following terms:

Z line (disc) _____

H zone _____

10. What happens to these areas during contraction?

Z line (disc) _____

H zone _____

11. Define these two terms:

M line _____

Sarcomere _____

12. Organization of muscle. Put the following components in order, from smallest to largest:

fascicle muscle

myofibril myofilament

muscle muscle fiber (cell)