

Name: \_\_\_\_\_ Per: \_\_\_\_\_

## Muscular System Webquest

Follow the links provided to answer the following questions. DO NOT write your answers down word-for-word, SUMMARIZE what you learn and then write down your answer.

### Part 1: Anatomy of Skeletal Muscle

Go to <http://www.biology-pages.info/M/Muscles.html> and answer the questions that follow.

1. Explain how the origin of a muscle and the insertion point of a muscle allow muscles to work as an agonistic pair when moving a bone.
2. Skeletal muscle fibers are made up of thousands of muscle fibers. What does each muscle fiber contain?
3. Why do skeletal muscles have several nuclei?
4. What contributes to the striated appearance of a muscle fibers?
5. Each myofibril is made up of arrays of parallel filaments. The thick bands are called \_\_\_\_\_ and the thin bands are called \_\_\_\_\_.
6. Which myofibril (actin or myosin) produces the dark A band?
7. Which myofibril (actin or myosin) produces the light I band?
8. What does the shortening of a myofibril produce?
9. What are action potentials also called?
10. What causes skeletal muscles to contract?
11. What is the junction between the terminal of a motor neuron and a muscle fiber called?
12. In two sentences or less, describe how acetylcholine, sodium and action potentials cause muscles to contract.
13. According to the sliding-filament theory, what happens to the sarcomere during a muscle contraction?

## Part 2: Different Types of Muscles

Go to <http://kidshealth.org/kid/htbw/muscles.html> and answer the questions that follow.

1. How many muscles are in the human body?
2. What is the function of tendons?
3. What is the function of ligaments?
4. What is the difference between voluntary and involuntary control of muscles?
5. Smooth muscles, where are they found? What do they do in these areas? Are they under voluntary or involuntary control?
6. Cardiac muscles, where are they found? What do they do in these areas? Are they under voluntary or involuntary control?
7. What is the scientific name for cardiac muscles?
8. Skeletal muscles, where are they found? What do they do in these areas? Are they under voluntary or involuntary control?
9. What is the other name for skeletal muscles? Why?
10. What does the term "striated" mean? Which types of muscle tissue would be described as being striated?
11. Where do facial muscles attach?
12. Because of this, what do facial muscles allow us to do?
13. Name the muscle that's attached only at one end. What does this muscle allow us to do?
14. List the 6 major types of muscles found on page 3, and where we can find each of these on the human body.
15. Which organelle would be the most abundant in a muscle cell (any type of muscle cell)? Why? This is not in your webquest, but is a review of prior knowledge.