**Tour Through the Muscular System Lab Sheet:**

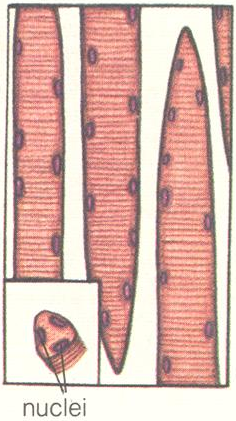
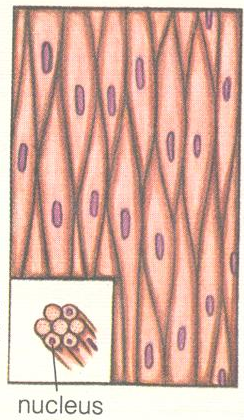
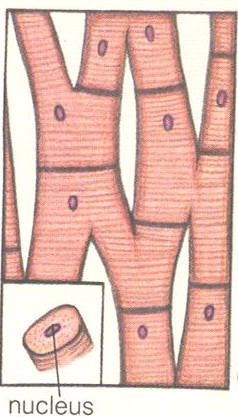
**Muscular System**

There are roughly \_\_\_\_\_\_\_\_ muscles in the human body.

Muscles Are:

* Needed for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Needed to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Needed to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Needed to\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Needed to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**3 Types of Muscle:** Identify each of the types of muscle tissue below:



\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

**Skeletal Muscle Tissue:**

* Moves your \_\_\_\_\_\_\_\_\_\_\_\_\_
* Voluntary (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)
* Over \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in your body
* Long cells with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (along edges of cell)
* Stripes called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in cell
* **Explain** how to identify this muscle tissue under a microscope:

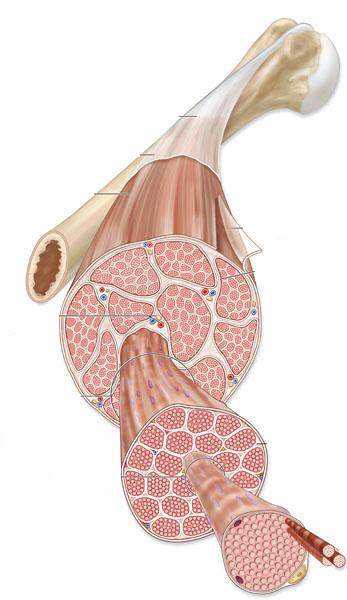
**Cardiac Muscle Tissue:**

* The muscle of the \_\_\_\_\_\_\_\_\_\_
* Involuntary (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)
* Works \_\_\_\_\_\_\_\_\_\_\_\_\_ a day
* Strongest \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Only \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ per cell (usually in \_\_\_\_\_\_\_\_\_\_\_\_)
* Some \_\_\_\_\_\_\_\_\_\_\_\_\_ (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)
* **Explain** how to identify this muscle tissue under a microscope:

**Smooth Muscle Tissue:**

* Muscles of the \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Involuntary (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Contract \_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_
* Usually \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ per cell.
* No \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* **Explain** how to identify this muscle tissue under a microscope:

**Anatomy of a Muscle**: Label the bone, tendon, myofibril, fascicle, body of muscle, and muscle fiber



**Opposites Contact and Relax**:

* Muscles work in pairs called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* The biceps muscle will \_\_\_\_\_\_\_\_\_\_ (\_\_\_\_\_\_\_\_\_\_\_) the arm at the elbow = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the triceps muscle will \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) the arm = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* While one muscle in the pair \_\_\_\_\_\_\_\_\_\_\_\_\_ the other must \_\_\_\_\_\_\_\_\_\_\_\_\_.
* The other opposing groups moves your limbs (like arms and legs) \_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the \_\_\_\_\_\_\_.
* The deltoid muscle will move the arm \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the body= \_\_\_\_\_\_\_\_\_\_\_\_\_\_ muscle, and the latissimus dorsi will move the arm \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the body= \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ muscle.

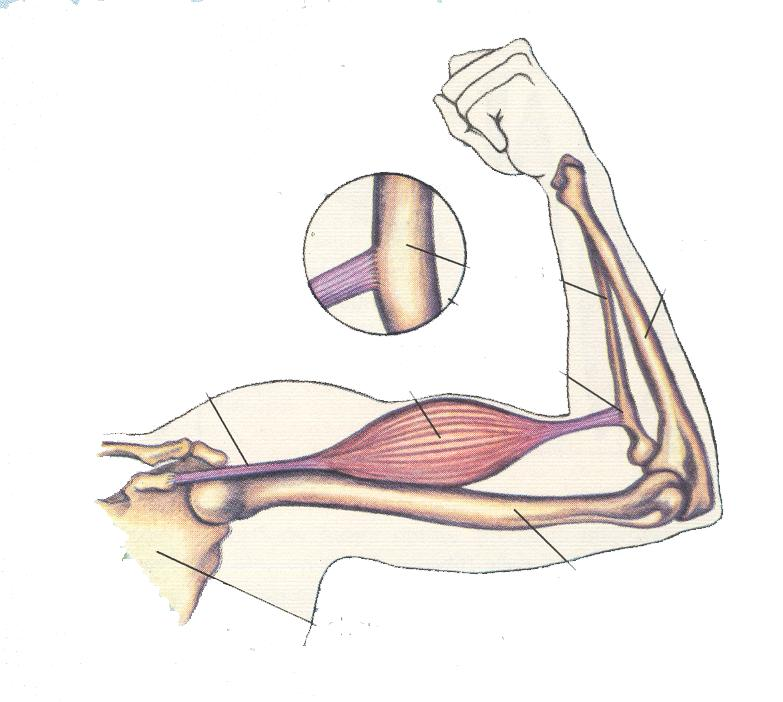
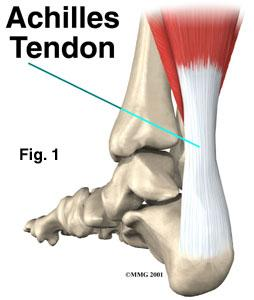
**How a Muscle Works**:

* A skeletal muscle works by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Each muscle cell is made up of many smaller \_\_\_\_\_\_\_\_\_\_\_
* The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are in contact with a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Myofibrils are made of two proteins, \_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_
* The \_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ past \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ causing the muscle to \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Explain, in your own words how muscles contract through actin and myosin filaments sliding past each other:

**Muscle to Tendon to Bone**:

Tendons attach \_\_\_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Label the bone, muscle, and tendon in each picture:





**J**

**I**

**H**

**G**

**F**

**E**

**D**

**C**

**B**

**A**

Using the muscle diagrams in the muscle system tour, identify and label the following muscles. Use this word bank of muscles to help you:

Gluteus maximus

Latissimus dorsi

Pectoralis major

Gastrocnemius

Triceps

Brachioradialis

Deltoid

Biceps

Exterior oblique

Gluteus medius