

# Muscular System Tour Lab

Name \_\_\_\_\_ Hour \_\_\_\_\_

## Muscular System

There are more than \_\_\_\_\_ muscles in the Human Body!!!

Muscles are:

Needed for \_\_\_\_\_

Needed for \_\_\_\_\_

Needed for \_\_\_\_\_

Needed for \_\_\_\_\_

Needed for \_\_\_\_\_

## Cardiac Muscle

- ✦ The muscle of the heart.
- ✦ Involuntary (\_\_\_\_\_)

✦ Works \_\_\_\_\_

✦ Strongest \_\_\_\_\_ Draw the cardiac muscle on high power.

✦ Only \_\_\_\_\_

✦ Some \_\_\_\_\_

## A.D.A.M. Video clip: Exercise

- ✦ Weightlifting, pushups, and sprinting are forms of anaerobic/aerobic exercise? (circle one)
- ✦ Muscles fatigue (get tired) fastest with anaerobic/aerobic exercise? (circle one)

## 3 Types of Muscle

Identify the three types of muscle from the diagram:



nucleus



nucleus



nuclei

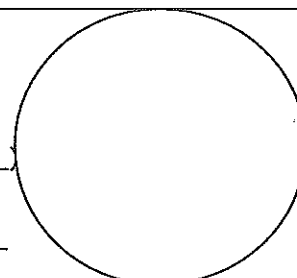
\_\_\_\_\_ Muscle

\_\_\_\_\_ Muscle

\_\_\_\_\_ Muscle

## Skeletal Muscle

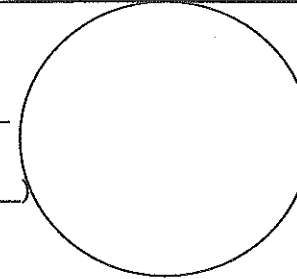
- ✦ Move your bones.
- ✦ Voluntary (\_\_\_\_\_)
- ✦ Over \_\_\_\_\_
- ✦ Long \_\_\_\_\_
- ✦ Stripes \_\_\_\_\_



Draw the skeletal muscle on high power. Label striations.

## Smooth Muscle

- ✦ The muscle of \_\_\_\_\_
- ✦ Involuntary (\_\_\_\_\_)
- ✦ Contract \_\_\_\_\_
- ✦ Can remain \_\_\_\_\_
- ✦ Usually \_\_\_\_\_
- ✦ No stripes (striations)



## Anatomy of a Muscle

Label:

Bone

Tendon

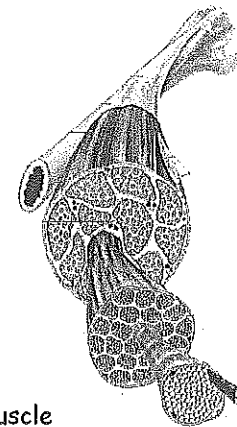
Myofibril

Cell Nuclei

Fascicle

Body of Muscle

Muscle Fiber



## A.D.A.M. Video clip: Exercise fill in the chart

Type of Muscle	Where found	Voluntary / Involuntary
	Walls of body organs (stomach and intestines)	
cardiac		
	Attached to bones	

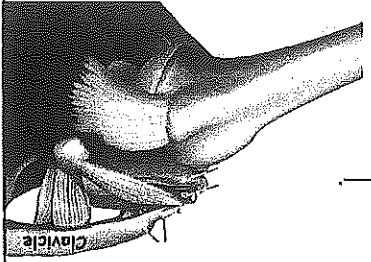
Which of these (above) is the muscle cell?

## A.D.A.M. Video clip: Skeletal Muscle

- ✦ Which is larger, a muscle fascicle or a muscle fiber?
- ✦ Which is larger, a muscle fiber or a myofibril?

### Muscle to Tendon to Bone

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

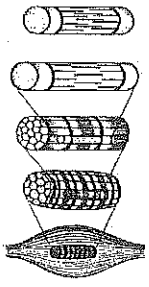


Label the two diagrams:  
Ligament, Tendons, Bone

### How a Muscle Works

- ✦ A skeletal muscle works by \_\_\_\_\_
- ✦ The muscle can shorten as much as \_\_\_\_\_
- ✦ Each muscle cell is made up of smaller \_\_\_\_\_
- ✦ The \_\_\_\_\_ are in contact with a nerve ending.
- ✦ The nerve releases a chemical called a \_\_\_\_\_
- ✦ The \_\_\_\_\_ stimulates the entire muscle to contract.

Label the parts of the diagram.



### Muscle Fatigue ... Weight Lifting

How long did you hold the book before fatigue got the better of you?  
\_\_\_\_\_ minutes \_\_\_\_\_ seconds

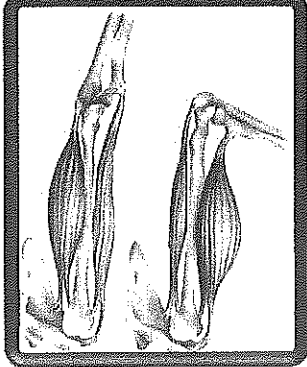
Which arm felt the fatigue the most? (straight out or by your side)  
\_\_\_\_\_

Which muscles experienced the most fatigue? (circle one)  
a) biceps b) triceps c) deltoids d) pectoralis major

Hint: you may want to check the stations with the labeled muscles

### Opposites Contract ... and Relax

- ✦ Muscles work in \_\_\_\_\_.
- ✦ While one muscle in the pair contracts the other must \_\_\_\_\_.



Label all parts of the diagram

### Muscle Fatigue ... To Beat or Not to Beat

How is your heart (cardiac) muscle different from your arm (skeletal) muscle? (just compare how tired your arm got doing the work of the heart)

Does cardiac muscle experience fatigue?  
\_\_\_\_\_

Does skeletal muscle experience fatigue?  
\_\_\_\_\_

So, about how long did you "live", anyway?? \_\_\_\_\_ minutes

### Muscle Fatigue ... Too Tired to Sit

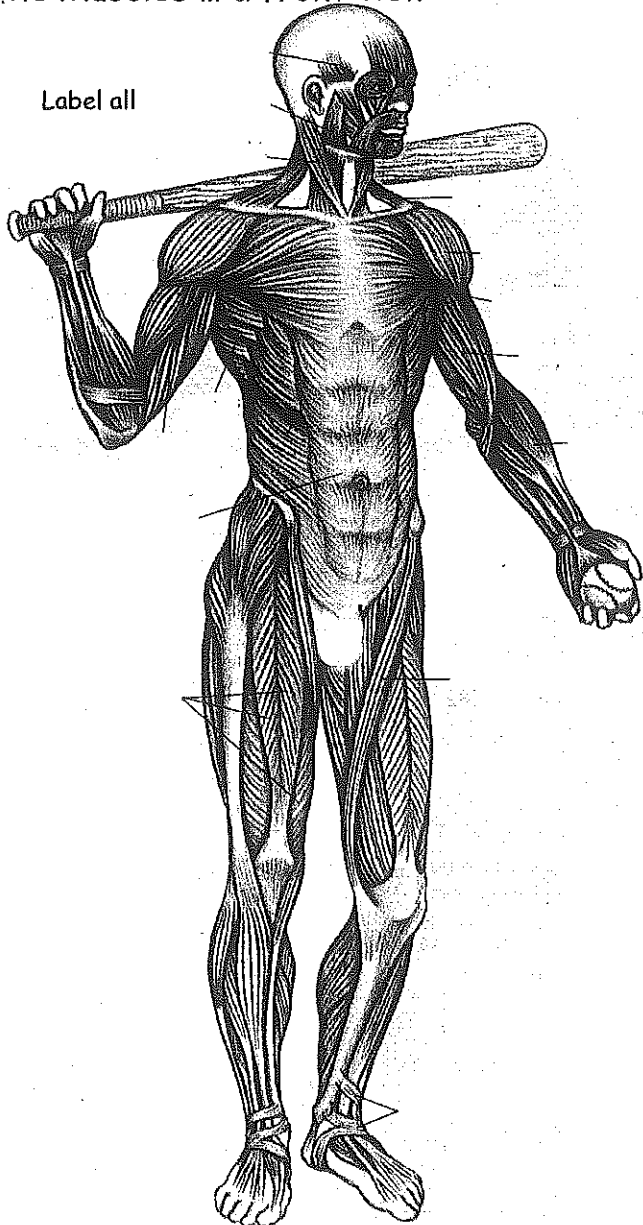
How long did you sit before your legs started to burn like crazy?  
\_\_\_\_\_ minutes \_\_\_\_\_ seconds

How did it feel to try to walk right after sitting against the wall?  
\_\_\_\_\_

The funny feeling in your legs is called *muscle fatigue*. Fatigue is caused by a buildup of \_\_\_\_\_ in the muscle.

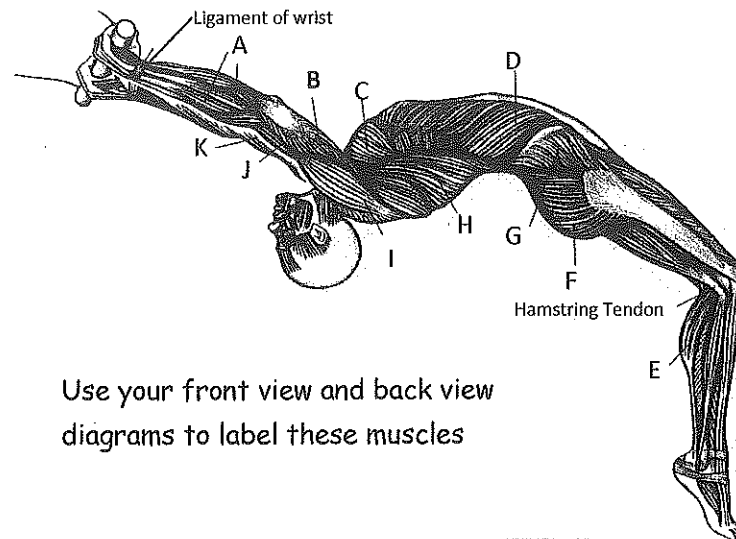
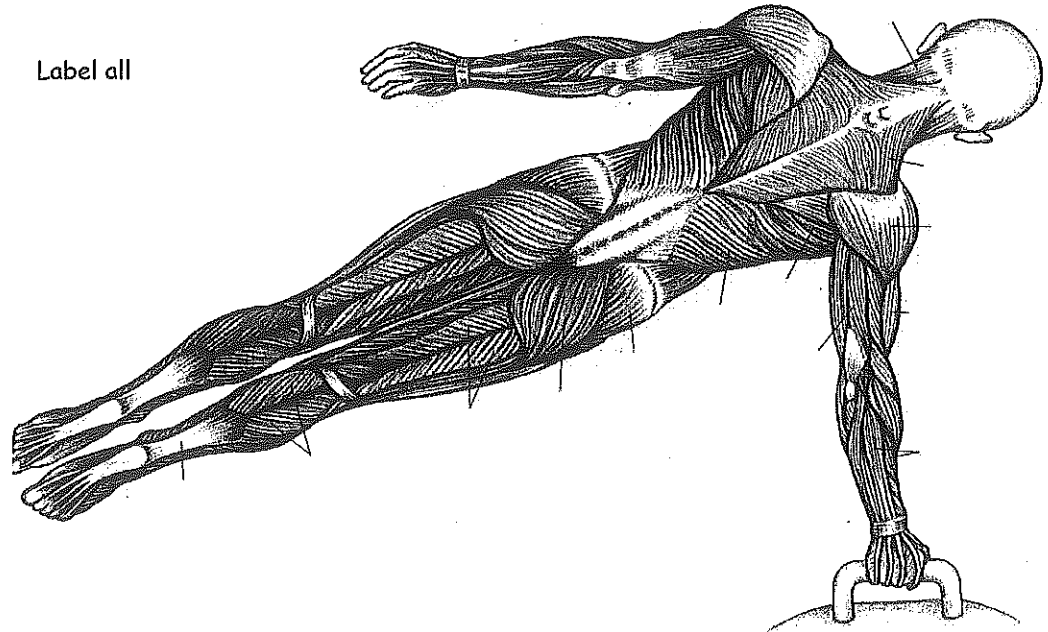
The Muscles ... a front view

Label all



The Muscles ... a back view

Label all



Label: place the letter next to the name.

- Gluteus maximus
- Latissimus dorsi
- Pectoralis major
- Gastrocnemius
- Muscles to fingers
- Triceps
- Brachioradialis
- Deltoid
- Biceps
- Exterior oblique
- Gluteus medius

Use your front view and back view diagrams to label these muscles

**Muscle Tutorial**  
<http://www.gmc.maricopa.edu/class/pho201/muscle/muscul.htm>

Or just go to the

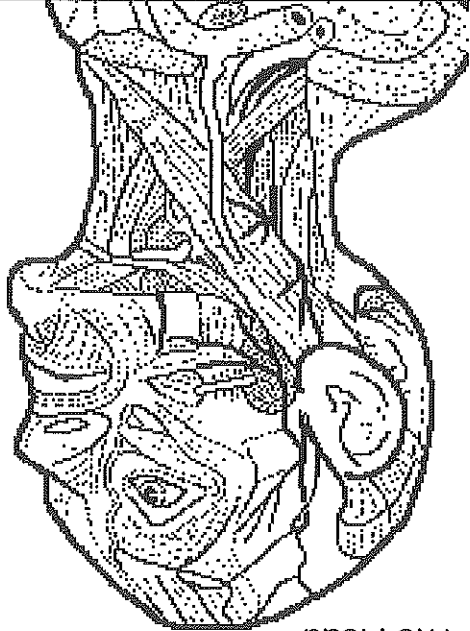
**Human Biology/Links**

page of our science website

([www.myscience8.com](http://www.myscience8.com)) and click on the

Muscle Tutorial link.

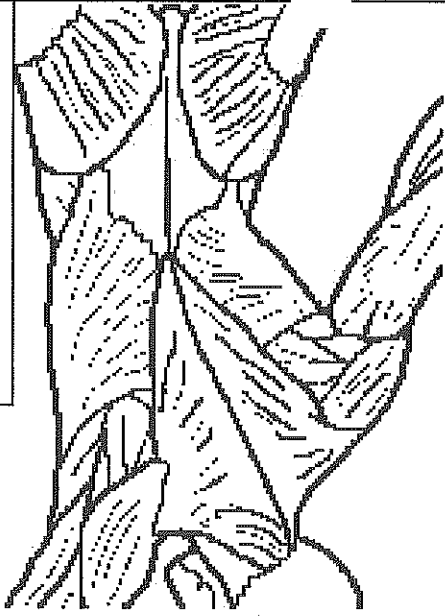
**The Head**



Label and color these  
 muscles of the head:  
 (You can draw arrows)

- Sternocleidomastoid
- Obicularis Oculi
- Obicularis Oris
- Zygomaticus
- Masseter
- Trapezius
- Frontalis

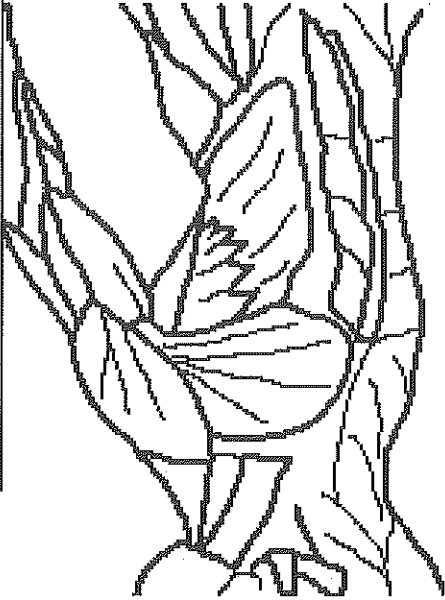
**The Posterior Body**



Label and color these  
 muscles of the Posterior  
 body: (you can draw arrows)

- Deltoid
- Trapezius
- Latisissimus dorsi
- Gluteus medius
- Gluteus maximus
- Infraspinatus
- Teres major
- Triceps brachii

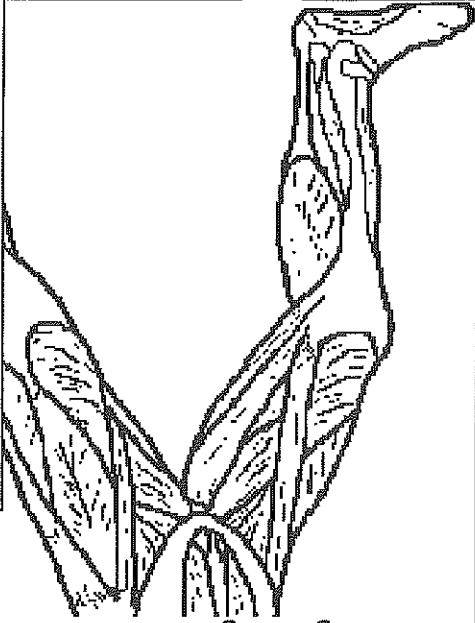
**The Anterior Body**



Label and color these  
 muscles of the Anterior  
 body:

- Pectoralis major
- Serratus anterior
- Deltoid
- Rectus Abdominus
- External oblique
- Biceps brachii
- Brachialis
- Triceps brachii
- Latisissimus dorsi

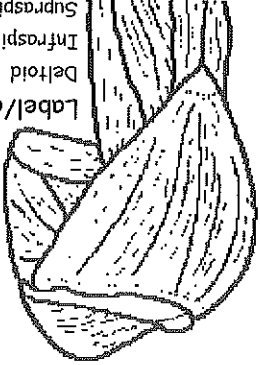
**The Thigh/Leg**



Label and color these  
 muscles of the  
 Thigh/Leg: (you can draw arrows)

- Vastus medialis
- Vastus lateralis
- Sartorius
- Adductor longus
- Adductor mangus
- Gracilis
- Rectus femoris
- Gastrocnemius
- Soleus
- Tibialis anterior

**Posterior Shoulder**



Label/color:

- Deltoid
- Infraspinatus
- Supraspinatus
- Teres minor
- Teres major

**Anterior Shoulder**

Label/color:

- Subscapularis
- Coracobrachialis
- Supraspinatus

