

Name: _____ Date: _____

Muscular System Exhibition Lab

Station 1: Function

You need your muscles to:

1. _____ internal organs
2. _____
3. _____
4. _____ food.
5. Maintain _____
6. _____

Station 3: Three Muscle Types

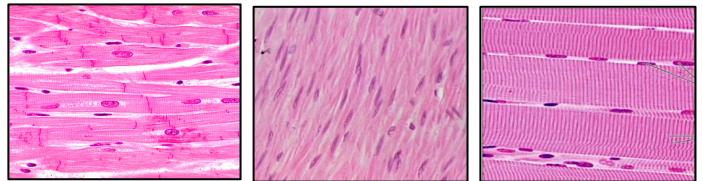
Involuntary muscle contraction occurs _____

Examples of involuntary muscle:

Voluntary muscle contraction is under your _____

Example of voluntary muscle:

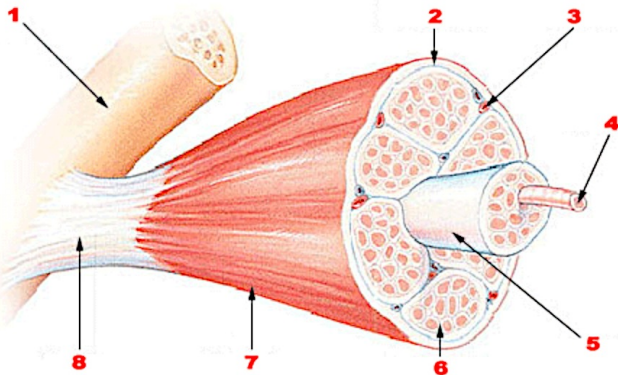
Label the pictures by muscle type:



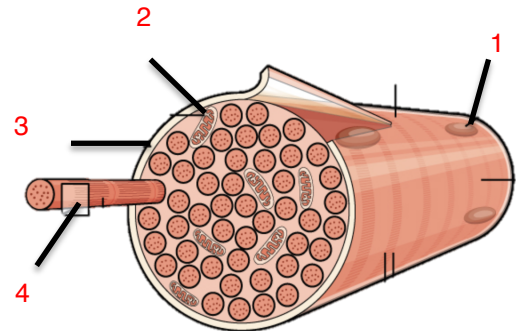
Station 2: Anatomy

Muscles are very complex groups of _____. Groups of myofibrils are found within _____ aka _____.

Label the muscle:



Label the muscle fiber:



Station 4: Cardiac Muscle

Cardiac muscle is only found in the _____.

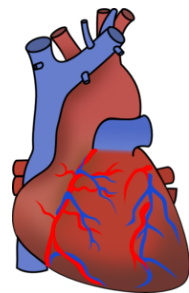
Never fatigues because it contains many _____.

Cardiac muscle is (circle one) striated | not striated.

Cardiac muscle cells are: (circle one) mononucleated | multinucleated.

A heart cell is called a _____.

The muscle portion of the heart is known as _____.



Muscular System Exhibition Lab

Station 5: Skeletal Muscle

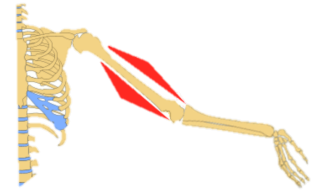
Skeletal muscle produces _____ and maintains _____.

Skeletal muscle can also generate _____.

There are more than _____ skeletal muscles in your body.

Skeletal muscles are (circle one): mononucleated | multinucleated.

Skeletal muscle is (circle one): striated | not striated.



Station 6: Smooth Muscle

Where can smooth muscle be found?

Smooth muscle cells are shaped like _____.

Smooth muscle cells are (circle one): mononucleated | multinucleated.

Smooth muscle is (circle one): striated | not striated.



Station 7: Tendon to Bone

Tendons connect _____ to _____.

Do muscles push or pull? _____

There are no muscles in your fingers, only bones, ligaments and tendons. How are they able to move?



Station 8: Pairs

Skeletal muscles work in _____.

Muscle pairs are called _____ pairs; **why is it important that muscles are paired?**

As of the muscles contracts, the other one must _____ (and vice versa).

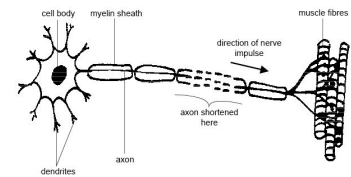


Station 9: Motor Neurons

What are motor neurons connected to? _____

Fill in the sequence of events that lead to the movement of muscles:

1. The _____ sends an _____ to the nerves.
2. The nerves release _____ called _____.
3. The neurotransmitters signal muscle _____.



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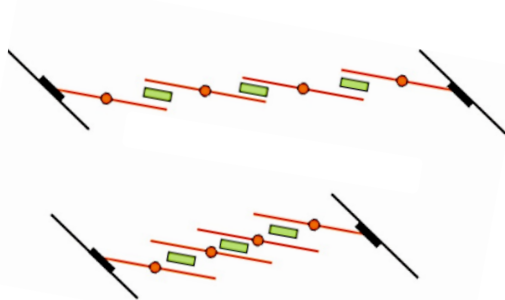
Station 10: Actin and Myosin

What are actin and myosin? _____
 _____.

Thin filaments= _____

Thick filaments= _____

How do muscles contract? _____
 _____.



Label each picture at left as “contracted muscle” or “relaxed muscle”.

Complete the key below by labeling which shapes in the picture are actin (thin filaments) or myosin (thick filaments):

KEY



Station 11: Fatigue

Muscle fibers use _____ as an energy source and require _____.

What is lactic acid?

How does lactic acid contribute to muscle fatigue?

Station 12: The Wall Sit

Your time: _____



Why weren't you able to sit longer? What were you feeling and where?

Station 13: Clothespins

How many squeezes...

HYPOTHESIS

First round (10 seconds): _____

Second round (20 seconds): _____

Third round (30 seconds): _____

How many squeezes...

ACTUAL

First round (10 seconds): _____

Second round (20 seconds): _____

Third round (30 seconds): _____

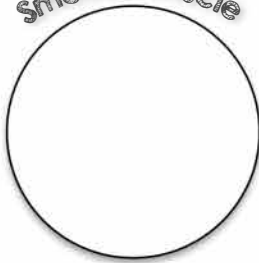
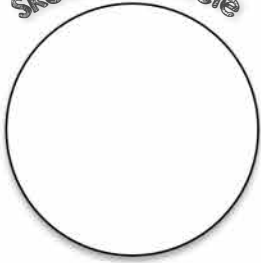
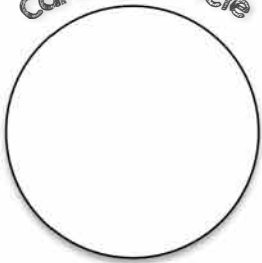
Was your hypothesis correct? Why or why not?

Station 14: Microscopic Muscle Slides

Cardiac Muscle

skeletal Muscle

smooth Muscle



Teacher Signature: _____

Station 15: ALS



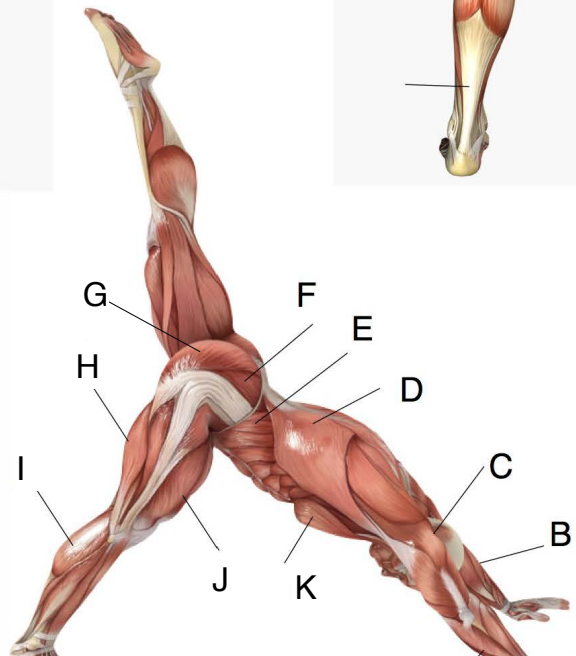
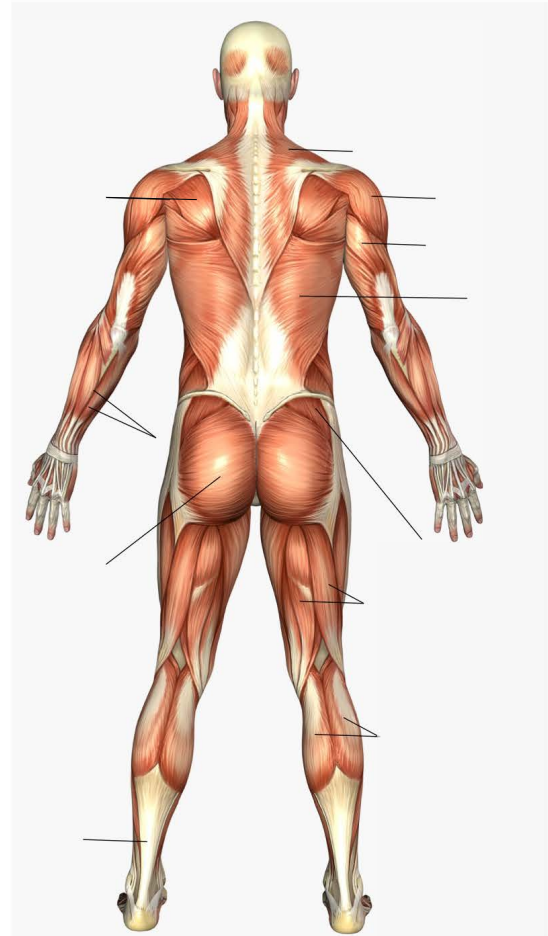
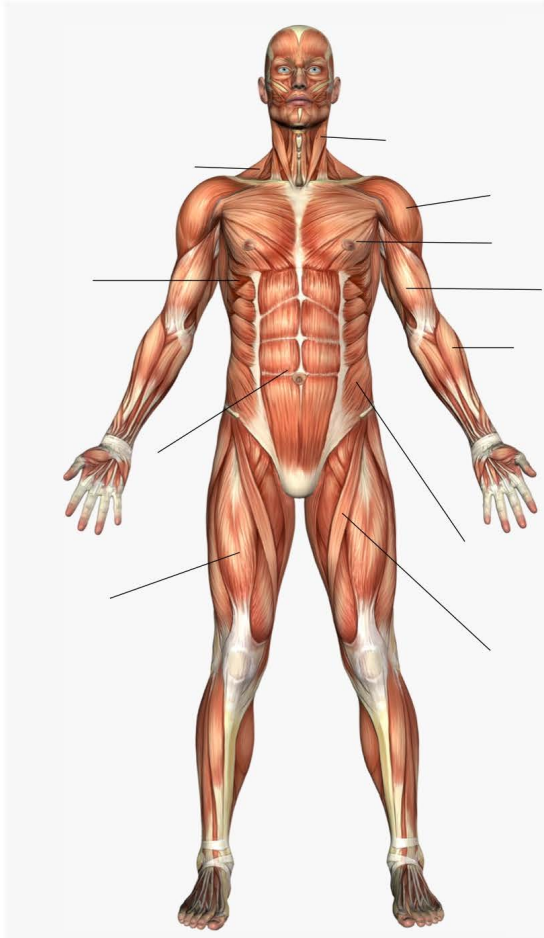
What does ALS stand for?

What is ALS? _____

What are some symptoms of ALS? _____

Station 16: Label the muscles

Use the front and back views to label the side view:



Choices for A-K:

- Quadriceps
- Brachioradialis
- Exterior oblique
- Gastrocnemius
- Gluteus maximum
- Gluteus minimus
- Latissimus dorsi
- Muscles to fingers
- Pectoralis major
- Triceps