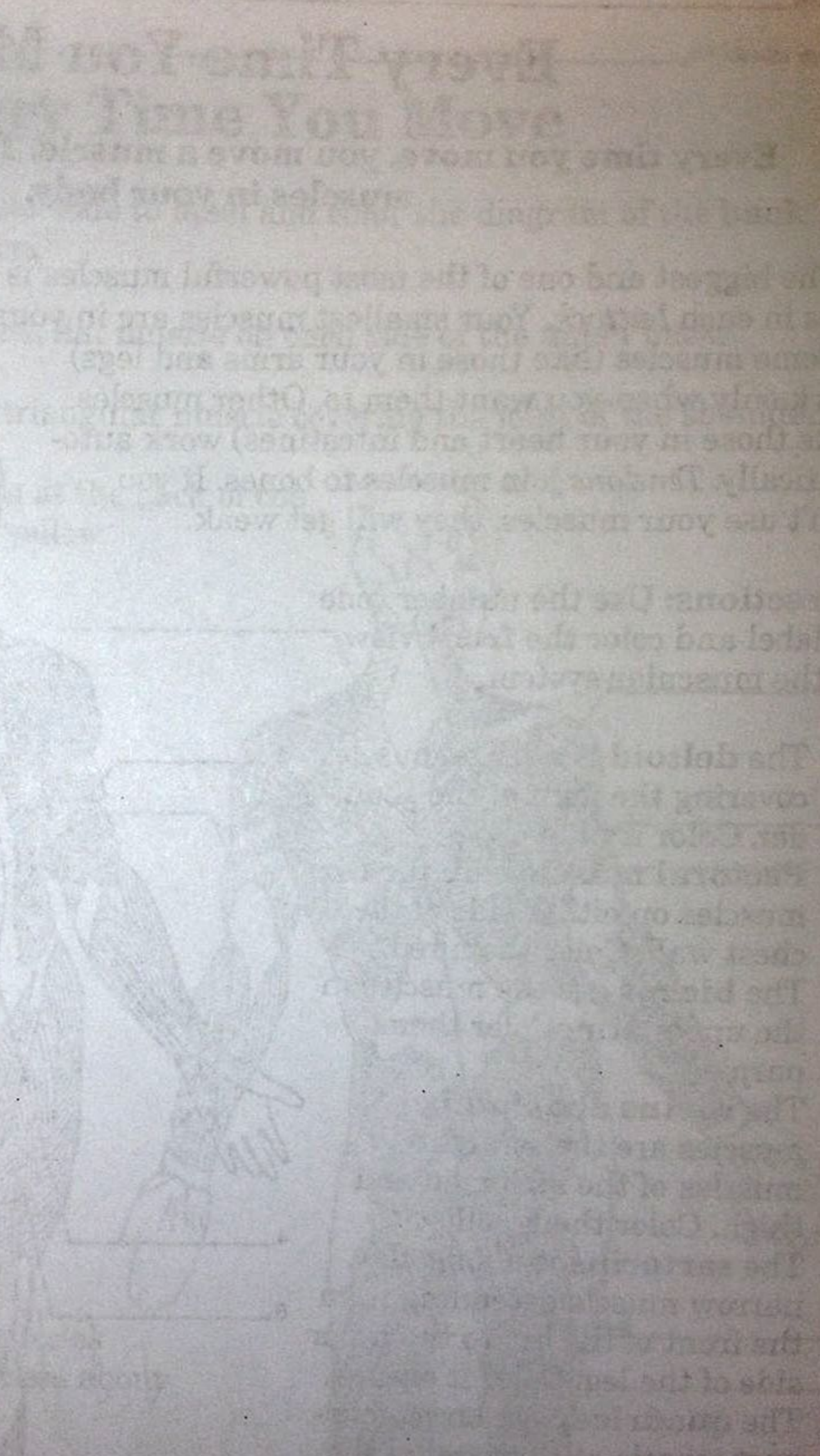


- Achilles tendon
- biceps brachii
- biceps femoris
- deltoid
- extensors
- external oblique
- flexors
- frontalis
- gastrocnemius
- gluteus maximus
- latissimus dorsi
- masseter
- orbicularis oculi
- orbicularis oris
- patellar ligament
- pectoralis major
- rectus abdominus
- rectus femoris
- rhomboid major
- semimembranosus
- semitendinosus
- serratus anterior
- soleus
- sternomastoid
- teres major
- teres minor
- tibialis anterior
- trapezuis
- triceps
- vastus lateralis
- vastus medialis
- zygomaticus



Name \_\_\_\_\_

# Every Time You Move

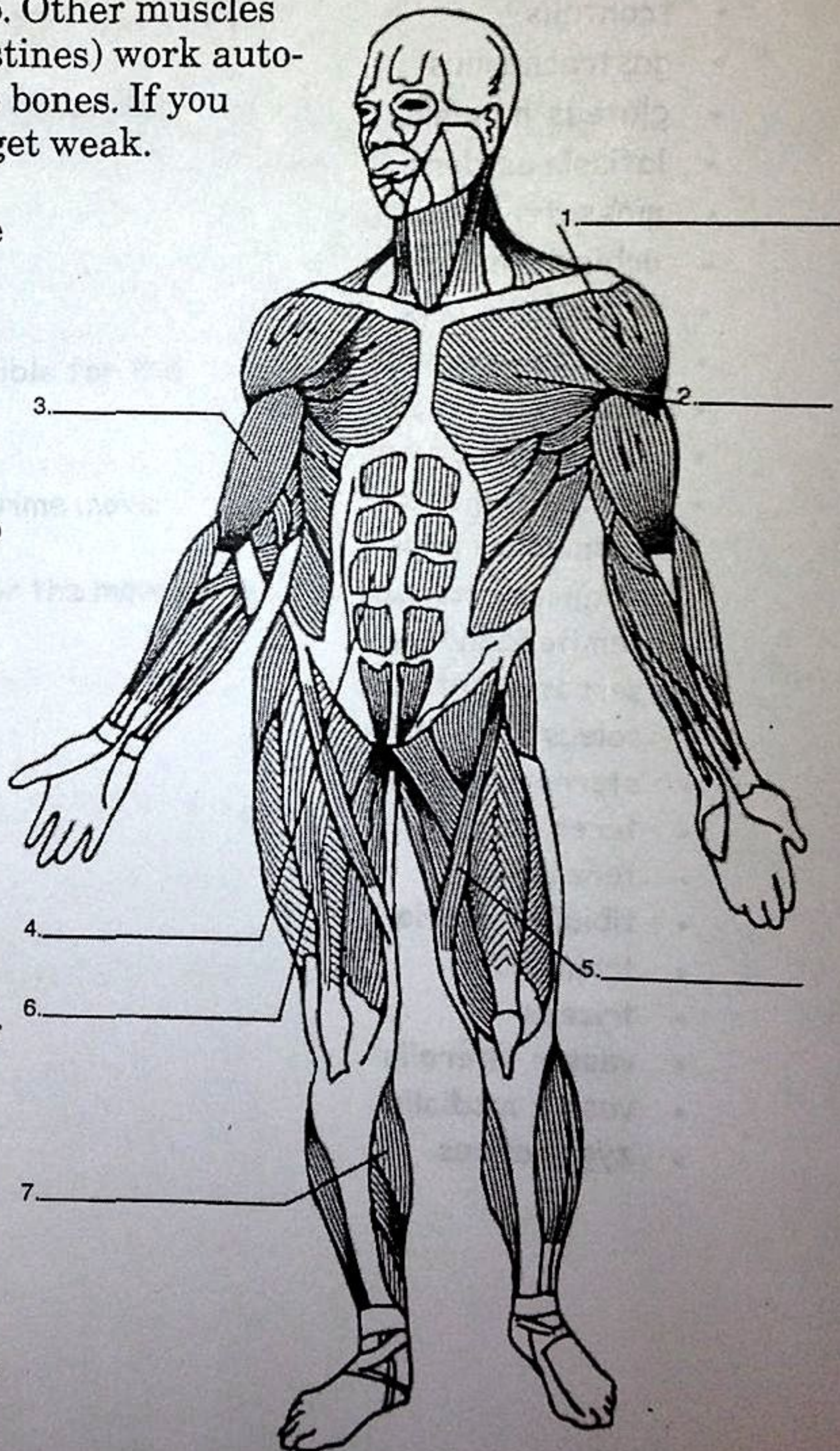
Every time you move, you move a muscle. There are about 650 muscles in your body.

The biggest and one of the most powerful muscles is the *gluteus maximus* in each *buttock*. Your smallest muscles are in your ear.

Some muscles (like those in your arms and legs) work only when you want them to. Other muscles (like those in your heart and intestines) work automatically. *Tendons* join muscles to bones. If you don't use your muscles, they will get weak.

**Directions:** Use the number code to label and color the **front** view of the muscular system.

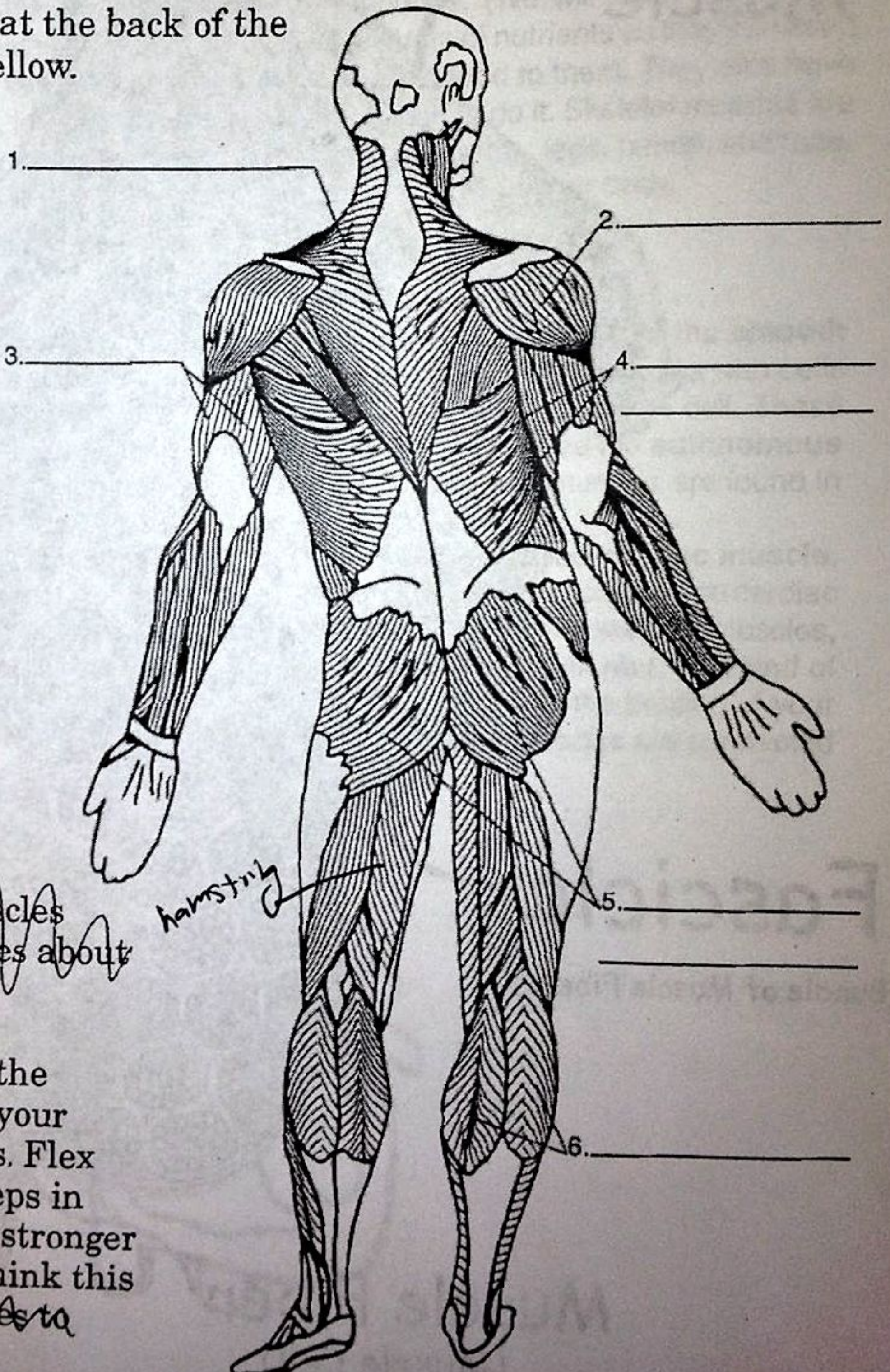
1. The **deltoid** is a large muscle covering the joint of the shoulder. Color it blue.
2. **Pectoral muscles** are the two muscles on either side of the chest wall. Color them red.
3. The **biceps** are the muscles in the upper arm. Color them purple.
4. The **rectus abdominis** muscles are the straight muscles of the abdomen and thigh. Color them yellow.
5. The **sartorius** is a long, flat, narrow muscle extending from the front of the hip to the inner side of the leg. Color it orange.
6. The **quadriceps**, a large, four-part muscle at the front of the thigh, extends the leg or bends it at the hip joint. Color it green.
7. The **gastrocnemius** is the largest muscle in the calf of the leg. Color it brown.



# Every Time You Move

**Directions:** Use the number code to label and color the diagram of the back view of the muscular system.

1. The **trapezius** is a broad, flat muscle on each side of the upper back. Color it red.
2. The **deltoid** is a large, triangular muscle covering the joint of the shoulder. Color it blue.
3. The **triceps** are muscles at the back of the upper arm. Color them yellow.
4. The **latissimus dorsi** is a broad, flat muscle on each side of the middle of the back. Color it purple.
5. The **gluteus maximus** is the broad, thick, outermost muscle on each buttock. Color it green.
6. The **gastrocnemius** is the largest muscle in the calf of the leg. Color it brown.

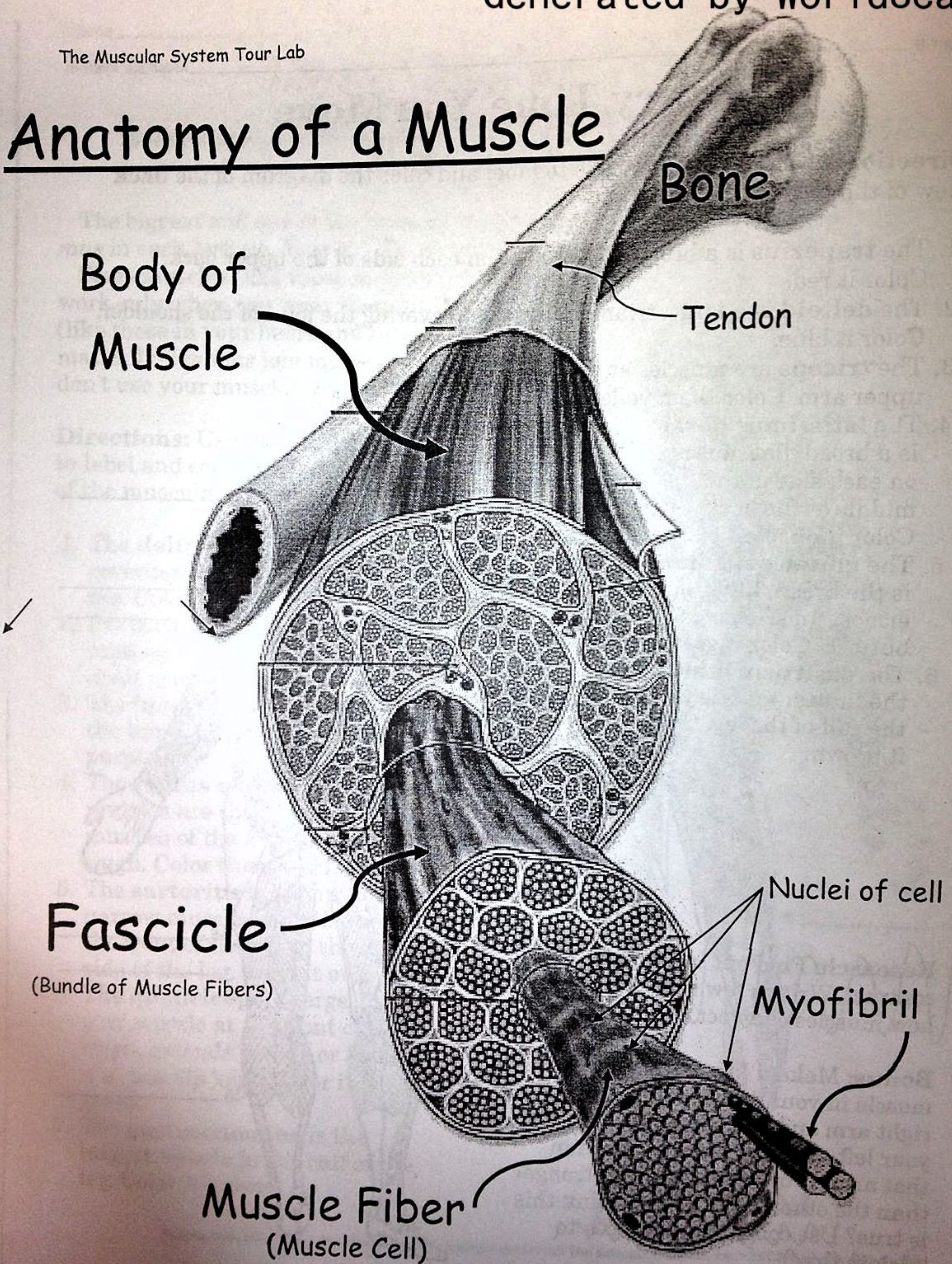


**Research:** Find out how muscles contract. Write a few sentences about how muscles contract.

**Bonus:** Make a fist and feel the muscle in your forearm. Flex your right arm and feel your biceps. Flex your left arm and feel the biceps in that arm. Is one of your arms stronger than the other? Why do you think this is true? Use complete sentences to explain this.

The Muscular System Tour Lab

# Anatomy of a Muscle



## What Kind of Muscles Are Those?

### Voluntary Muscles

Okay, now let's talk some more about those voluntary muscles. They are usually called **skeletal muscles** but sometimes they might be called **striated muscles**. If you see pictures of skeletal muscles, they look like they have stripes. That is why they are called striated muscles. Skeletal muscles look like sausages! They are long muscle fibers. They are attached to bones in the skeletal system with tendons. (We will learn more about tendons later.) Skeletal muscles need lots of oxygen and lots of nutrients so they can keep working. They have blood vessels bringing the oxygen and food to them. They also have nerves connected to them, telling them what to do and when to do it. Skeletal muscles are found in parts of your body that you can move, such as your arms, legs, hands, and face. You have more skeletal muscles than any other kind of muscle in your body.

### Involuntary Muscles

There are two different kinds of involuntary muscles. First, there are the **smooth muscles** that are sometimes called **visceral muscles**. They are thin muscles with cells that look like spindles. They have the nucleus right in the middle of each cell. These muscles are connected to a special part of your nervous system called the **autonomous nervous system**. They work without you thinking about it! Smooth muscles are found in your skin, your blood vessels, and in the organs inside your body.

The other kind of involuntary muscle is very special. It is called **cardiac muscle**, and it is only found in your heart. Your heart needs a constant supply of oxygen, so cardiac muscles have lots of blood vessels. Cardiac muscles are striated like skeletal muscles, but the cells branch out and weave together so they look a little bit different. This kind of muscle acts like other involuntary muscles; you have no control over the beating of your heart. Which part of the nervous system do you think the cardiac muscles are connected to? They are controlled by the autonomous nervous system.

