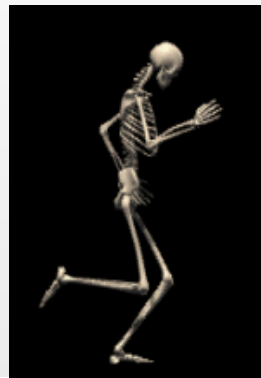


# **OGUN DIGICLASS**

**SUBJECT: SCIENCE**

**TOPIC: MOVING AROUND**

# Moving Around



# Learning Objectives

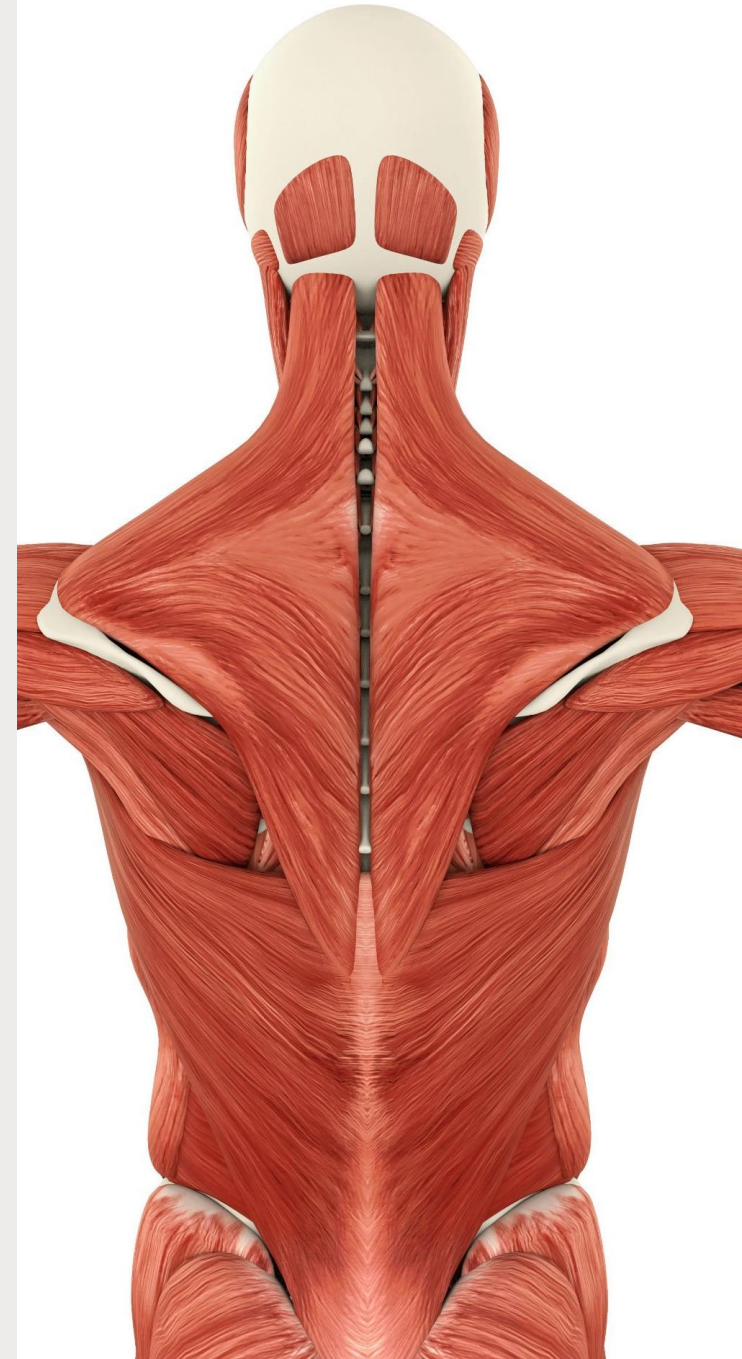
Describe how we move around

Explain how a joint works

Describe how a muscle works

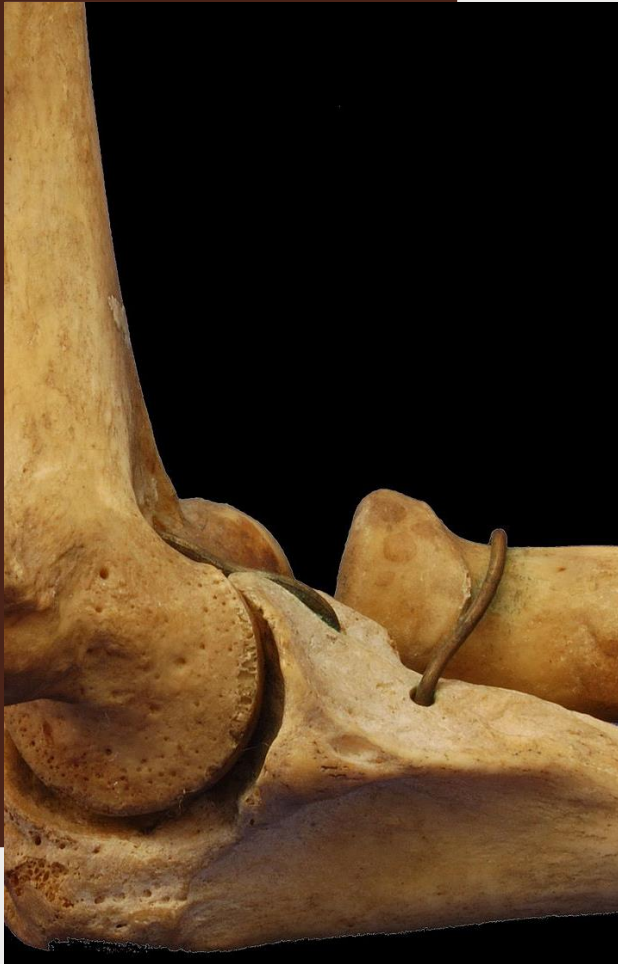
# MEANING OF MUSCLES

- Muscles are made up of tiny cells held together by connective tissues in the body.
- Muscles can contract and relax to produce movement in the body.



# MEANING OF JOINT

A joint is any point where two or more bones meet

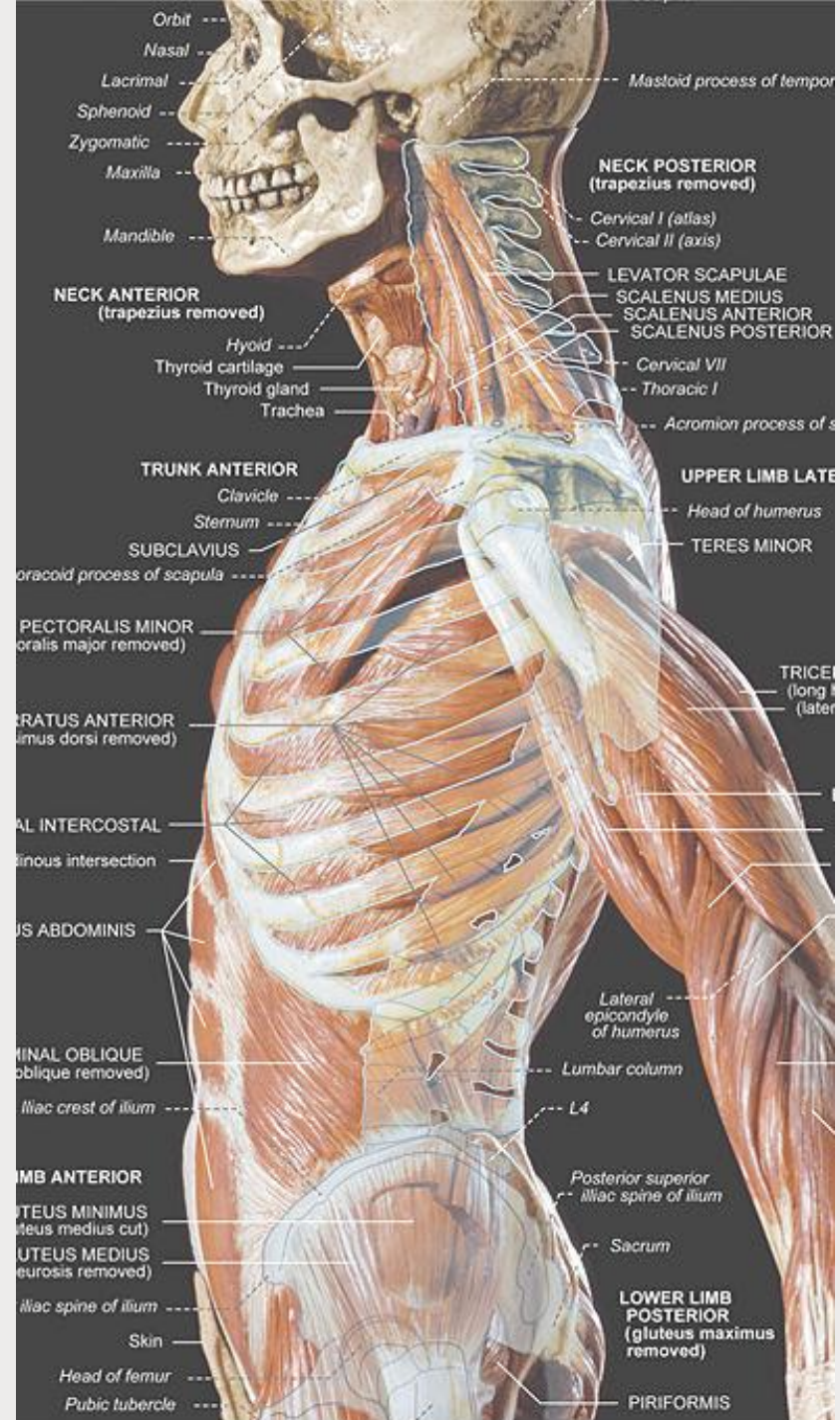




# What do muscles do?

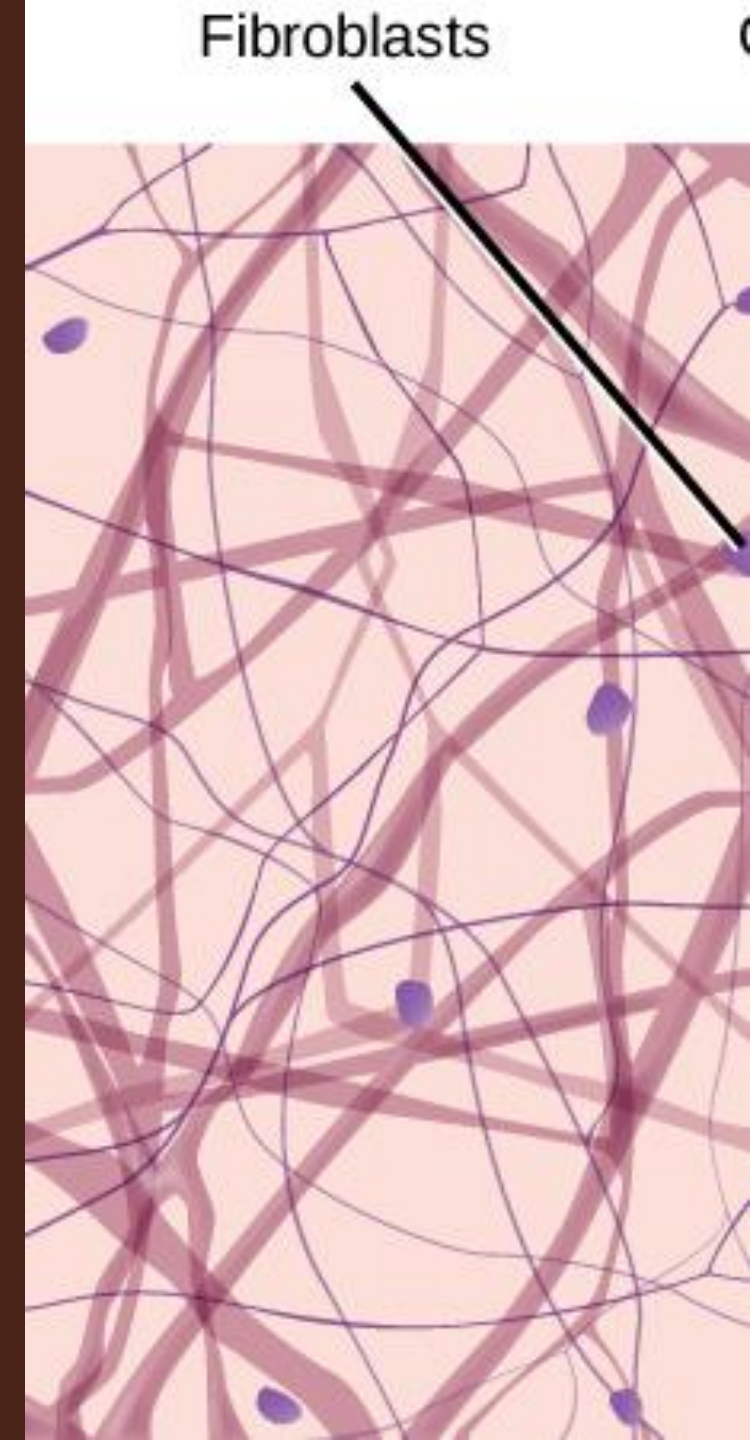
- Muscles move the body!
- The fact is, without muscles, you wouldn't be alive for very long!

- Muscles are moved whenever you move
- How many muscles do you think there are your body?
- Over 650!
- They make up nearly half of your body weight.





- Muscles are bundles of cells and fibers
- Muscles are all made of elastic tissue (sort of like the material in a rubber band).
- Thousands, or even tens of thousands of small fibers make up each muscle.





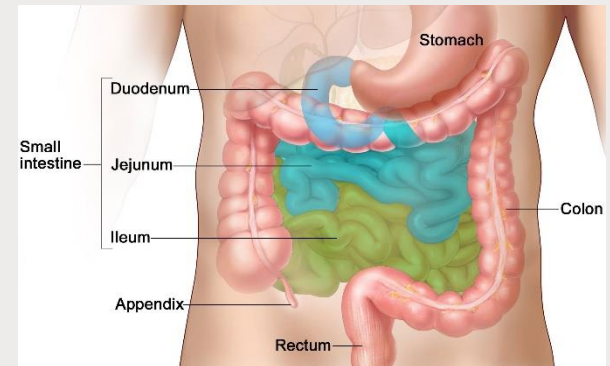
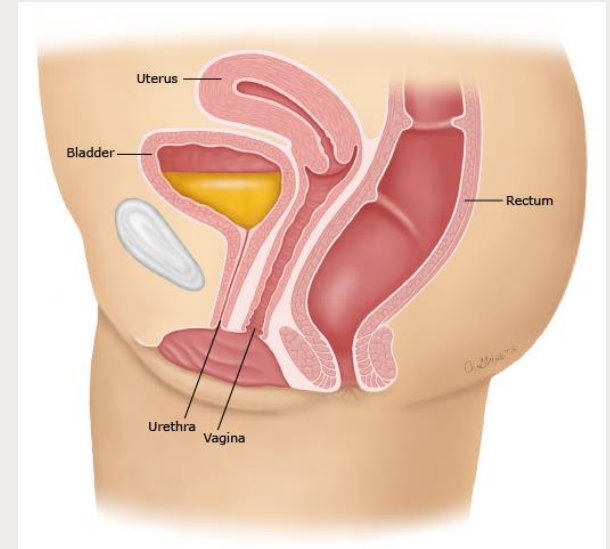
## TYPES OF MUSCLES

You have three different types of muscles in your body

- smooth muscle,
- cardiac (say: kar-dee-ak) muscle,
- skeletal (say: skeh-luh-tul) muscle.

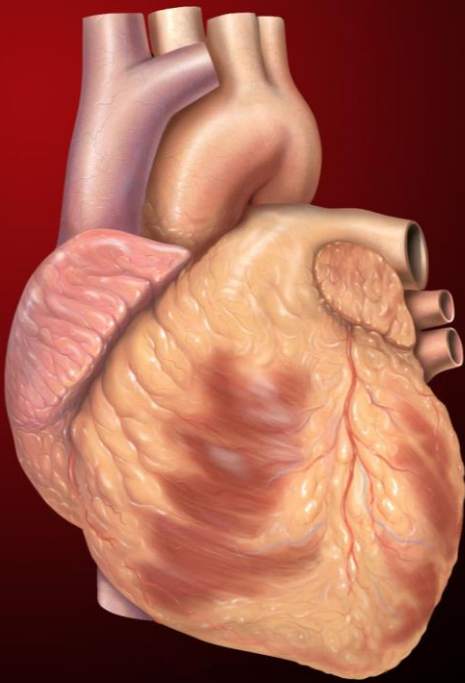
# SMOOTH MUSCLE

Smooth muscles generally form the supporting tissue of blood vessels and hollow internal organs such as the stomach, intestine and bladder. Smooth muscles are involuntarily controlled.

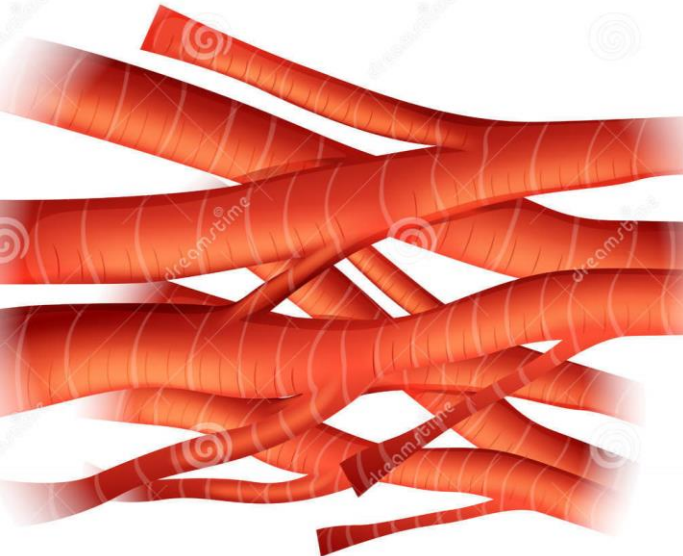


# CARDIAC MUSCLE

It is also called heart muscle or myocardium, because this muscle is only found in the walls of the heart. It helps the cells to contract and relax, so that the heart can pump rhythmically. They are involuntarily and intrinsically controlled.

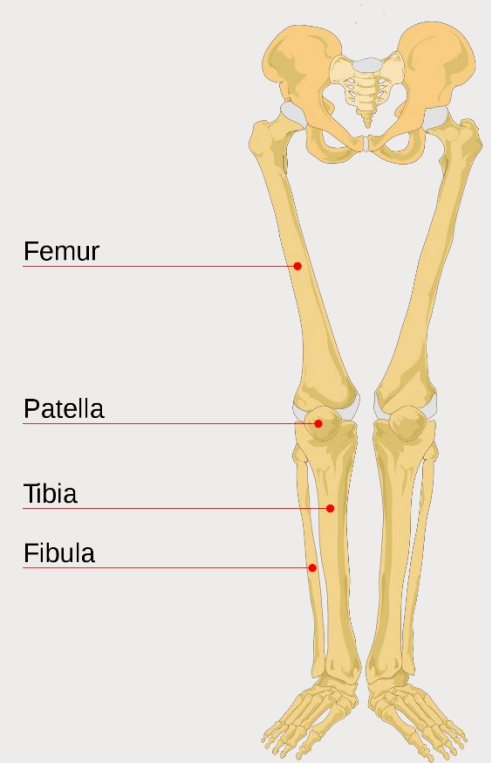


**Human Cardiac Muscle Cells**



# SKELETAL MUSCLE

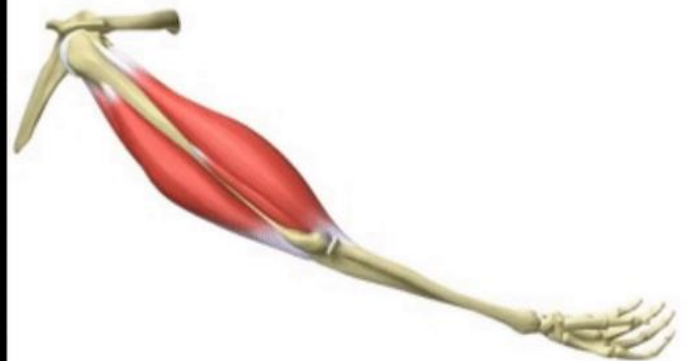
This muscle is so named because it is attached to the bones it moves. About 40% of a human male body and 23% of a female body are composed of skeletal muscles. They are voluntarily controlled.





# How do muscles move?

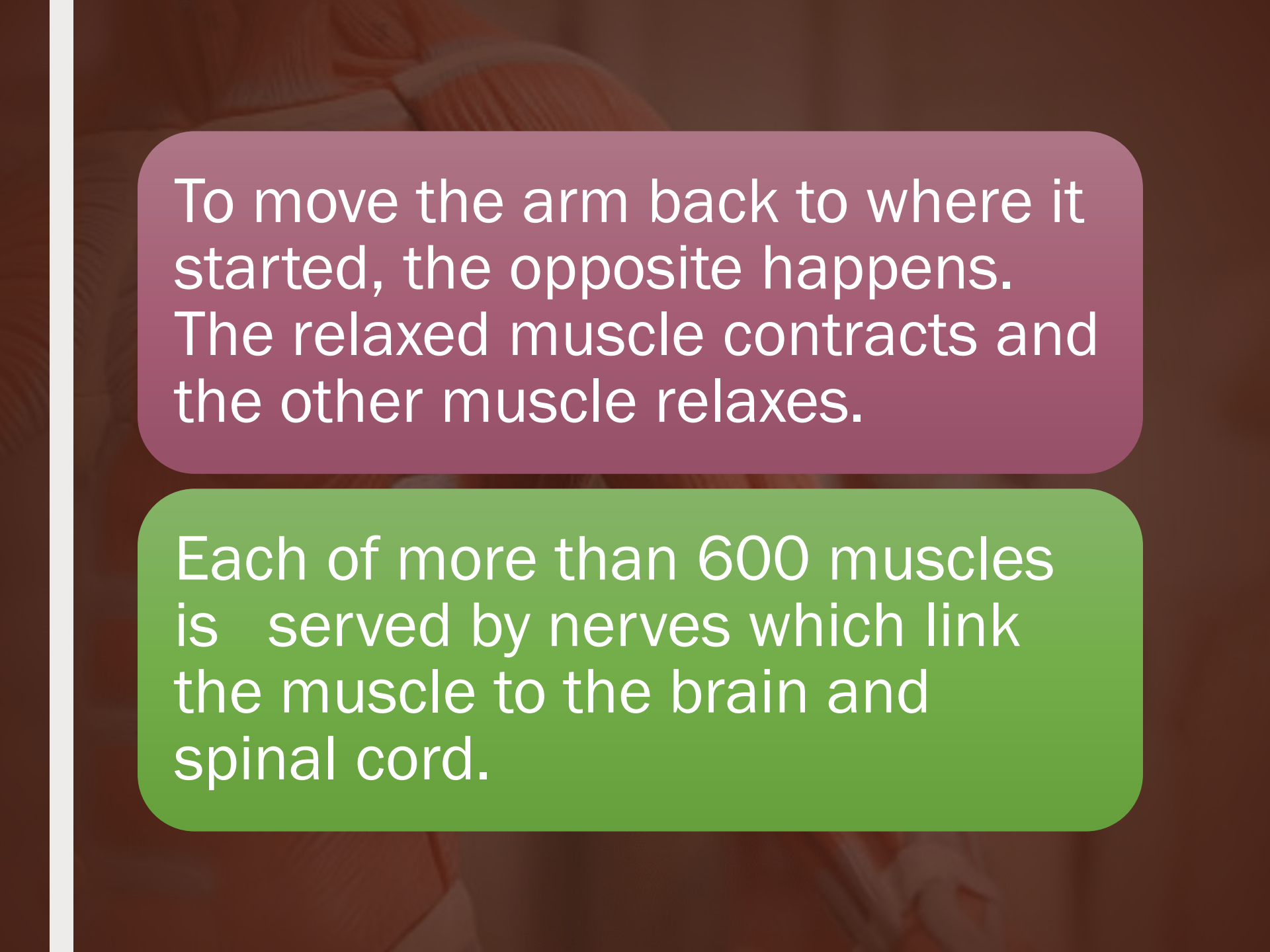
- The cells that make up muscles contract and then relax back to their original size.
- Muscles tighten up- **CONTRACT** and then **RELAX**
- You have two sets of muscles attached to many of your bones which allow them to move
- They work in pairs



To bend your arm, one muscle gets shorter and fatter (contracts).

It pulls on the bone in the lower arm to which it is attached.





To move the arm back to where it started, the opposite happens. The relaxed muscle contracts and the other muscle relaxes.

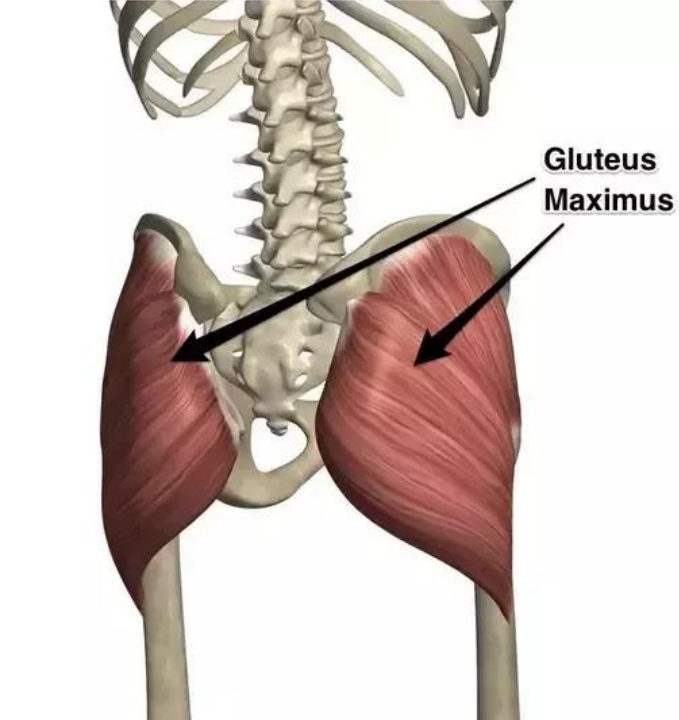
Each of more than 600 muscles is served by nerves which link the muscle to the brain and spinal cord.

If you take part in lots of exercise  
what will happen to your muscles?

They will get bigger and stronger





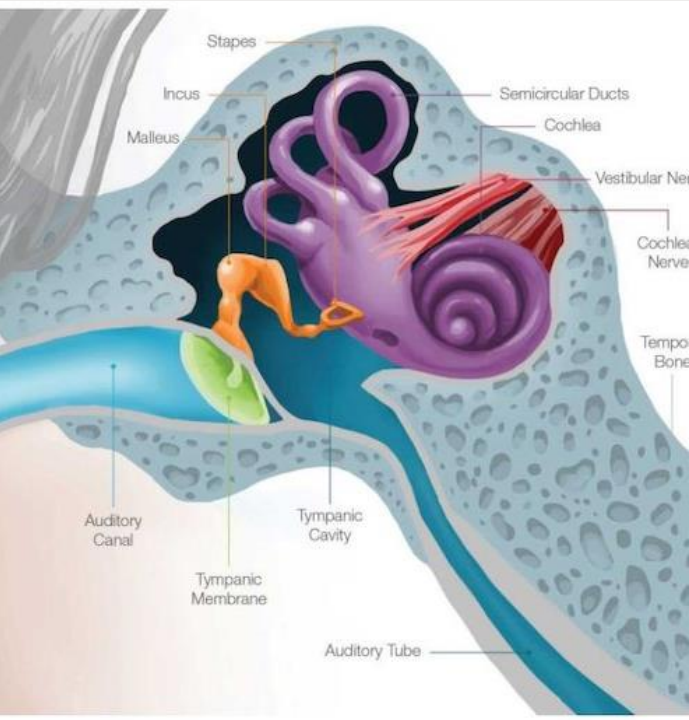


- What do you think the biggest muscle is?

The buttocks

- What about the smallest?

The ear



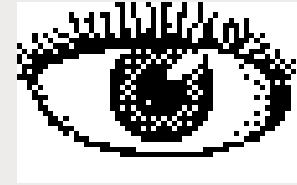


- Some muscles are known as "voluntary" -- that is, they only work when you specifically tell them to.

Can you think of some voluntary movements?

- Clap your hands, lift your leg and so on





- Other contracting muscles are automatic.

Can you think of any examples?

- Contracting of your heart
- the movement of your diaphragm so that you can breathe
- blinking your eyes are automatic.
- Through signals from your nerves, and, in some cases, your brain, as well.

# ASSIGNMENT

- Explain the difference between involuntary and voluntary muscles
- Explain how muscles move
- Finally carry out some research finding facts about animal speed records