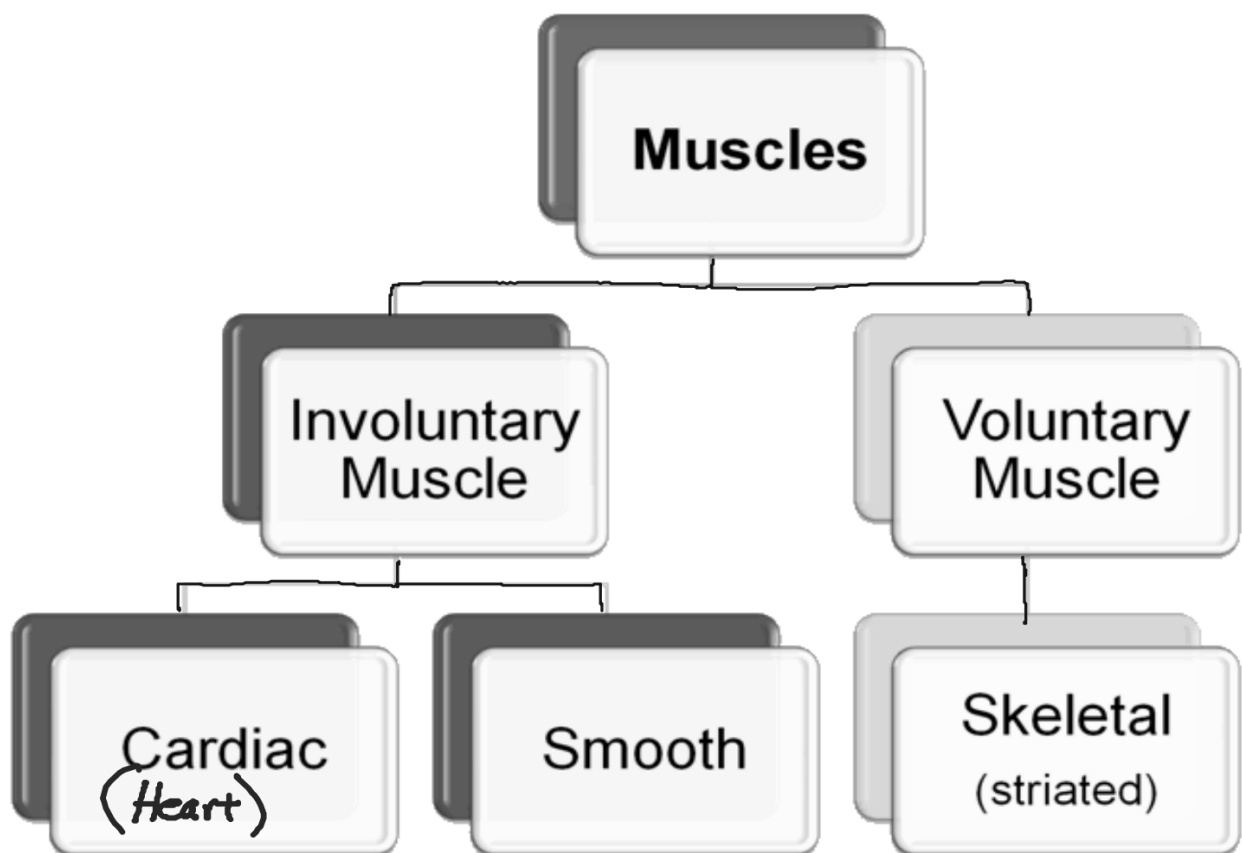
The background of the slide features four anatomical illustrations of the human body. From left to right: a full-body skeleton, a muscular system diagram of a male figure, a detailed view of the head and neck showing the brain, nerves, and muscles, and a smaller full-body muscular system diagram. The text is overlaid on these illustrations.

Human Body Muscular System

**How are organisms structured
to ensure efficiency and
survival?**



Classify types of muscles

- Voluntary muscle-

- Muscle that is under your control

- Example: *Arm Legs*

- Involuntary muscle-

- Muscle that is not under your control

- Examples: *Heart Breathing muscles*

- Digestive system*

Classify types of muscles

- Smooth muscle- *Invol.*

- Muscle found in the digestive tract (*stomach/intestines*)

- Cardiac muscle- *Invol.*

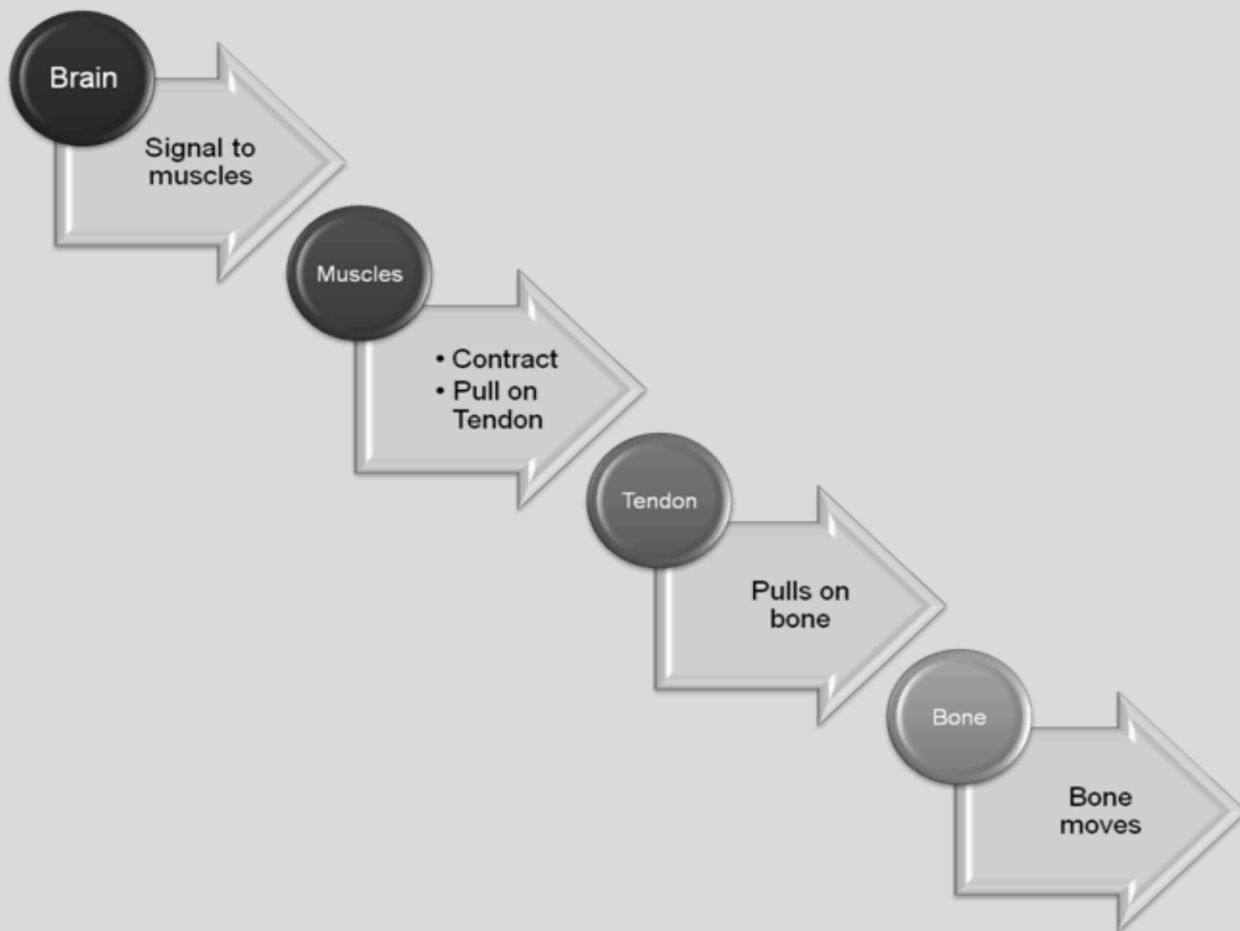
- Muscle found only in the heart

- Skeletal muscle- *Vol.*

- Muscle that moves and protects your body

Demonstrate how muscles work in pairs

- With a signal from your brain, muscles contract and get shorter pulling on your bones.
- Tendon -
 - Attach the muscles to the bones
 - Contracting muscles pull on the tendons which pull on the bones



Demonstrate how muscles work in pairs

- Muscles work in pairs, one muscle contracts (shortens) while the other relaxes (lengthens)

•Flexor-

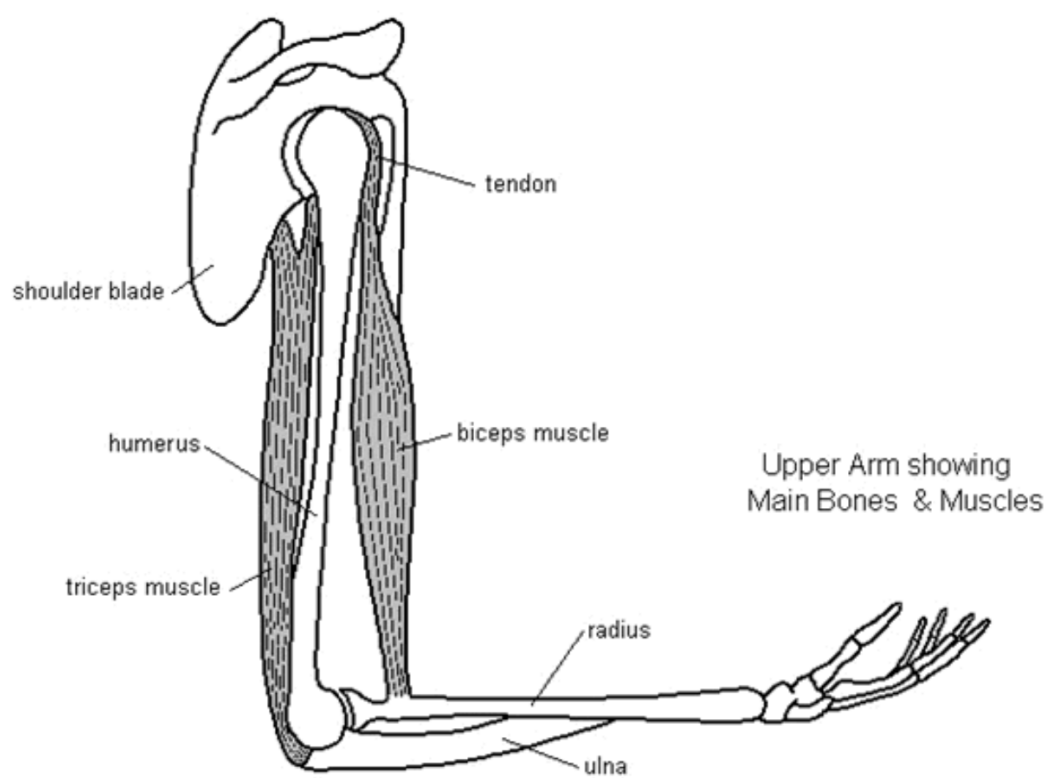
–A muscle that bends your skeleton

- Example:

•Extensor-

–A muscle that straightens your skeleton

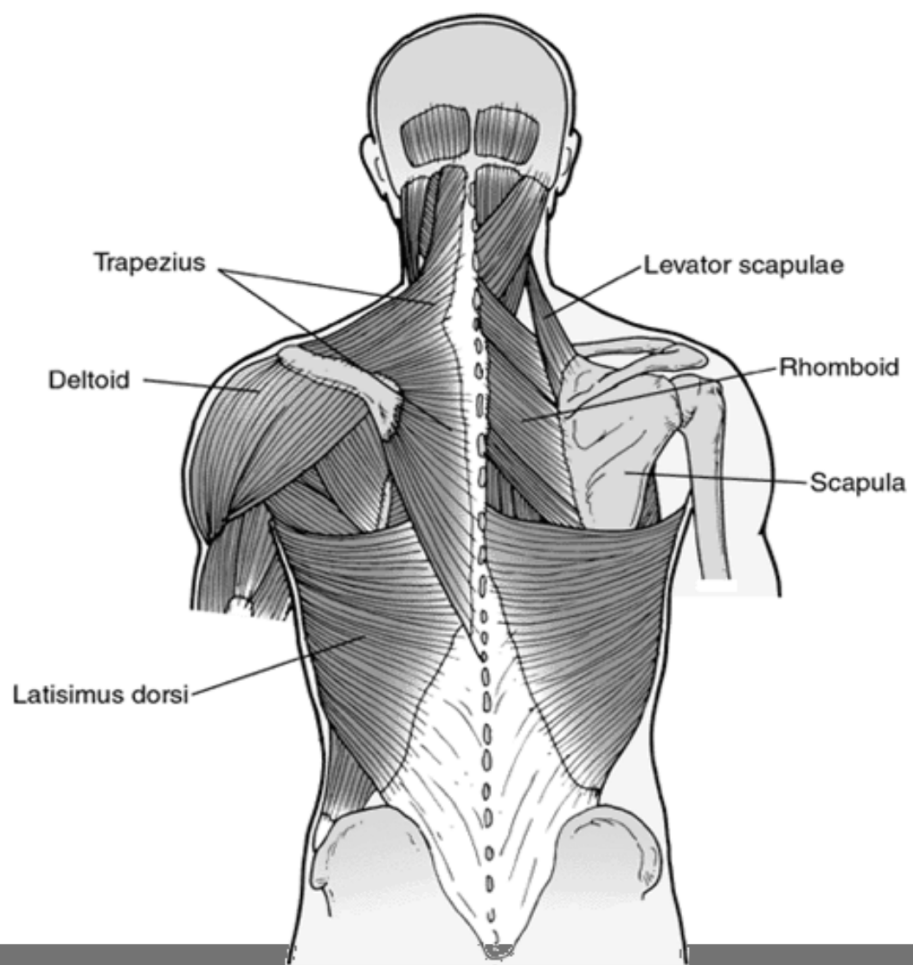
- Example:



Animation

Explain how the body is supported and can move through the musculo-skeletal system.

- Musculo-skeletal system- the muscular system and skeletal system working together to support and move the body
- Muscles surrounding the back provide support to your vertebra while allowing for you to bend front to back and to each side



Explain how the body is supported and can move through the musculo-skeletal system.

- Muscle injury

- Strain

- An injury where muscles or tendons are overstretched.

- Tendonitis

- When tendons become inflamed due to overuse.

- Anabolic steroids

- Used to make muscles larger and stronger

- Causes long term health problems such as:

- Heart, liver and kidney damage

- Can cause bones to stop growing