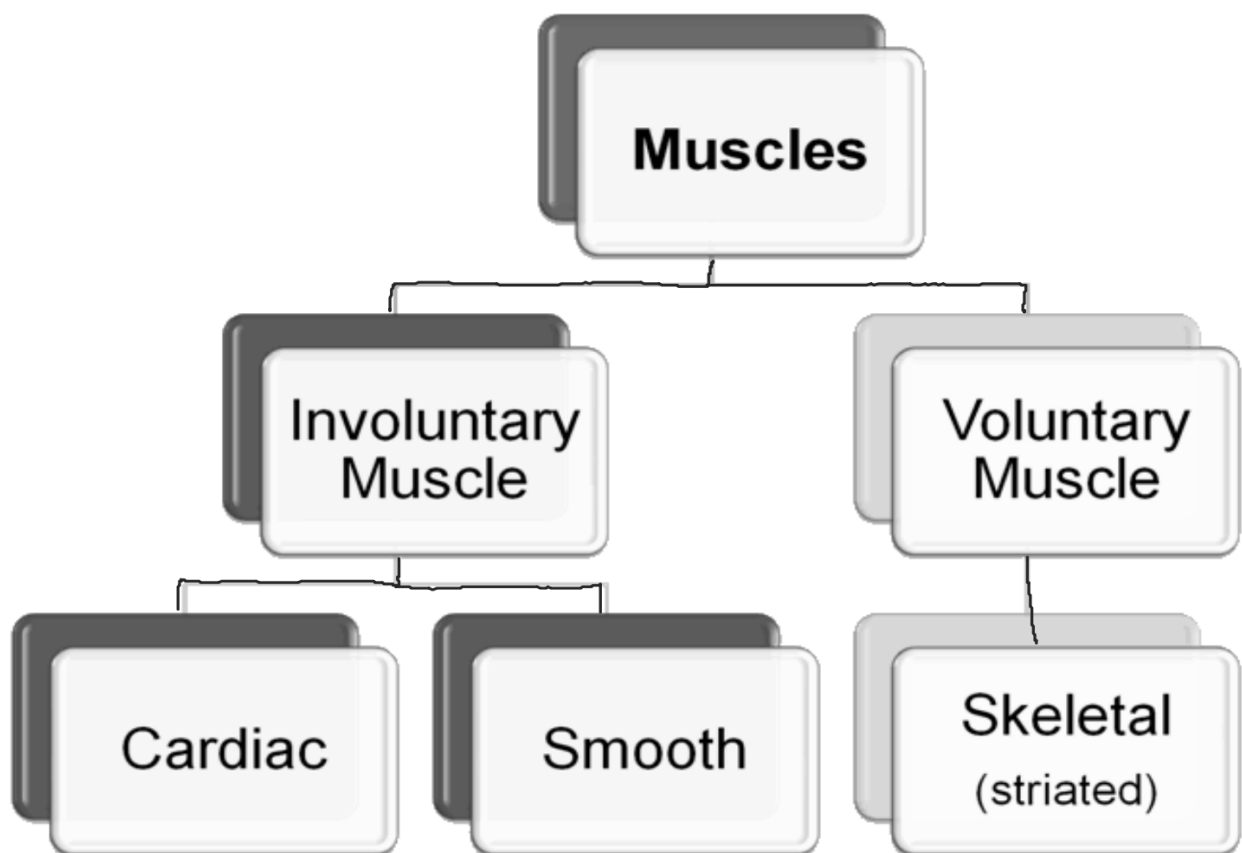
The background of the slide features four anatomical illustrations of the human body. From left to right: a full skeleton, a muscular system diagram showing the torso and limbs, a nervous system diagram showing the brain, spinal cord, and peripheral nerves, and a smaller skeleton. The text is overlaid 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: *muscles of the eye, tongue, Hand*

## •Involuntary muscle-

–Muscle that is not under your control

•Examples: *Heart, eyelids stomach*

## Classify types of muscles

- Smooth muscle- *InVol.*

- Muscle found in the digestive tract

- Cardiac muscle- *InVol.*

- Muscle found only in the heart

- Skeletal muscle- *Vol*

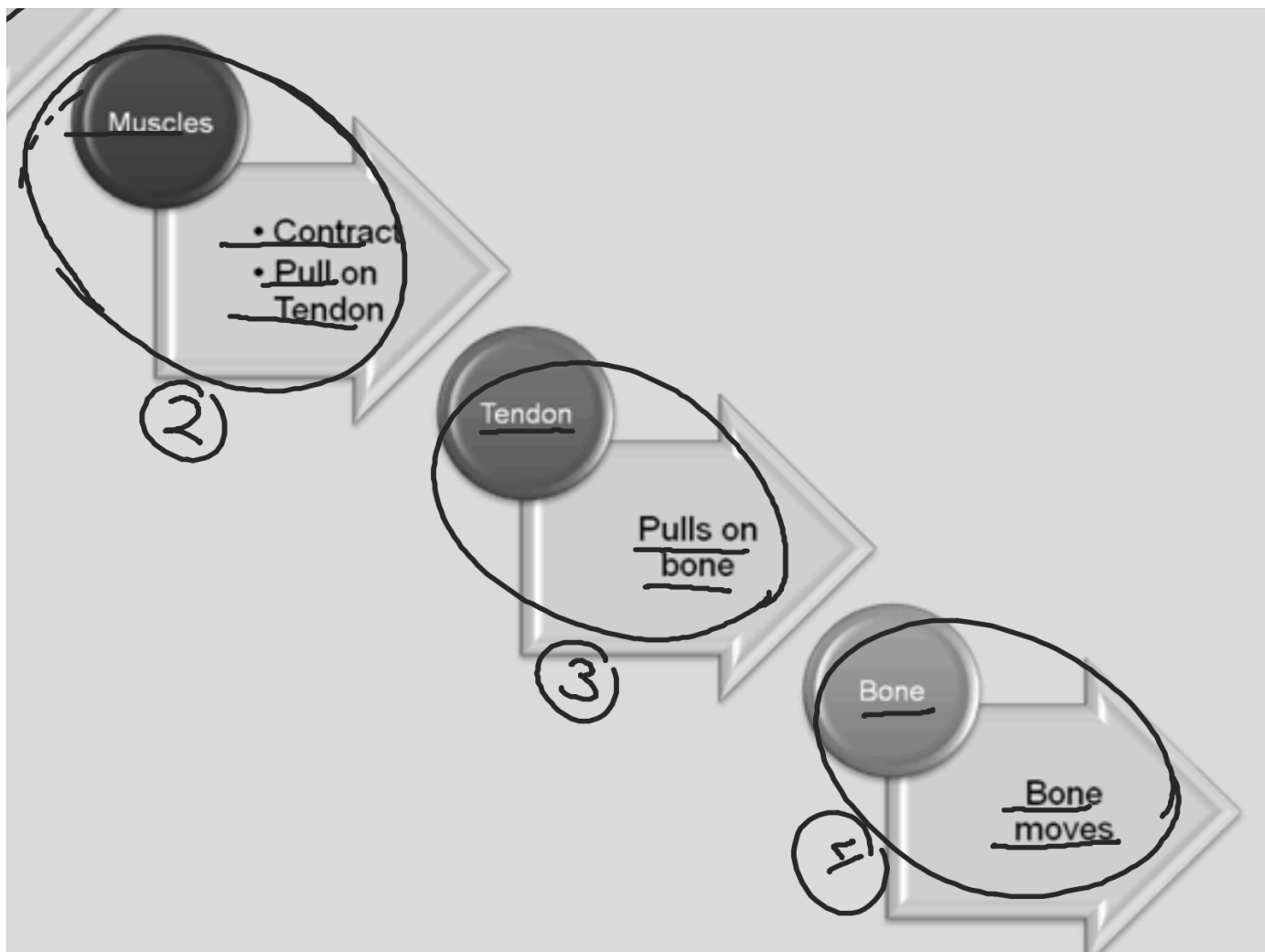
- Muscle that moves and protects your body

## 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-

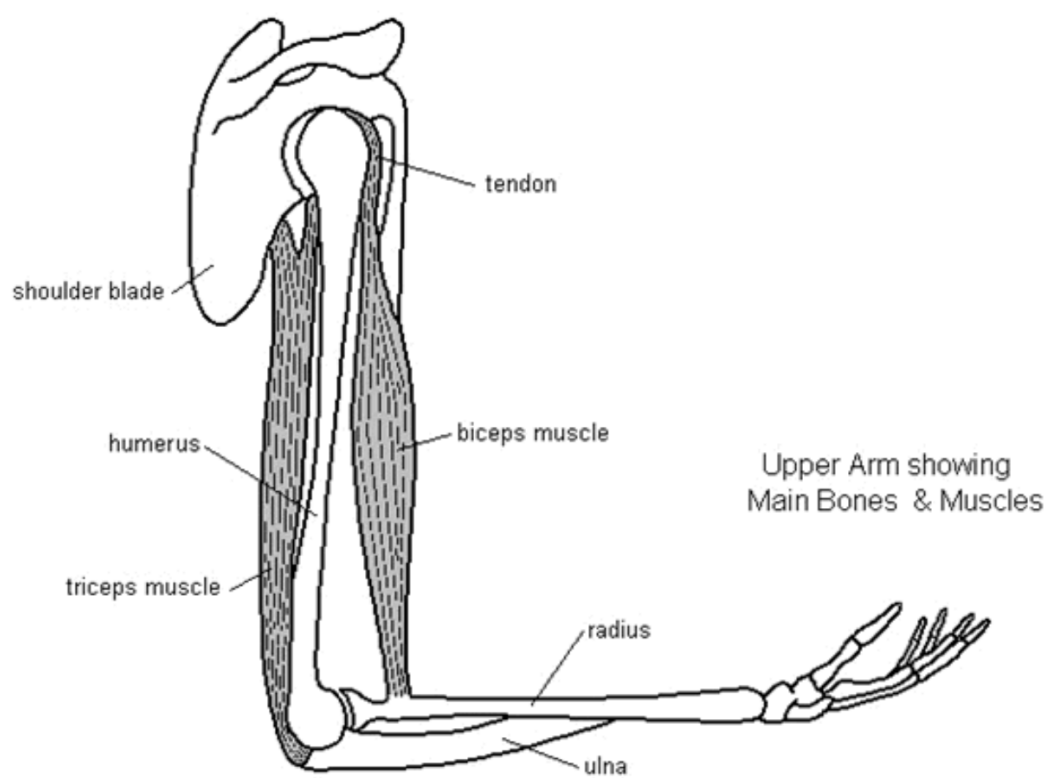
- A muscle that bends your skeleton

- Example: *biceps*

- Extensor-

- A muscle that straightens your skeleton

- Example: *Triceps*

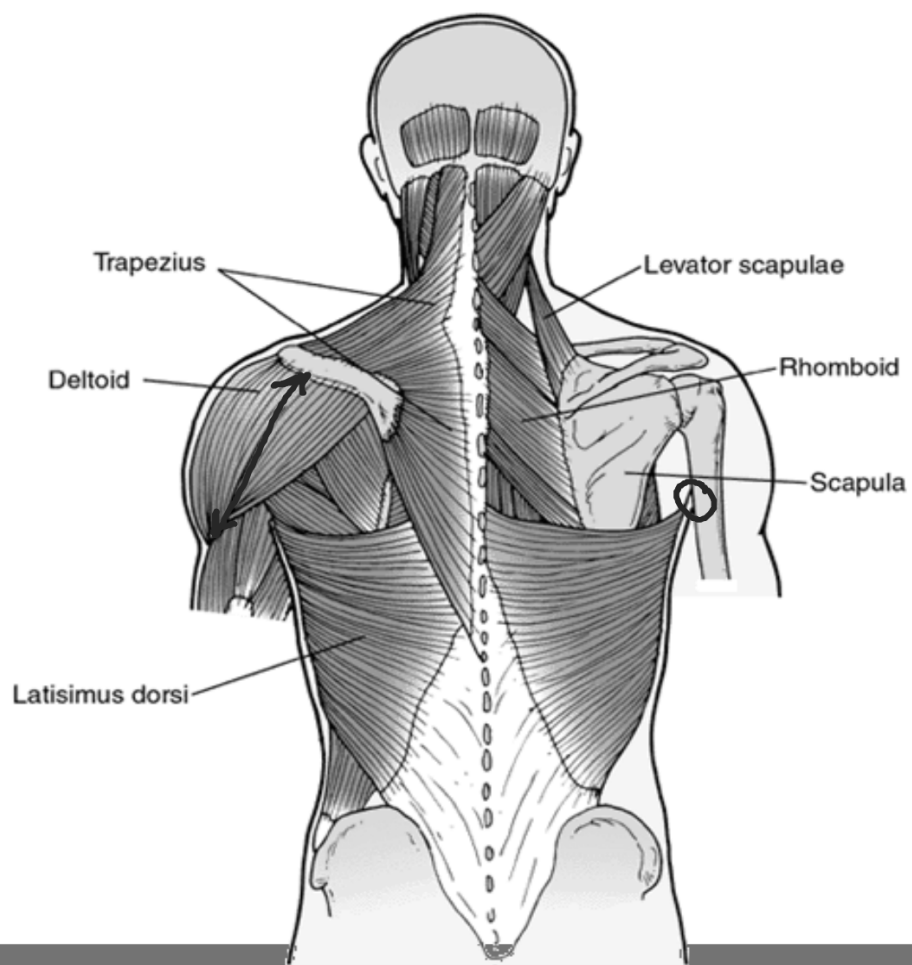


Animation



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