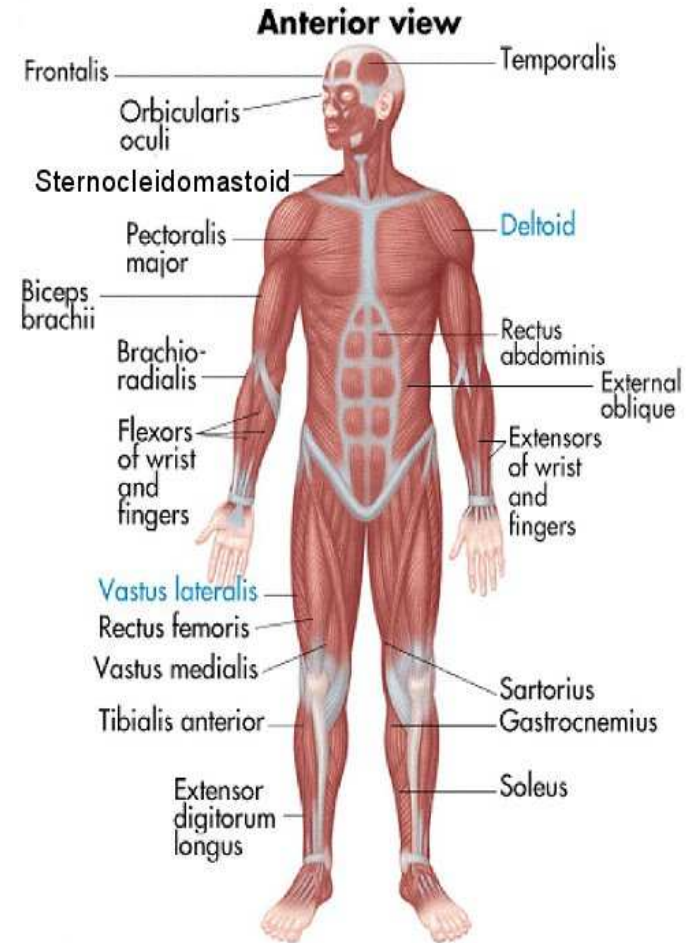


The Muscular System

EQ: Why is the muscular system important to us?

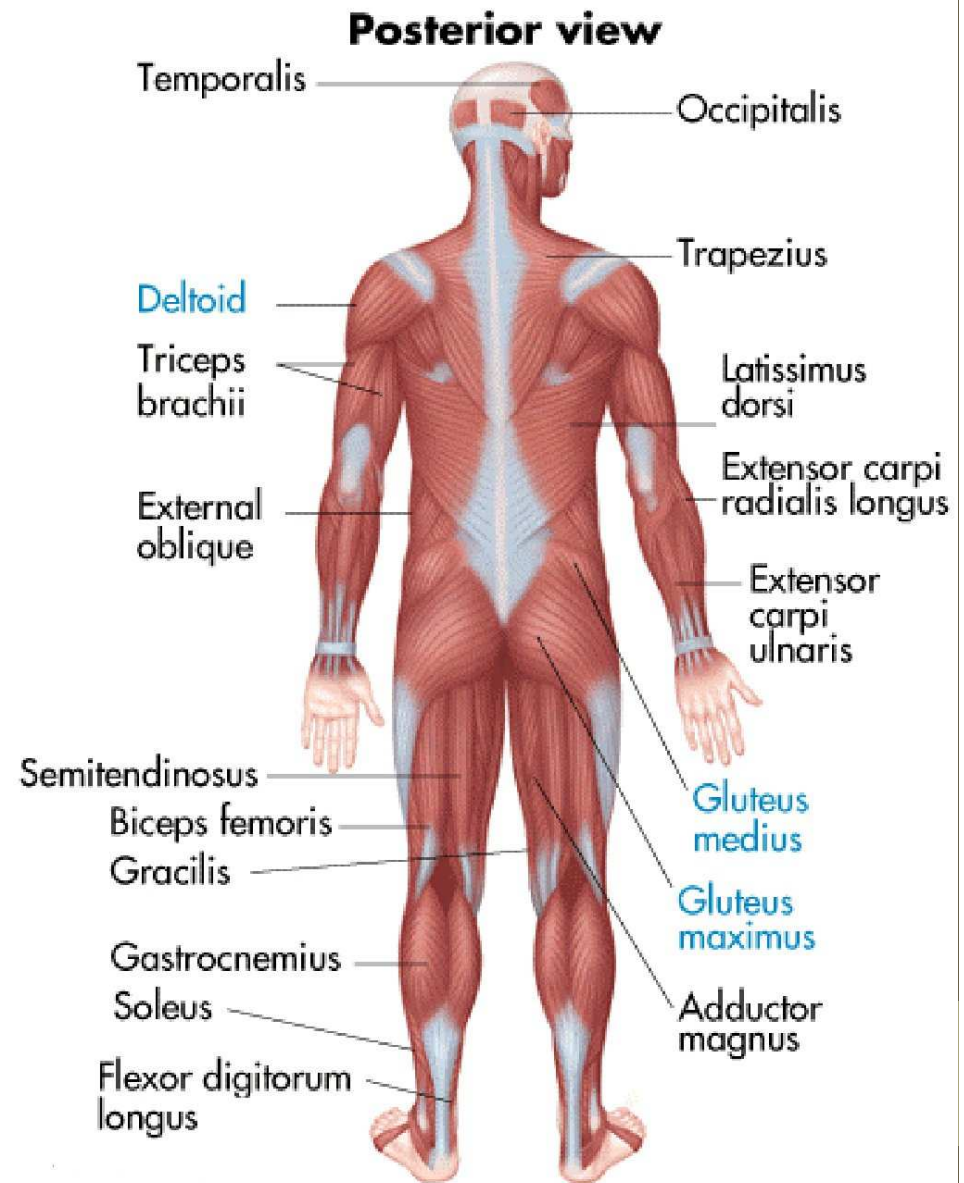
The Muscular System

- The ability to move is an essential activity of the human body
- ½ our body weight comes from muscles
- Consists of over 600 individual muscles.
- **3 purposes:**
 - Body movement
 - Body shape
 - Body heat (maintain temp.)



The Muscular System

- Body movements are determined by three types of muscles
 - Smooth (involuntary) – cannot be controlled by will.
 - Cardiac – control the contractions of the heart.
 - Skeletal (Voluntary) – can be controlled by will.



Function of Skeletal muscles

- Attach to bones to provide voluntary movement
 - Tendons: strong, tough connective cords
 - Fascia: tough, sheet-like membrane
- Produce heat and energy for the body
- Help maintain posture
- Protect internal organs

Functions cont'd.

- Provide movements to the limbs, but contract quickly, fatigue easily and lack the ability to maintain contraction for long periods
 - Blinking eyes, talking, breathing, eating, dancing and writing all produced by these muscles

Function of Smooth Muscle

- Called smooth muscle because they are unmarked by striations, small spindle shaped
- Unattached to bones, act slowly, do not tire easily and can remain contracted for a long time
- Not under conscious control so they are also called involuntary muscles
- Found in walls of internal organs (intestines, bladder, stomach, uterus, blood vessels)

Function of cardiac muscle

- Found only in the heart
- Involuntary muscle
- Requires a continuous supply of oxygen to function
- Cardiac muscle cells begin to die after 30 seconds of oxygen cut-off

Characteristics of Muscles

- *All muscles have 4 common characteristics*
 - Excitability – ability to respond to a stimulus (ie: nerve impulse)
 - Contractibility – muscle fibers that are stimulated by nerves contract (become shorter) and causes movement
 - Extensibility – ability to be stretched
 - Elasticity – allows the muscle to return to its original shape after it has been stretched

LEFT SIDE ACTIVITY

- Look online and find a picture of each of the three types of muscles and draw them.