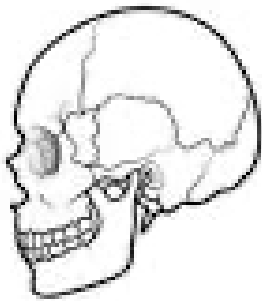


Anatomy Chapters 9 and 10 Notes

Define Joints:

How are joints classified?



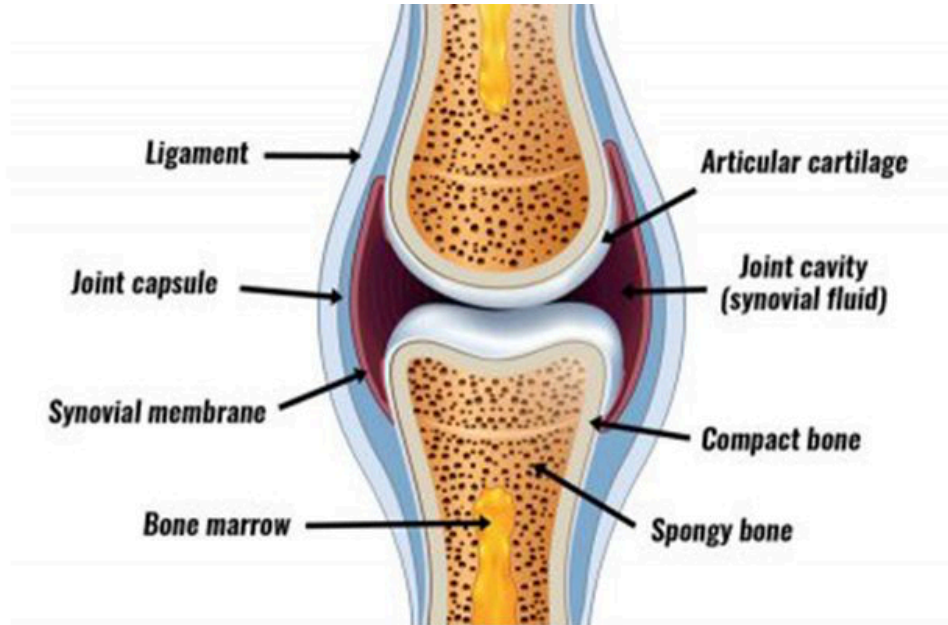
when collagen fibers from one bone penetrate the adjacent bone, anchoring them in place



two bones joined by cartilage



freely movable



Write the role of each of these parts of a synovial joint.

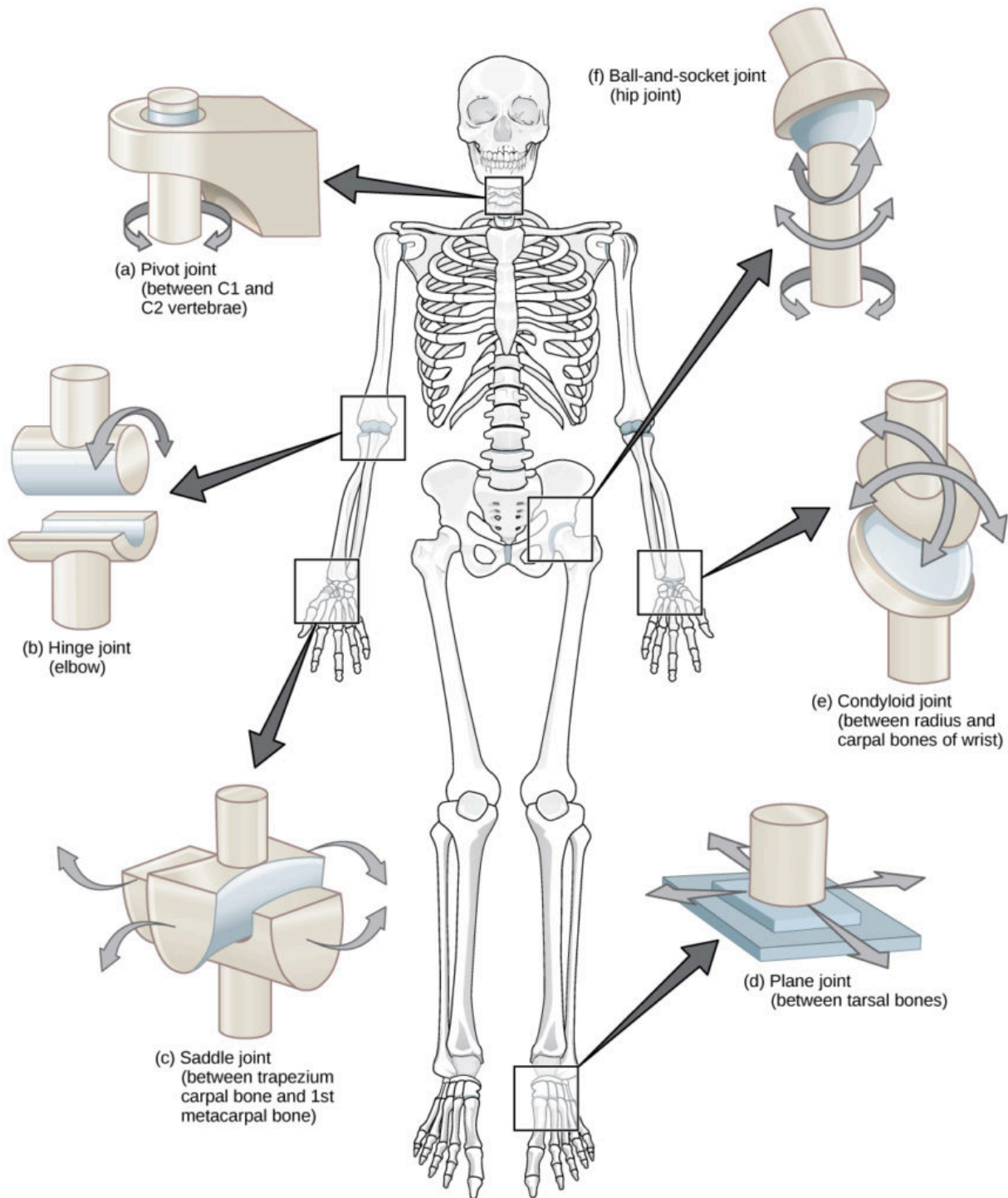
Joint capsule:

Synovial membrane:

Joint cavity:

Articular cartilage:

Ligaments:



What is another name for the plane joint? _____

What makes these joints different from one another?

Illustrate the following types of movements:

MANY JOINTS

Illustrations

1. Flexion (think “flexing”)
2. Extension (think “extending”)
3. Hyperextension
(“hyper” means “above normal”)
4. Abduction
(“ab” means “away” like “absent”)
5. Adduction
(“ad” means “toward” like “adjacent”)
6. Circumduction (think “circle”)
7. Rotation (think “rotate”)
8. Protraction (think “pro” meaning forward)
9. Retraction (think “re” meaning backward)

FOOT

10. Dorsiflexion

("dorsal" means back, think flexing the back of the foot)

11. Plantar flexion

(your foot is "planted" on the ground, so you point your foot towards the ground)

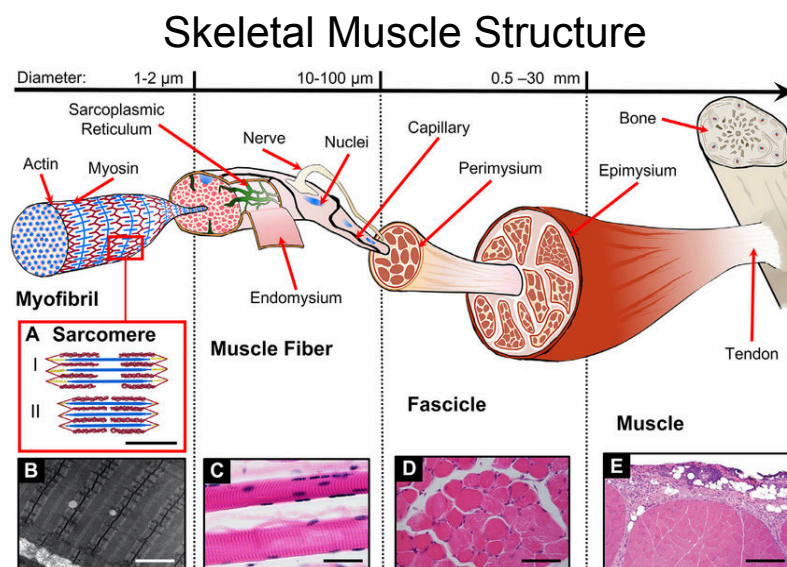
12. Inversion (think "in" so turning in)

13. Eversion ("e" means "out" so turning out)

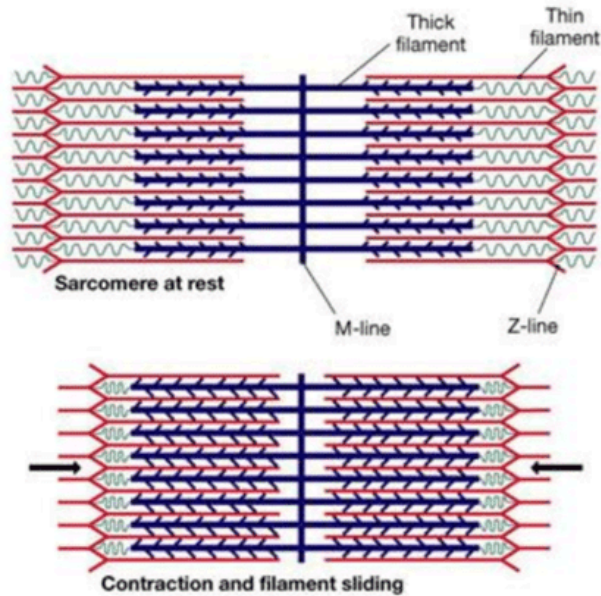
HAND

14. Supination ("sup" means under, like "sub" so turning what is under (palm) over)

15. Pronation ("pro" means "front" so turning what is in front to being down)



Add the following labels to the skeletal muscle image above: fascia, sarcolemma



What is the role of each of these components of the sliding-filament model?

Z-line: _____

Sarcomere: _____

Cross bridge:

To contract, a skeletal muscle is stimulated by a _____ neuron. The motor neuron releases a neurotransmitter or _____ called acetylcholine or _____ for short. It diffuses across the synaptic _____ (a narrow space between the nerve and muscle fiber) and the sarcoplasmic reticulum releases _____. The calcium binds with the _____ on the actin filament to expose attachment points. The _____ heads grab on and muscle contraction happens! To relax, the enzyme _____ breaks down any remaining ACh and calcium ions are pumped back to the _____, allowing the muscle fiber to relax.

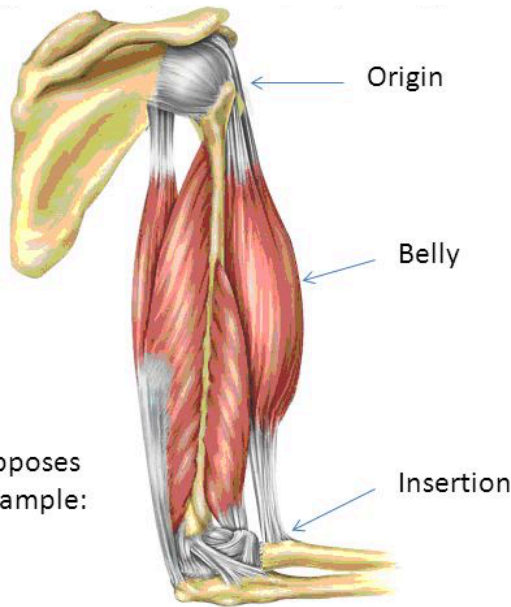
Muscle _____ is the continuous state of partial contraction to give you a strong contraction when you need it. To contract a muscle as a whole, the _____ unit responds to a stimulus. The minimum voltage needed to contract is called the _____. The single brief contraction that results is a _____. Some muscles fibers are slow twitch and some are _____.

A strong stimulus elicits a _____ contraction. A weak stimulus elicits a _____ contraction. Muscles first use _____, which uses oxygen to release energy. They sometimes have to switch to _____ for quick energy, but it produces lactic acid which can lead to fatigue. After a while the heart and lungs increase the supply of oxygen so muscles can go back to aerobic respiration.

Prime mover = muscle that provides the primary movement at a joint. In this Example: **Biceps brachii**

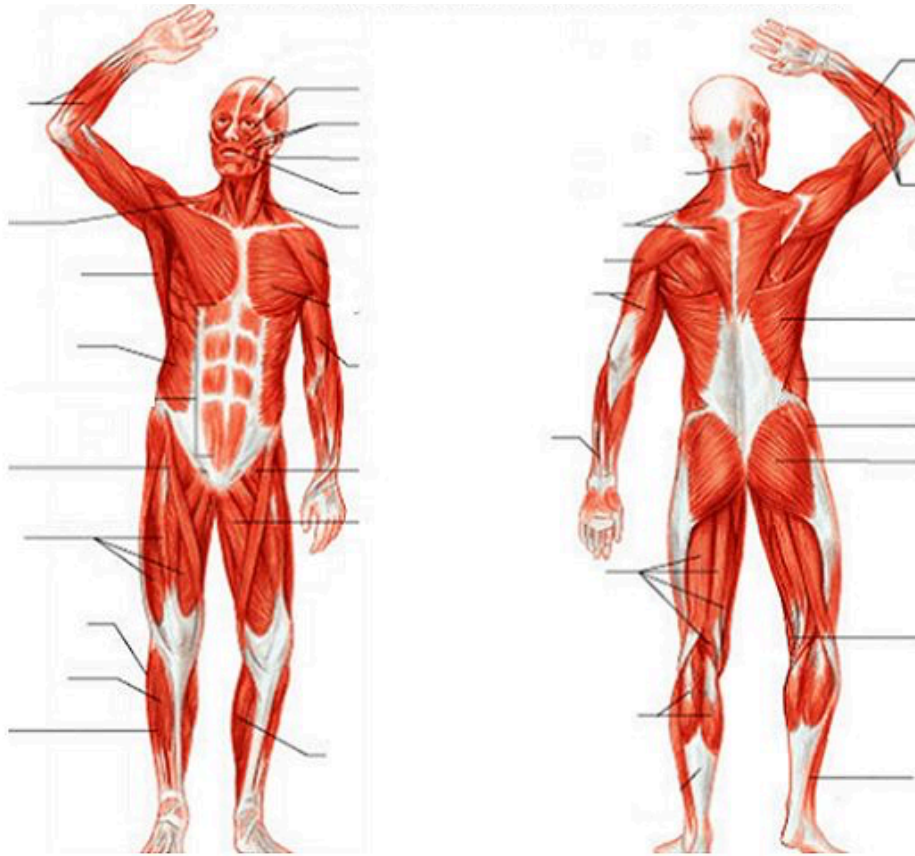
Synergist = muscle that Assists the prime mover. In this case the **brachialis**

Antagonist = muscle that opposes The prime mover. In this example: **Triceps brachii**.



What refers to the end of the muscle that attaches to the more stationary bone? _____
What refers to the end of the muscle that attaches to the more movable bone? _____
Label the biceps brachii and the triceps brachii in the image above.

Label the muscles in the diagrams below.



What are 6 characteristics used to name muscles?

What do the muscles of the face allow us to do?

What are three muscles involved in breathing?

What gives the abdominal wall its strength?