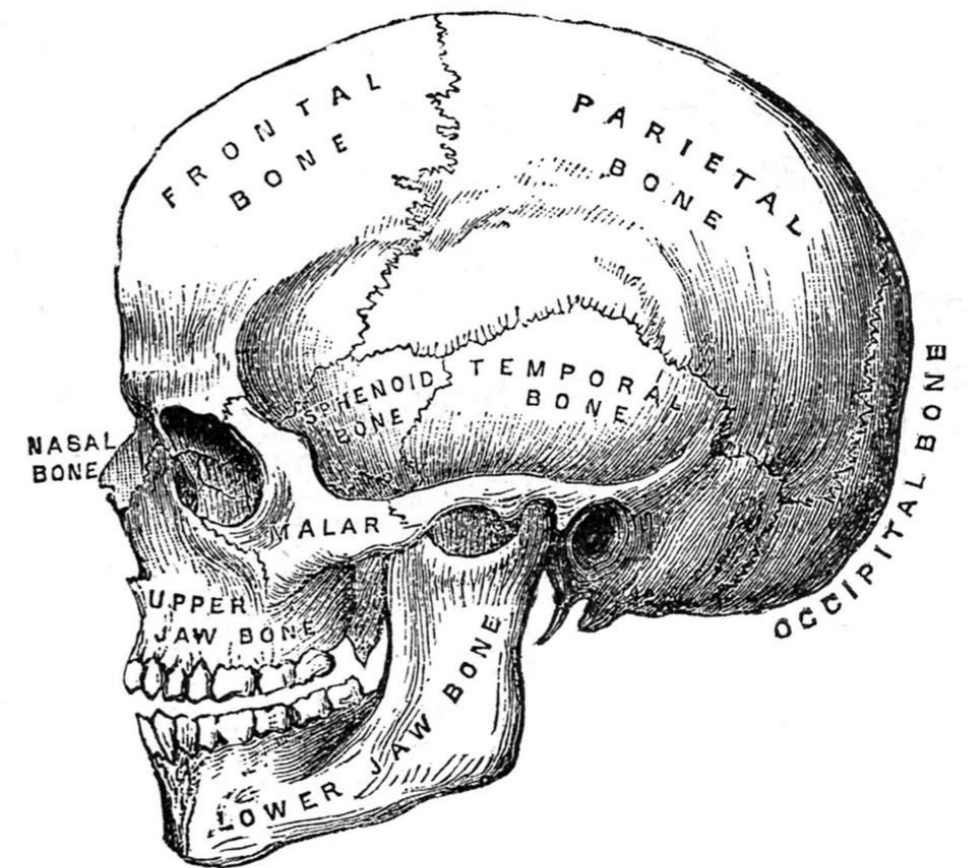
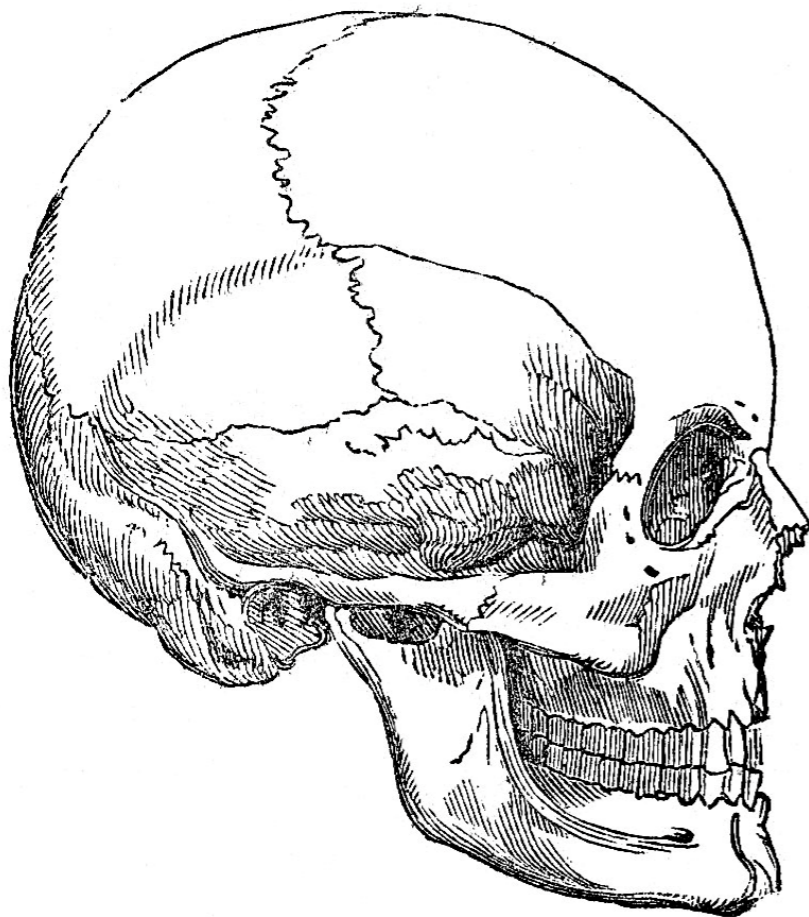


System

Boooooones!



I heart the skeletal system!

Why a skeleton?

- Our skeletons:
 - Support our bodies
 - Store nutrients like calcium and phosphorous
 - Form blood cells in their marrow
 - Anchor muscles
 - Protect our organs

Structure

- Round ends and pits for muscle, ligament, and cartilage attachment
- Blood vessels enter and leave through many small holes
- Surface covered with periosteum, a tough, tight membrane.

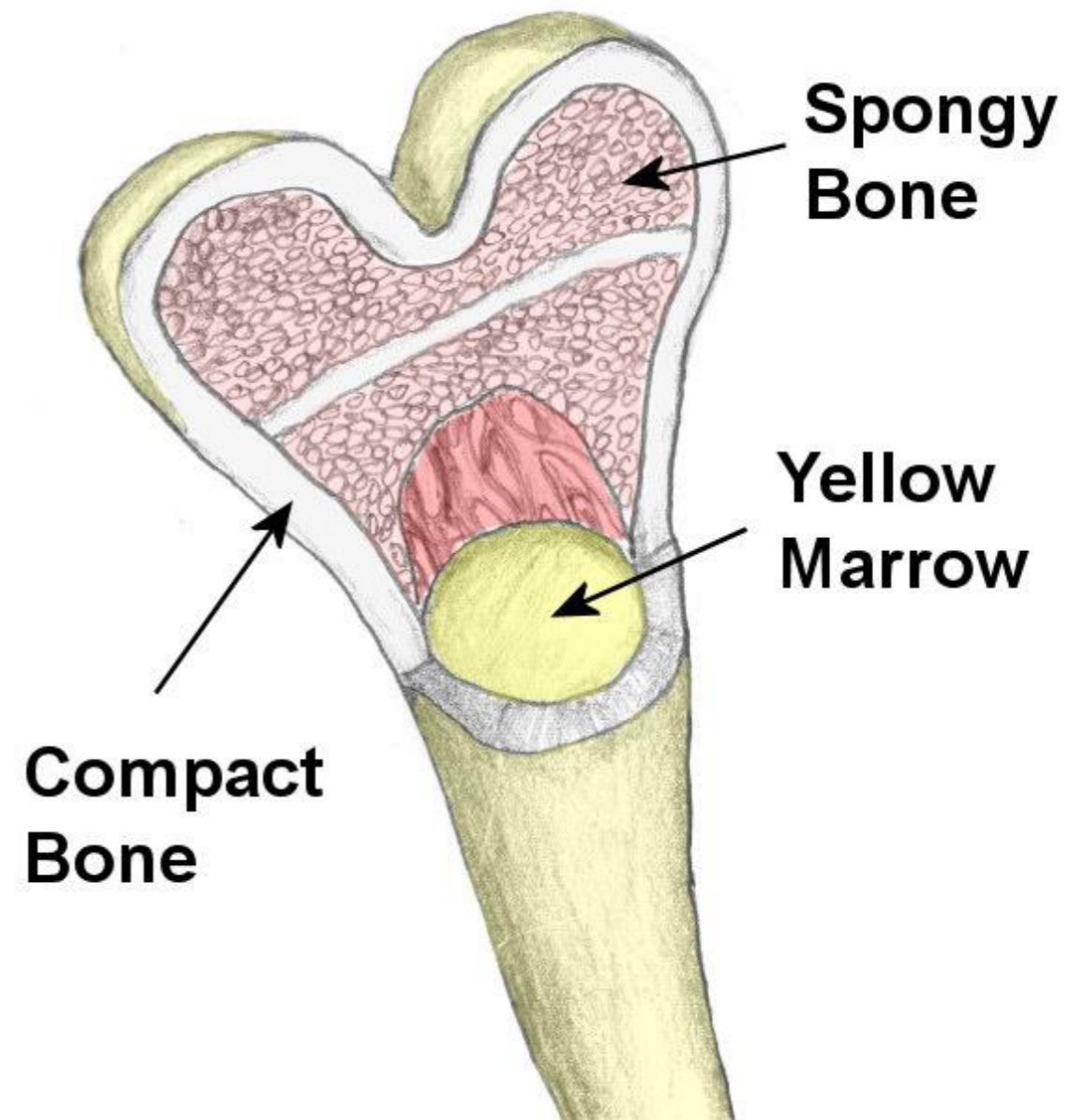
Two Types of Bone

The two types are:

- Compact bone
- Spongy bone

What can you infer about each of these types of bone, based on the names and where they are located?

Brain storm for a minute, and then pair up to discuss your ideas.



Compact Bone

- Compact bone is directly under the periosteum - it is living tissue!
- Provides strength to bones
- Made of calcium phosphate deposits
- Contains bone cells and blood vessels

Spongy Bone

- Spongy bone is near the ends of longer bones.
- Contains lots of small spaces to make bones lighter
- Cavities in spongy bone are filled with marrow. Marrow can be yellow and be made of fat cells, or red and produce red blood cells.



Brain Storming!

- How close were your hypotheses about the functions of compact and spongy bone? Why do you think you were you correct incorrect?



Cartilage

- Cartilage is a thick tissue layer covering the ends of bones.
- Cartilage is slippery and thick to be a shock absorber and to reduce friction when bones rub together.

Bone Formation

- A fetus has a skeleton made of cartilage
- Cartilage breaks down over time to get replaced by bone
- Osteoblasts are bone-forming cells that deposit calcium and phosphorus to make bones.
- At birth, your skeleton is 300 + separate bones - as you age they fuse. Now you only have 206.

Joints

- A joint is any place where two or more bones come together.
- Cartilage always holds healthy bones apart.
- Ligaments hold healthy bones in place. A ligament is a thick band of tissue.

Joints

- You have immovable and movable joints.
- Immovable joints don't allow movement (duh). Ex: Bones in the skull.
- Movable joints DO allow movement. There are different types: pivot, ball and socket, hinge, and gliding. They allow different types of movement.



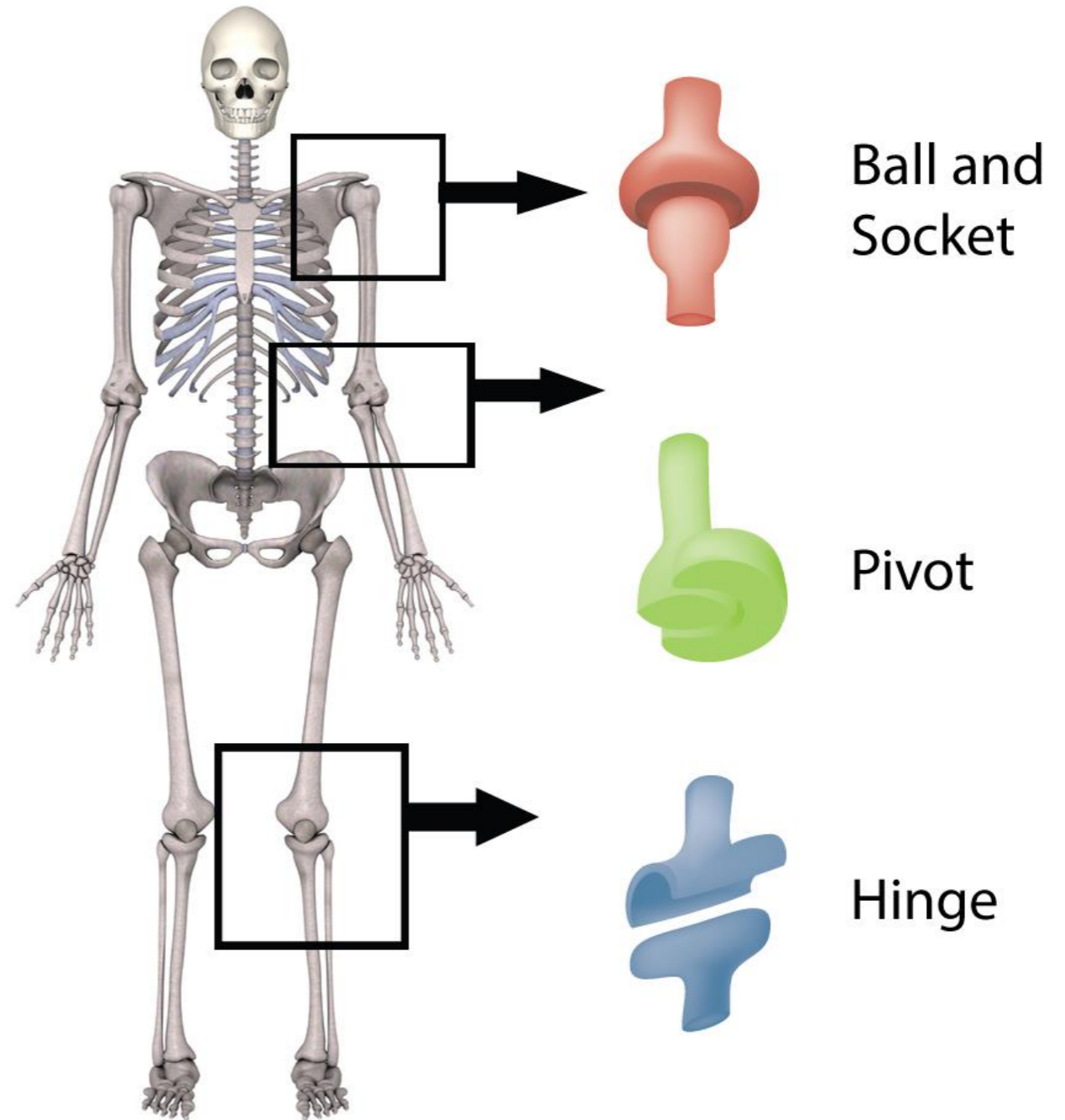
Brain Storming!

- Before the next slide, think about the different types of movable joints. Where do you think you would find each of those in your body?

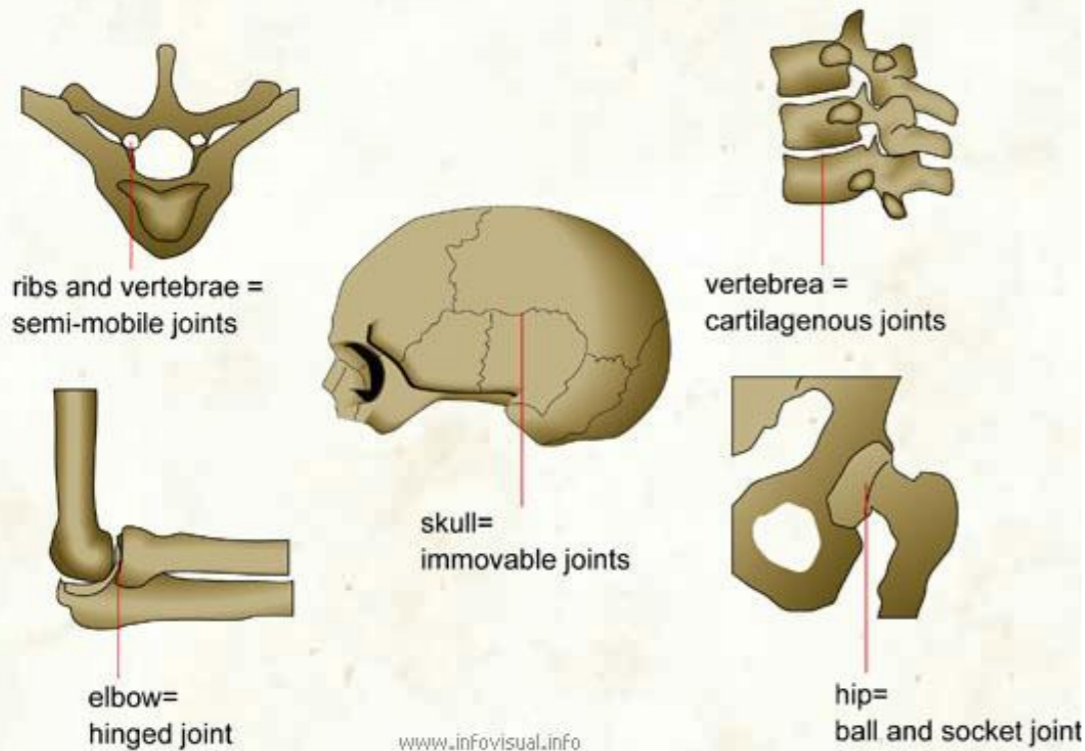


Movable Joints

Movable Joints



TYPES OF JOINTS FOUND IN THE HUMAN BODY



Think about it . . .

- Try to answer one or both of the following questions:
 - What would happen if we only had compact bone and no spongy bone?
 - What would happen if you didn't have any cartilage?

Don't Forget!

- For next class, don't forget to: