

The Skeletal System:

EQ: What are the parts and the functions of the skeletal system?

The Skeletal System

- Parts of the skeletal system
 - Bones (skeleton)
 - Joints
 - Cartilages
 - Ligaments (bone to bone)
 - Tendons (bone to muscle)
- Divided into two divisions
 - **Axial skeleton-** skull, spinal column
 - **Appendicular skeleton** – limbs and girdle

Functions of Bones

- Support of the body
- Protection of soft organs
- Movement due to attached skeletal muscles
- Storage of minerals and fats
- Blood cell formation

Bones of the Human Body

- The skeleton has **206** bones
- Two basic types of bone tissue
 - **Compact bone**
 - Homogeneous
 - **Spongy bone**
 - Small needle-like pieces of bone
 - Many open spaces

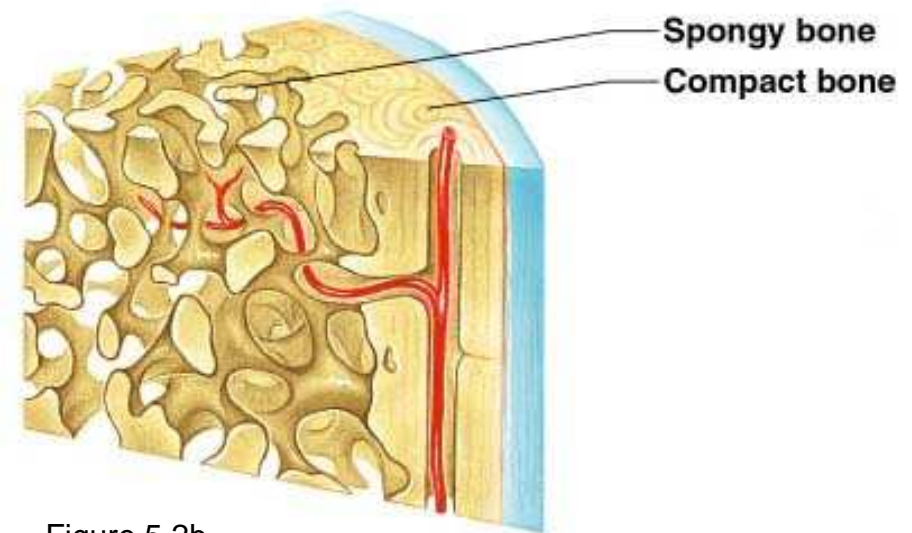


Figure 5.2b

Bones are classified by their shape:

- 1. Long-** bones are longer than they are wide (arms, legs)
- 2. Short-** usually square in shape, cube like (wrist, ankle)
- 3. Flat-** flat , curved (skull, Sternum)
- 4. Irregular-** odd shapes (vertebrae, pelvis)

Classification of Bones on the Basis of Shape

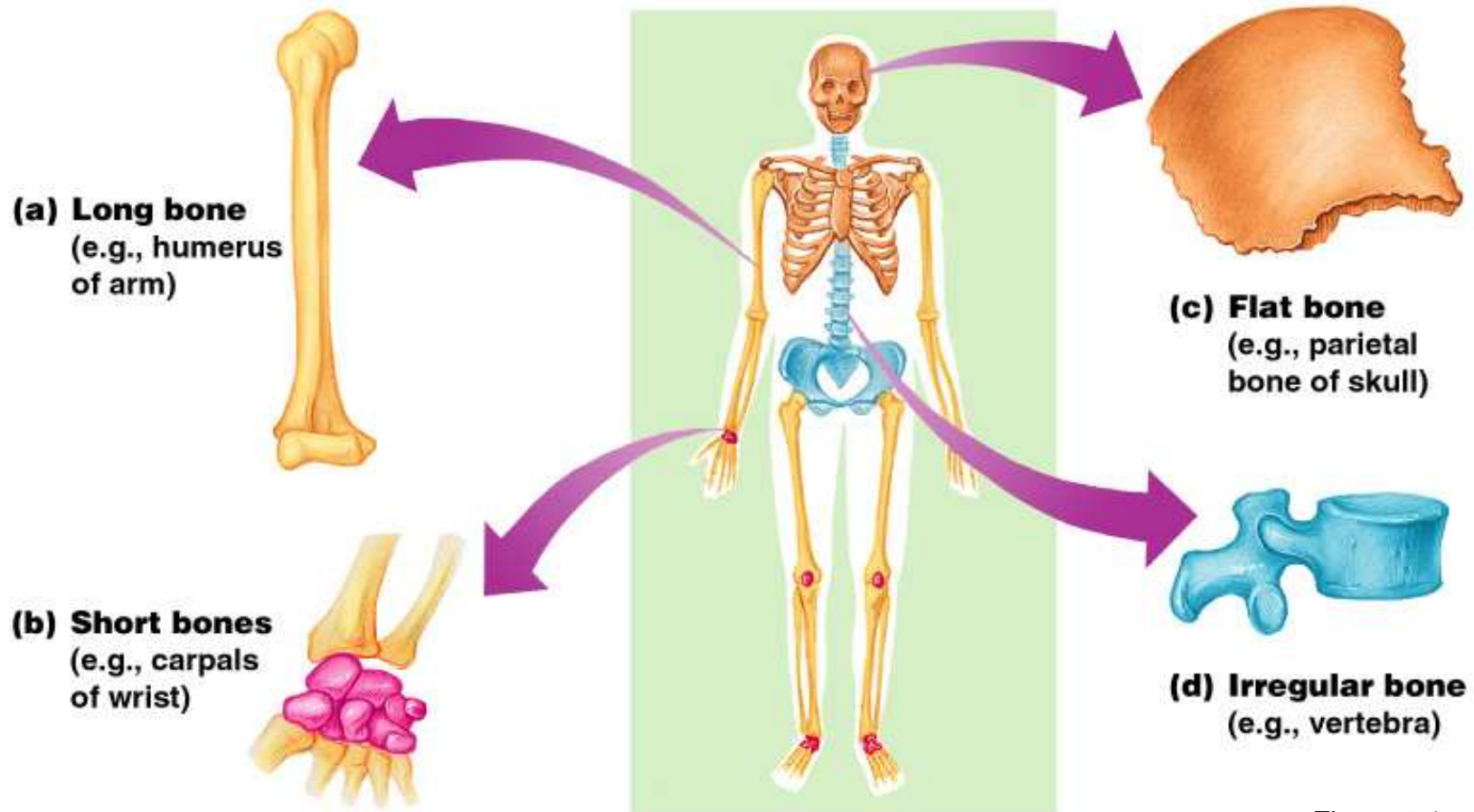


Figure 5.1

Types of Bone Cells

- **Osteocytes**
 - Mature bone cells
- **Osteoblasts**
 - Bone-forming cells
- **Osteoclasts**
 - Bone-destroying cells
 - Break down bone matrix for remodeling and release of calcium
- ***Bone remodeling is a process by both osteoblasts and osteoclasts***

Left Side Activity

- ***Draw the four types of bones and give examples of them in your body***