

Skeletal Unit

Bone Introduction Notes

Date _____

Skeleton Design

Human Skeleton has _____ bones.

Humans have _____ (=internal)

Arthropods have _____ (=external)

Humans must rely on the _____ system and _____ for protection

EX: *oncoming cars, hot stove

Skeletal divisions

2 Main _____

_____ skeleton (body's _____)

_____ skeleton (body's _____)

1. Axial (forms the midline of the body)

Includes the following parts

→ _____, rib cage, _____ column, sacrum, coccyx

2. Appendicular (think "appendages")

Includes the following parts

→ _____ girdle (shoulder), _____ girdle (hips), arms to hands, legs to feet.

Function of skeleton

1. [_____] of vital internal organs

_____ *protects* brain.

_____ *protects* heart and lungs

_____ *protects* reproductive organs.

2. [_____] provides framework for tissues to hang on.

3. [_____] muscles attached via tendons.

4. [_____] of minerals like calcium (Ca) and phosphorous (P)

5. [_____] of Erythrocytes (RBC's) from red marrow.

Bone classification by shape (Types = _____)

Bone Anatomy

○ _____ = ends of bone (covered in hyaline cart) Epiphyses form RBC's

○ _____ = narrow shaft of bone

○ _____ = layer of connective tissue outside of bone.

Contains blood vessels and nerves.

○ _____ = Hollow center of the bone.

Contains major blood vessels and marrow.

1. Compact Bone

Calcified matrix (_____) contain lacunae which hold osteocytes.
_____ are connected to each other by canaliculi.

FNXN: Receive nutrients , _____

Blood vessels and nerves that travel the length of the bone do so through

2. Cancellous "spongy" Bone

- _____ (interconnecting rods of bone) create the "spongy" appearance.
- Located in _____ of bones (close to _____)
- _____ bear greater amounts of stress from many directions.
Cancellous bone channels _____ into direction of compact bone (= more strength)

Gender differences in skeletons

- Male skeletons tend to be _____ to bear greater _____ attachment.
- _____ bones (hips) are narrower and more upright.

Female skeletons have fewer _____ on the skeleton

Female skeletons are better designed for childbirth.

1. _____ pelvic outlet / inlet
2. Less curvature of the _____ and _____.
3. Broader = _____ bones stick out more laterally but not as high as in males.

