NOTES: Human Skeletal System Part 2

Human Skeleton
- Divided into 2 parts:
  - Skull
  - Vertebral column
  - Rib cage
  - Bones of arms and legs
  - Bones of shoulder
  - Pelvis

The Axial Skeleton
- Divided into three parts
  - Skull bones are attached by immovable joints called **sutures**
  - Made up of 8 flat bones
    - 1 ___________________________ bone
    - 2 ___________________________ bones
    - 1 ___________________________ bone
    - 2 ___________________________ bones
    - 1 sphenoid bone
    - 1 ethmoid bone
    - Opening in the occipital bone
      - Area where spinal cord joins the brain

The Skull
- Two sets of bones
  - Skull bones are attached by immovable joints called **sutures**
  - Only the mandible is attached by a freely movable joint

Bones of the Cranium (Skull)
- Bones are attached by immovable joints called **sutures**
- Made up of 8 flat bones
  - 1 ___________________________ bone
  - 2 ___________________________ bones
  - 1 ___________________________ bone
  - 2 ___________________________ bones
  - 1 sphenoid bone
  - 1 ethmoid bone
  - Opening in the occipital bone
    - Area where spinal cord joins the brain

The Fetal Skull
- Fibrous membranes connecting the cranial bones
  - Allow the brain to grow
  - ___________________________ within ___________________________ after birth
**Facial Bones**
- 2 bones that form the __________________________
- Only movable bone of the skull
- Contains tooth sockets for 16 teeth
- Forms bridge of the nose
- Zygomatic bone
  - 2 bones

**The Vertebral Column**
- Vertebrae ____________________ discs
  (pads of fibrocartilage)
- The spine has __________________________
- Each vertebrae is given a name according to its location
  - C = Cervical (C1-C7)
  - T = Thoracic (T1-T12)
  - L = Lumbar (L1-L5)
- Function: __________________________

**The Rib Cage (Bony Thorax)**
- Made-up of three parts:
  - 1) ____________________ -12 ribs connected to the vertebrae
    - Ribs that ____________________ to the ____________________
    - Ribs that ____________________ by a common ____________________
    - Ribs that ____________________ to the ____________________
  - 2) Flat, blade-shaped bone
    - Composed of 3 bones: manubrium, body, ____________________
    - Xiphoid process
      - ____________________ and smallest portion of sternum
      - Attachment site for diaphragm
  - 3) ____________________
    - 12 thoracic vertebrae
The Appendicular Skeleton

- (appendages)

The Pectoral (Shoulder) Girdle

- These bones allow the upper limbs to have _______________

- Composed of 4 bones
  - 2 ______ – collarbone
    - Slender and s-shaped
    - Stabilizes shoulder but structurally weak (breaks easily)
  - 2 ______ – shoulder blade
    - Triangular shape

Bones of the Upper Limb

- Humerus (upper arm)
- Radius and ulna (forearm)
- Carpals, metacarpals, phalanges (hand)
- The upper ______ is formed by a single bone
  - _______________
- The ______ has two bones
  - _______________
  - _______________
- The hand
  - _______________ – wrist
  - _______________ – palm
  - _______________ – fingers

Bones of the Pelvic Girdle

- Composed of:
  - 2 ______ bones (hipbones)
  - _______________
  - _______________
- The total weight of the upper body rests on the pelvis
  - Reproductive organs
  - Urinary bladder
  - Part of the large intestine

Coxal bone:

- _______________ : largest part of coxal bone
  - _______________ : top of the ilium
- _______________ : most inferior part of the coxal bone
- _______________ : anterior part of coxal bone
  - _______________ : where the 2 ______
Gender Differences of the Pelvis

- **Male:**
  - Not as wide or broad
  - Pelvic cavity is ___________________
  - Bones are ___________________ & larger
  - Pubic arch is more ___________________

- **Female:**
  - _______ pelvis & broader hips
  - Pelvic cavity is shallow
  - Bones are ___________________
  - Pubic arch is ___________________

Bones of the Lower Limb

- **Femur (thigh)**
- **Patella (kneecap)**
- **Tibia & Fibula (leg)**
- **Tarsals, metatarsals, phalanges (foot)**

- _________________
  - Strongest and longest bone in the body

- _________________
  - Triangular bone that protects the knee joint

- _________________
  - (towards the middle) to the fibula
  - Thicker – bears weight of femur

- _________________ (away from midline) to the tibia

- ____
  - Stabilize ankle

- ______
  - Ankle
  - Supports weight of body

- ______
  - Sole or instep

- ______
  - Toes

Learning Goals:
1. Explain how the human skeleton is divided.
2. Summarize the parts of the Axial Skeleton.
3. Summarize the parts of the Appendicular Skeleton.
4. Describe the function of the skull and vertebrae. What is different about the fetal skull?