Chapter 6

Skeletal System

Main Terms

Osteologyy

Periosteumm

Arthrology-

Function

Support to the body

Protect vital organs Attachment point for ligaments Store mineral salts

Store bone marrow

Bone Composition

Type of connective tissue

50 % water and 50 % solid matter

Ossification starts before birth and continuities till maturity

Bone Structure

Compact Bone Tissue

Cancellous Bone (spongy)

Medullary Cavity

Diaphysis

Periosteum

Epiphyses

Bone Growth

Controlled by a hormone secreted in the anterior lobe of the pituitary gland Osteoclasts-

Osteoblasts-

Bone Classification

Long, Flat, Short, and Irregular (Label the bones below in one of the four groups.)

Pelvis

Scapula

Carpus

Humerus

Femur

Inner Ear

Sternum

Vertebrae

<u>Axial Skeleton</u>

Skull

Cranium and Facial Bones

Skull protects senses.

All skull bones are immovable except the mandible.

The bones of the skull are united by sutures.

Cranial Bones

Frontal- forehead and eye sockets

Parietal- two form the roof and upper part

Occipital- back of the skull can be prominent in species like dogs

Foramen Magnum- opening at the bottom for the passage of the spinal cord

Temporal- two form the cranial floor

Sphenoid- at the base and extends laterally to support parts of the orbit

Ethmoid- in front of sphenoid but behind the nasal bones

Facial Bones

Maxilla

Mandible

Hyoid Bone

U shaped

Does not form a joint with any other bone

It is suspended from the temporal bone

The muscles of the tongue are attached here

Vertebral Column

Supports the skull and thorax, anchors the pelvis

Five types of Vertebrae

Cervical

Thoracic

Lumbar

Sacrum

Coccygeal

Ribs

True Ribs- attached to the sternum by costal cartilage

False Ribs- some are attached to the cartilage and some are not

Floating Ribs- not attached to the cartilage

Sternum

Xiphod process

Clavicle

Most domestic animals do not have

<u>Appendicular Skeleton</u>

Different animals have different bones in the leg

For example- canine have digits where horse are ungulates

Forelimbs

Clavicle- collarbone

Scapula- shoulder blade

Humerus- long bone from shoulder to elbow

Ulna- caudal bone of the forelimb

Radius- cranial bone of the forelimb

Carpus- numerous irregularly shaped bones

Metacarpal

Hind Limbs

Pelvis- the three bones are the ilium, ischium, pubis

Femur-longest bone in the body, articulates with the acetabulum (hip socket)

Patella- not the knee in quadrupeds

Tibia- larger more weight bearing of the two leg bones

Fibula-long, slender bone with the tibia (the horse has a small fibula)

Tarsus- complies of numerous irregular shaped bones AKA Hock Metatarsals

Joints

Articulation between bone or bones and cartilage and held in place by ligaments

Classified by the movement they permit and tissue structure

Degree of Movement

Synarthroses- no movement

Amphiarthroses- slight movement

Diarthoses- freely permit movement

Tissue Structure

Fibrous- (synarthroses) fibrous tissue that unites bones ie. skull

Cartilaginous- (amphiarthoses) joints that contain cartilage

Synovial- (diarthoses) most numerous

Types of Joints

Hinge- elbow

Ball and Socket- hip Gliding- carpus

Pivot- elbow

Condyloid- canine stifle or human knee