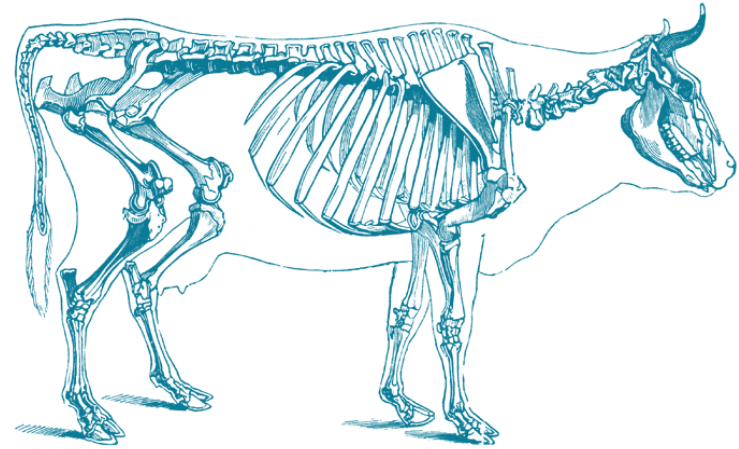


ANIMAL SKELETAL SYSTEMS

Functions of the Skeletal System

- Form
- Protection
- Support
- Strength



How does it work?

- **Bone**- Hard tissue that supports and protects other organs
- **Cartilage**- Firm, flexible tissues that is not as hard as bone
- **Ligaments**- Tissue that connects bone to bone
- **Tendons**- Tissue that connects bone to muscle
- **Joints**- Where bones meet and allows for movement

What are bones made of?

- Bone is comprised of:
 - 26% minerals (mostly calcium phosphate and calcium carbonate)
 - 50% is water
 - 4% is fat
 - 20% is protein
- Bone requires adequate amounts of vitamins and minerals in the ration.

Bones

- **Spongy bone**

- *Fills ends of bones and lines hollow portions*

- **Red marrow**

- *Inside cavities of spongy bone, formation of red blood cells*

- **Yellow marrow**

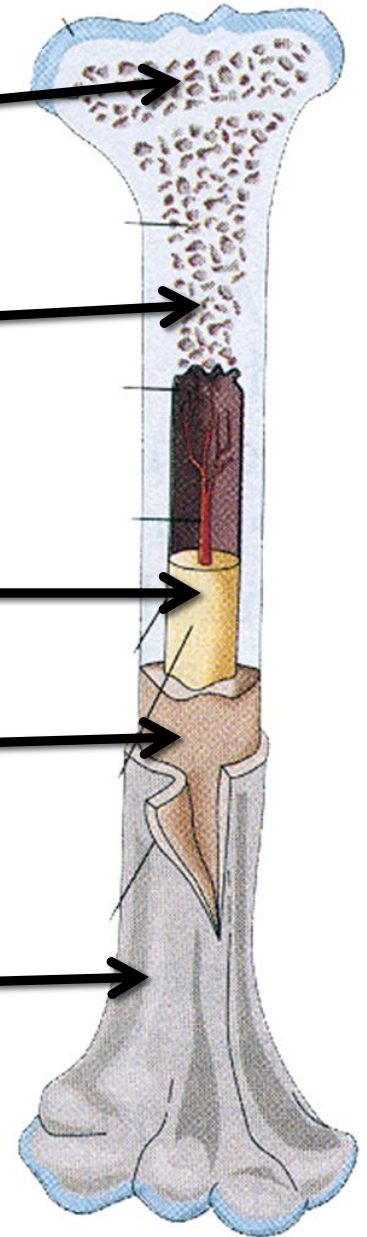
- *Fat and energy storage*

- **Compact bone**

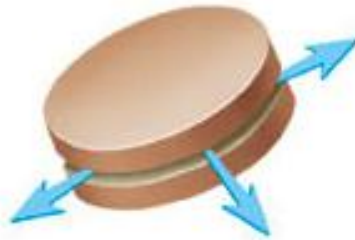
- *Layer of hard mineral matter, calcium, gives bones strength*

- **Periosteum**

- *Outer most layer, cushions the hard portion of the bone, repair of broken bones*



Joints



Plane Joint



Hinge Joint



Pivot Joint



Ball-and-Socket Joint



Ellipsoid Joint

Joints

- **Ball-and-Socket** – (Shoulder and hip) –allows twisting and turning movements; consists on 1 cup-like area (socket) and 1 bone with rounded head (ball)
- **Ellipsoid** – (Wrist) – movement on multi-axis
- **Hinge** – (Elbow and Knee) – limit movement in 1 direction
- **Pivot** – (Neck) – allows for rotation on an axis
- **Plane/Gliding** – (Backbone) – bones meet as flat surfaces and allow for the bones to slide past one another

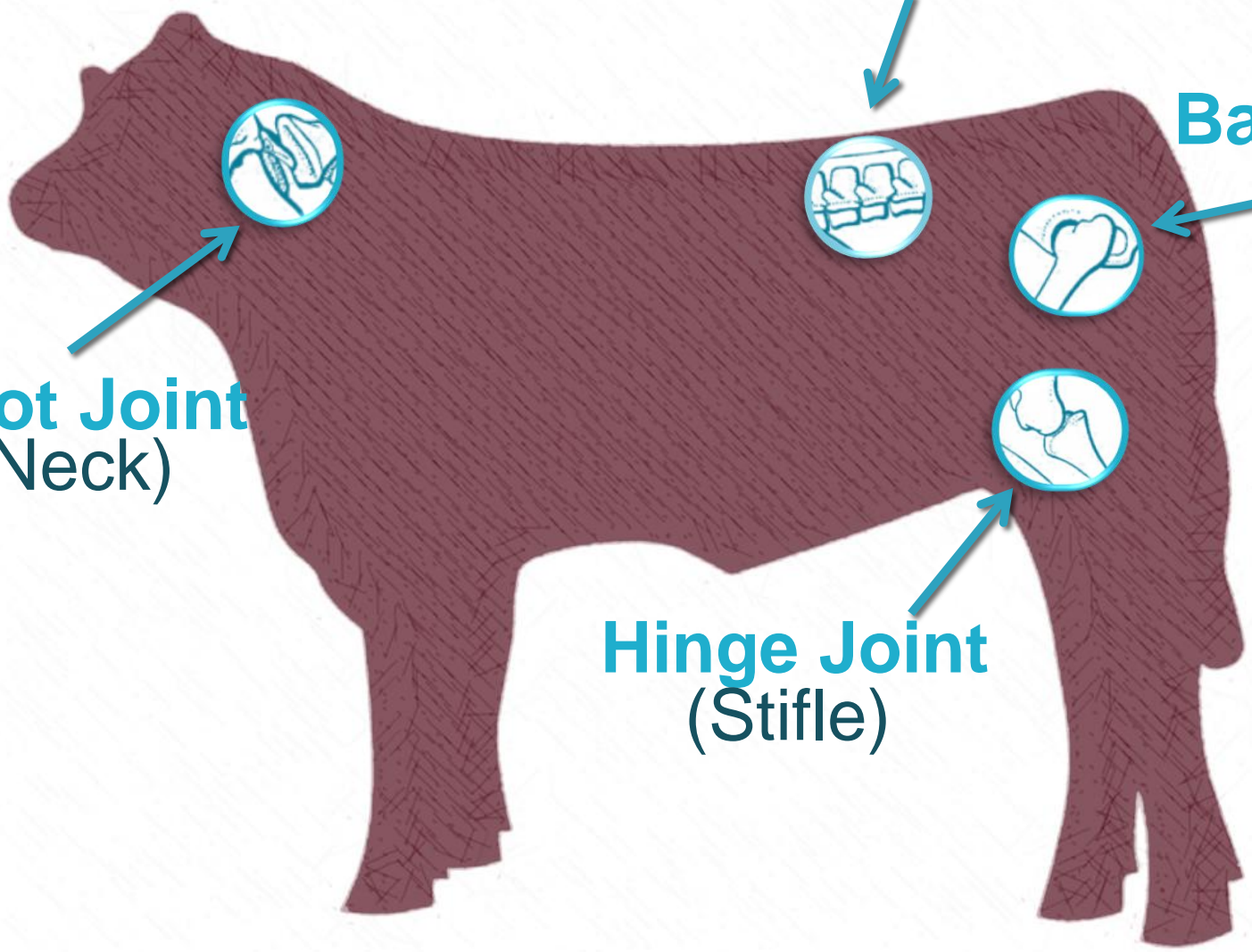
Joints

(Vertebrae/Back)
Plane Joints

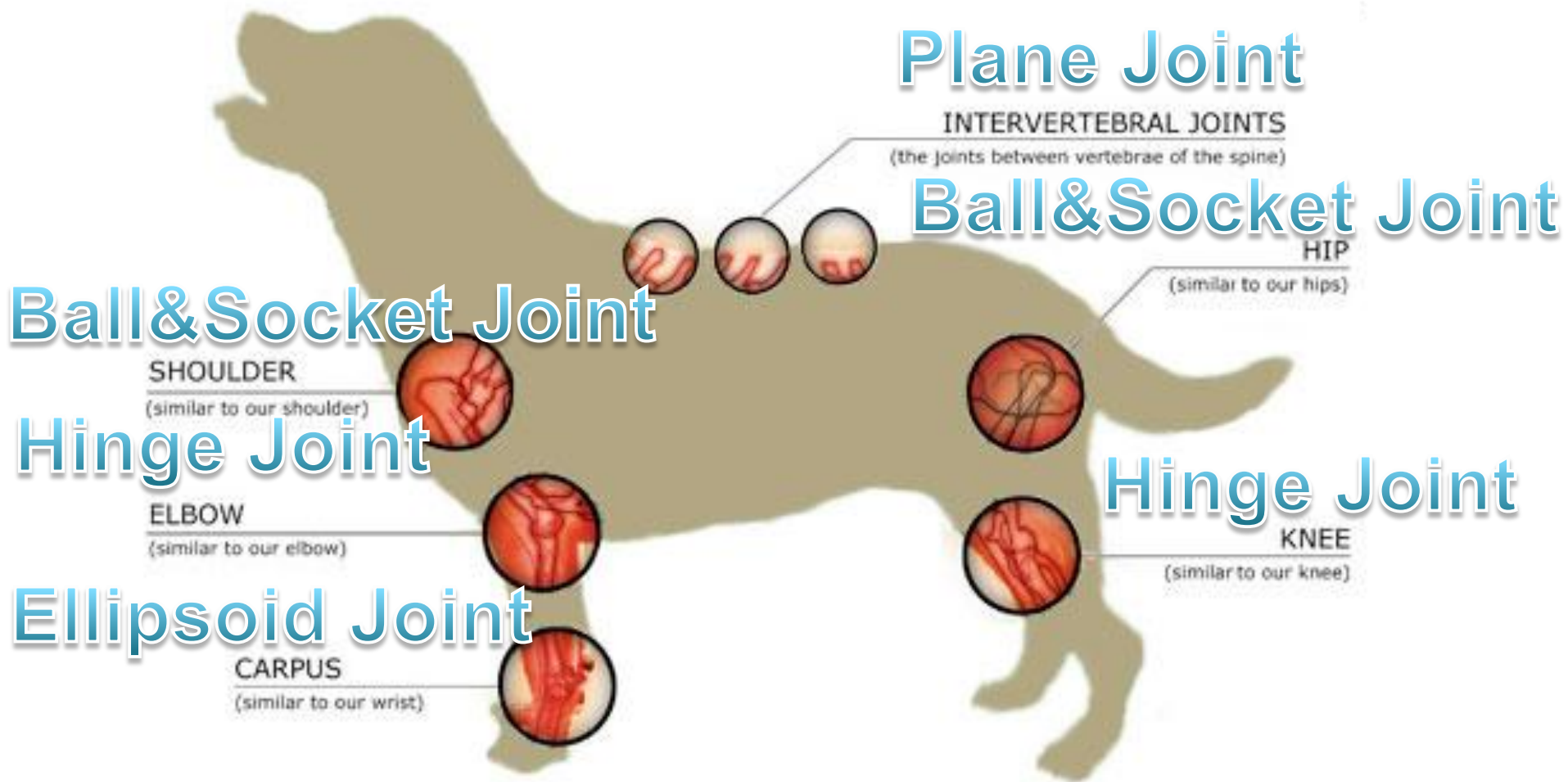
**Ball & Socket
Joint
(Hip)**

**Pivot Joint
(Neck)**

**Hinge Joint
(Stifle)**

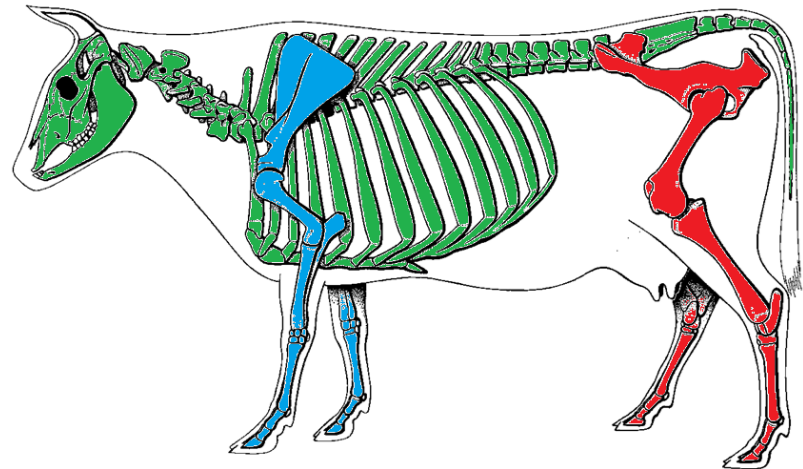
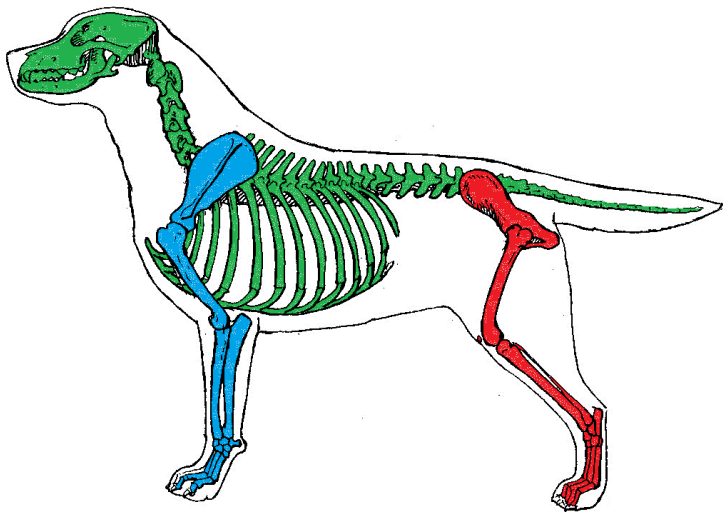


Joints



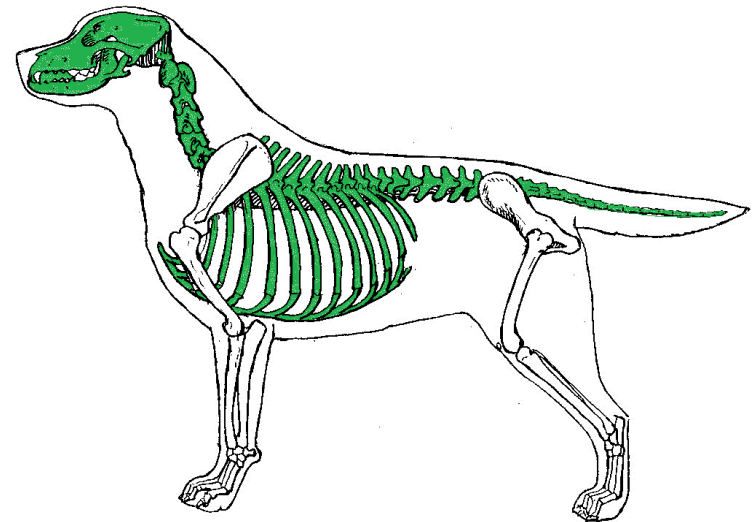
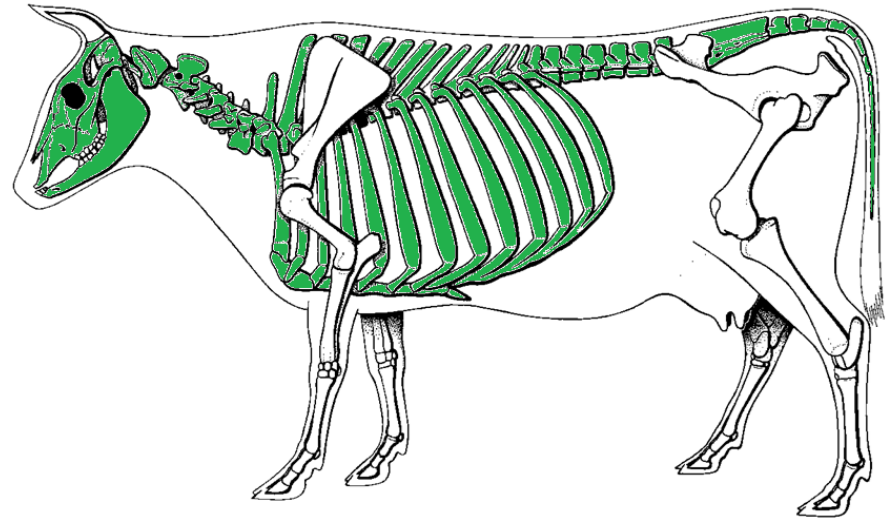
Parts of the Skeleton

- **Axial** - central axis bones
- **Pectoral** - bones of the fore limbs
- **Pelvic** - bones of the hind limbs



Bones of the Axial Skeleton

- Skull
 - Maxilla
 - Mandible
- Vertebrae
 - Cervical Vertebrae
 - Thoracic Vertebrae
 - Lumbar Vertebrae
 - Sacrum
 - Caudal Vertebrae
- Ribs
- Sternum



Maxilla

Cervical

Thoracic

Lumbar

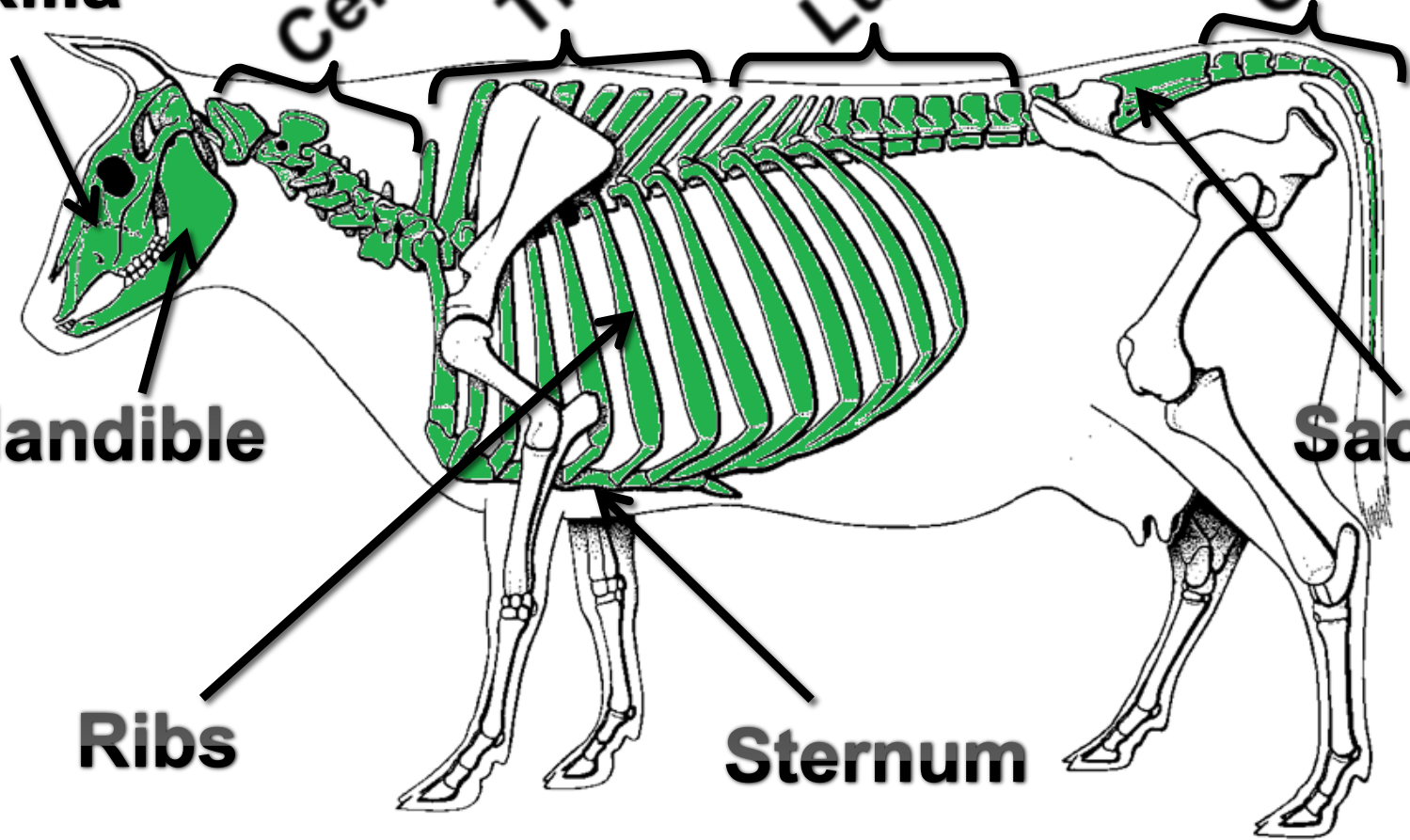
Caudal

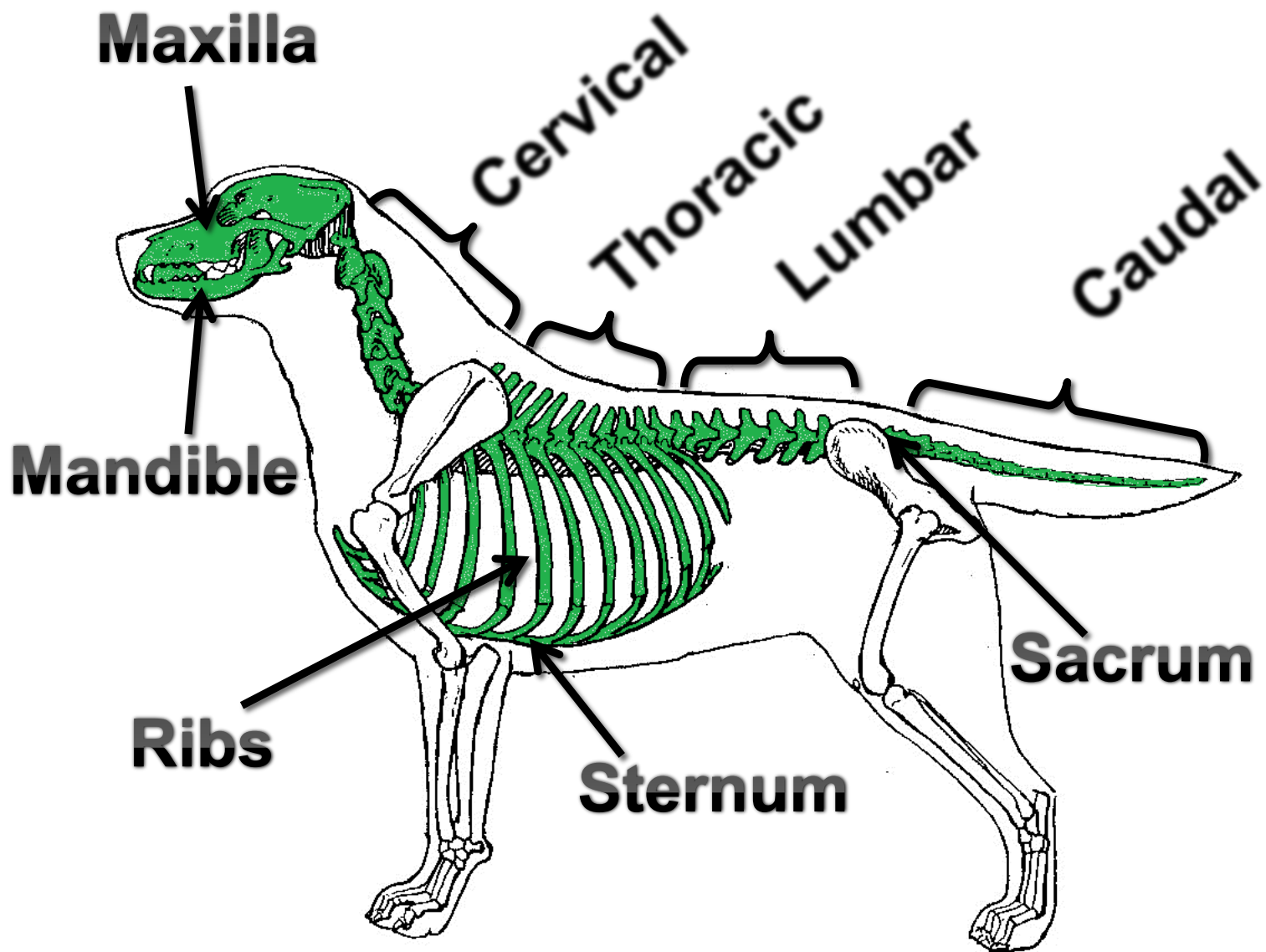
Mandible

Sacrum

Ribs

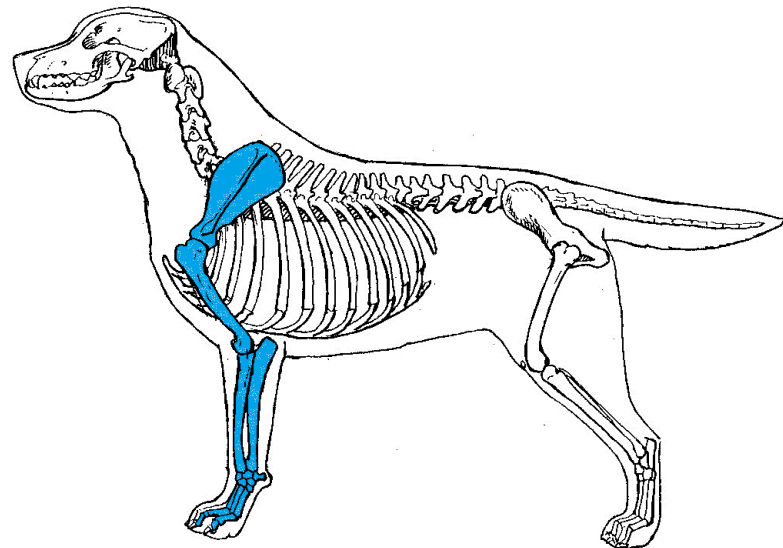
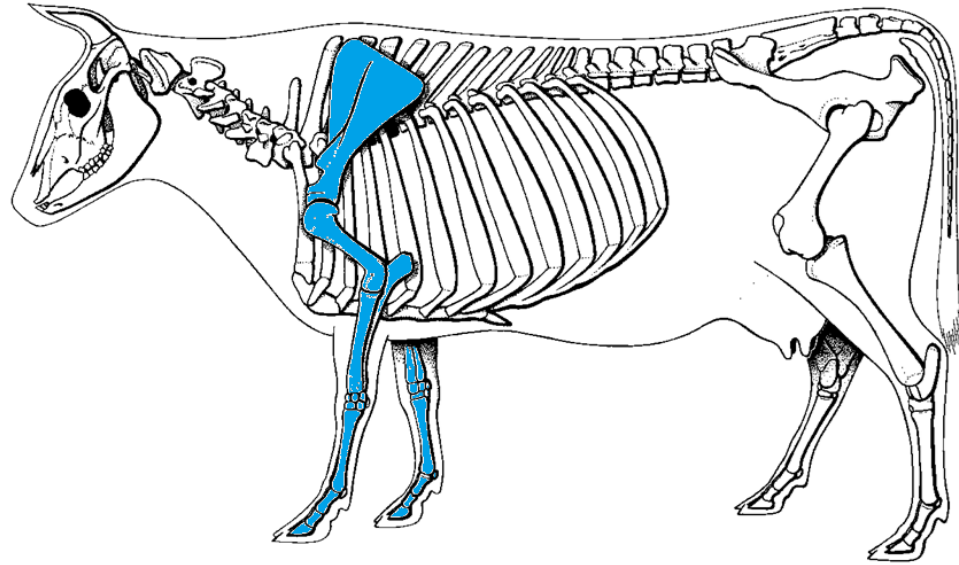
Sternum

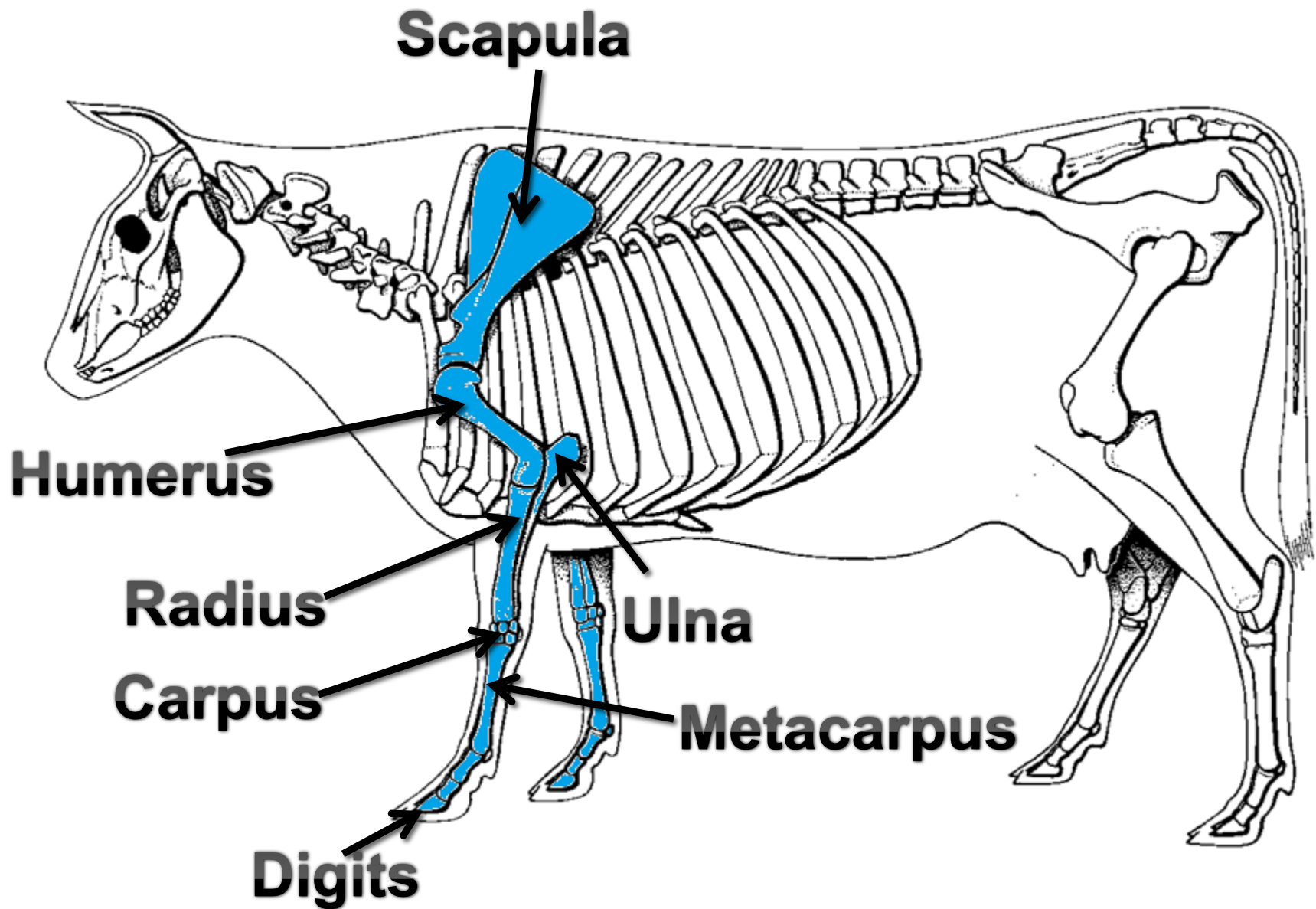


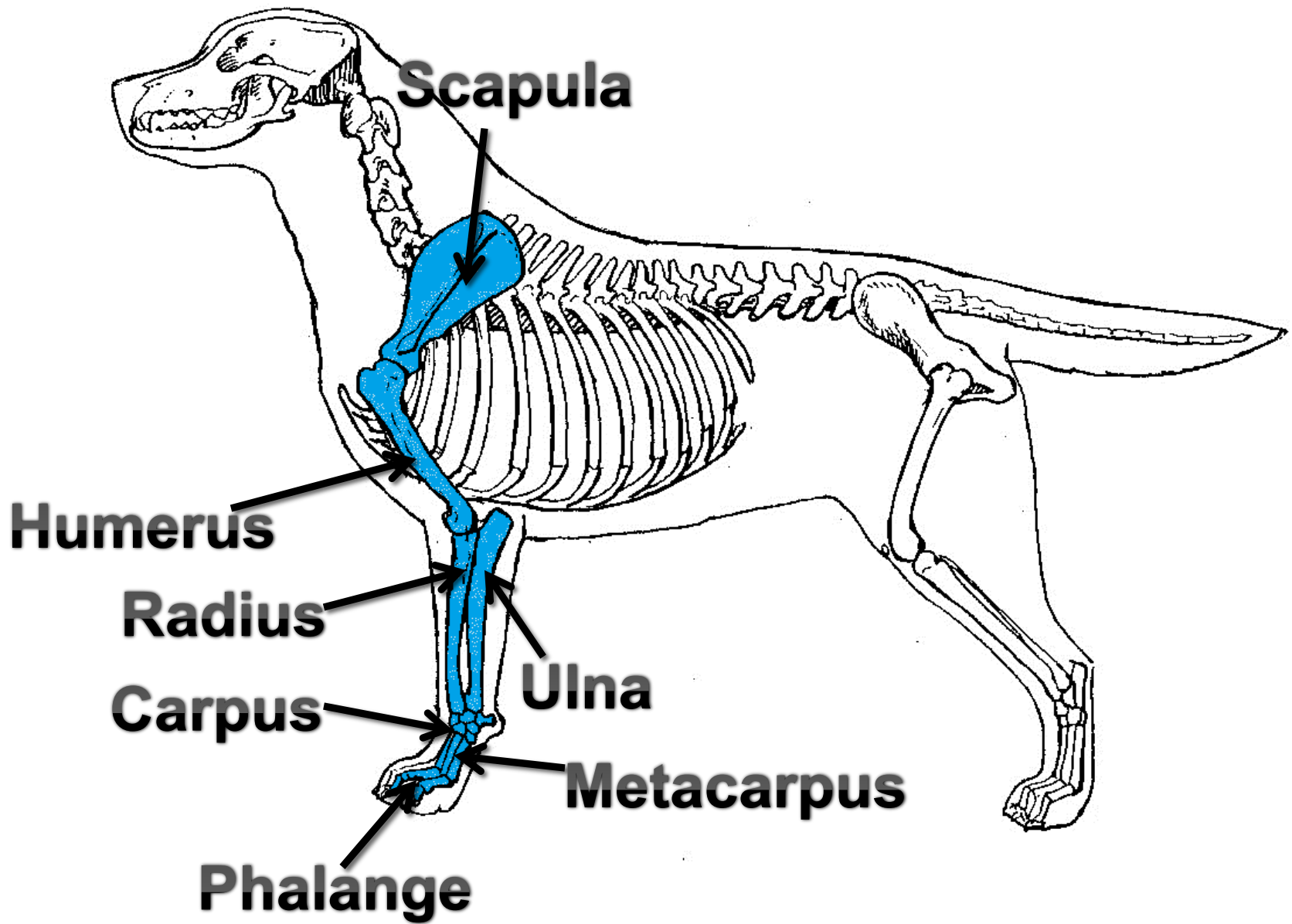


Bones of the Pectoral Skeleton

- Scapula
- Humerus
- Radius
- Ulna
- Carpus
- Metacarpus
- Digits

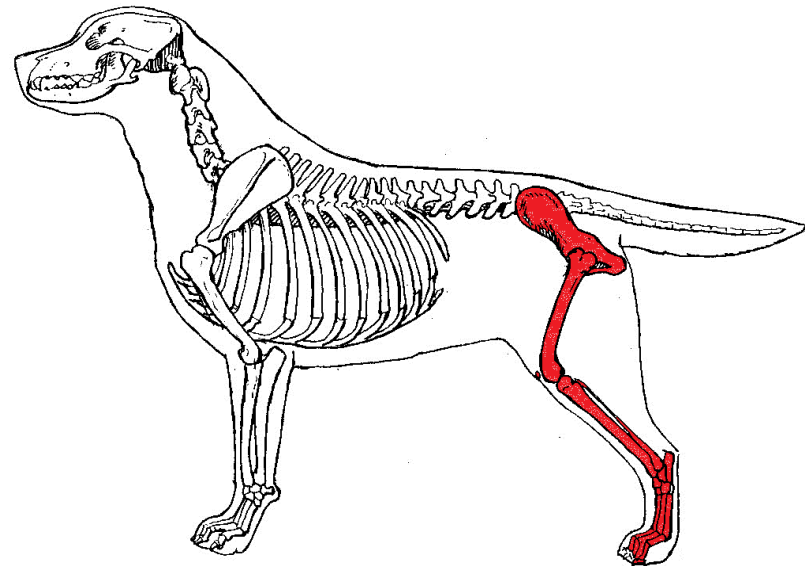
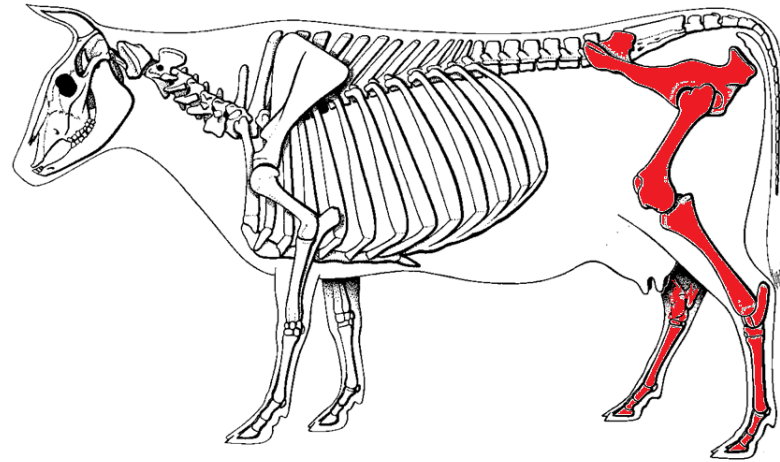


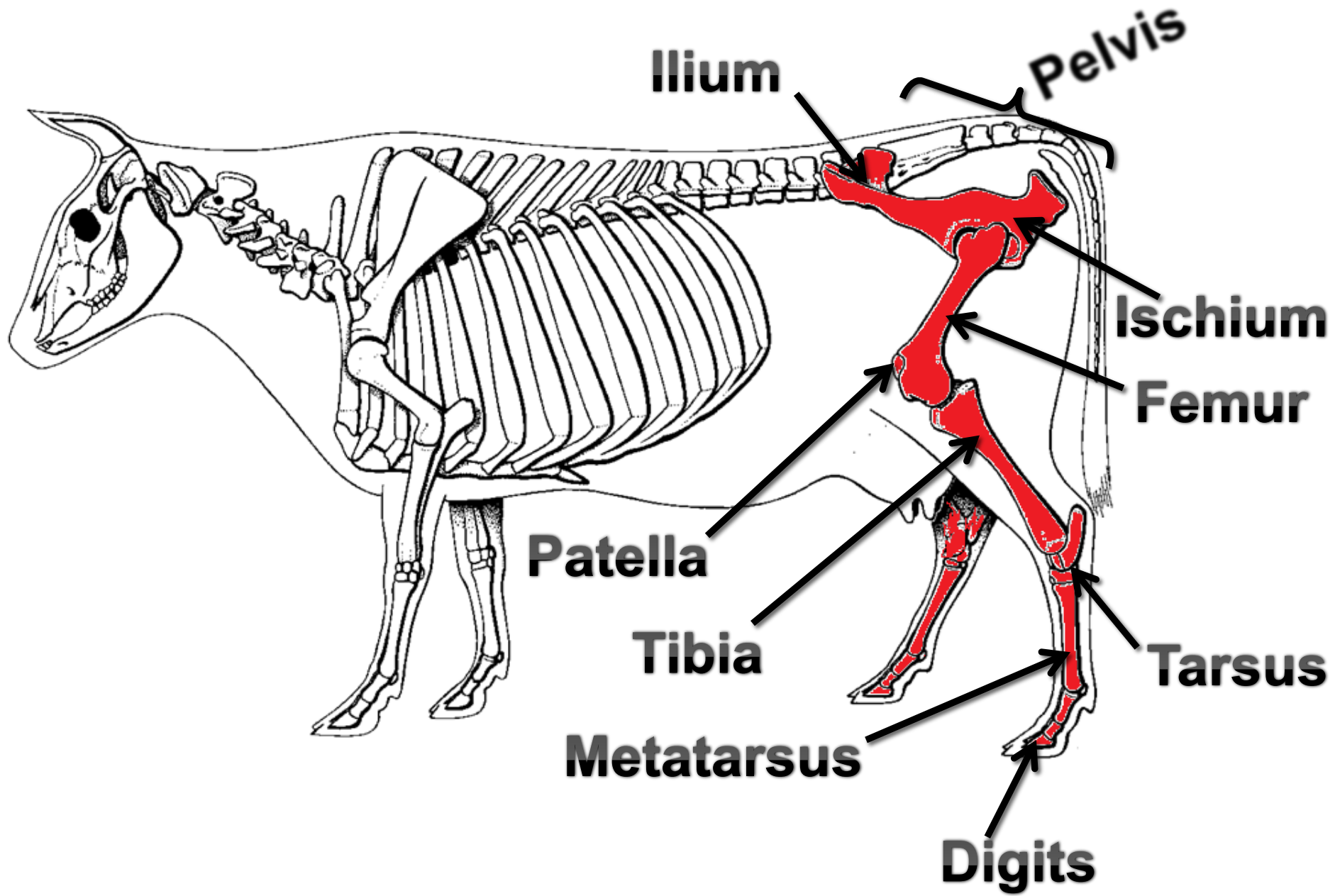


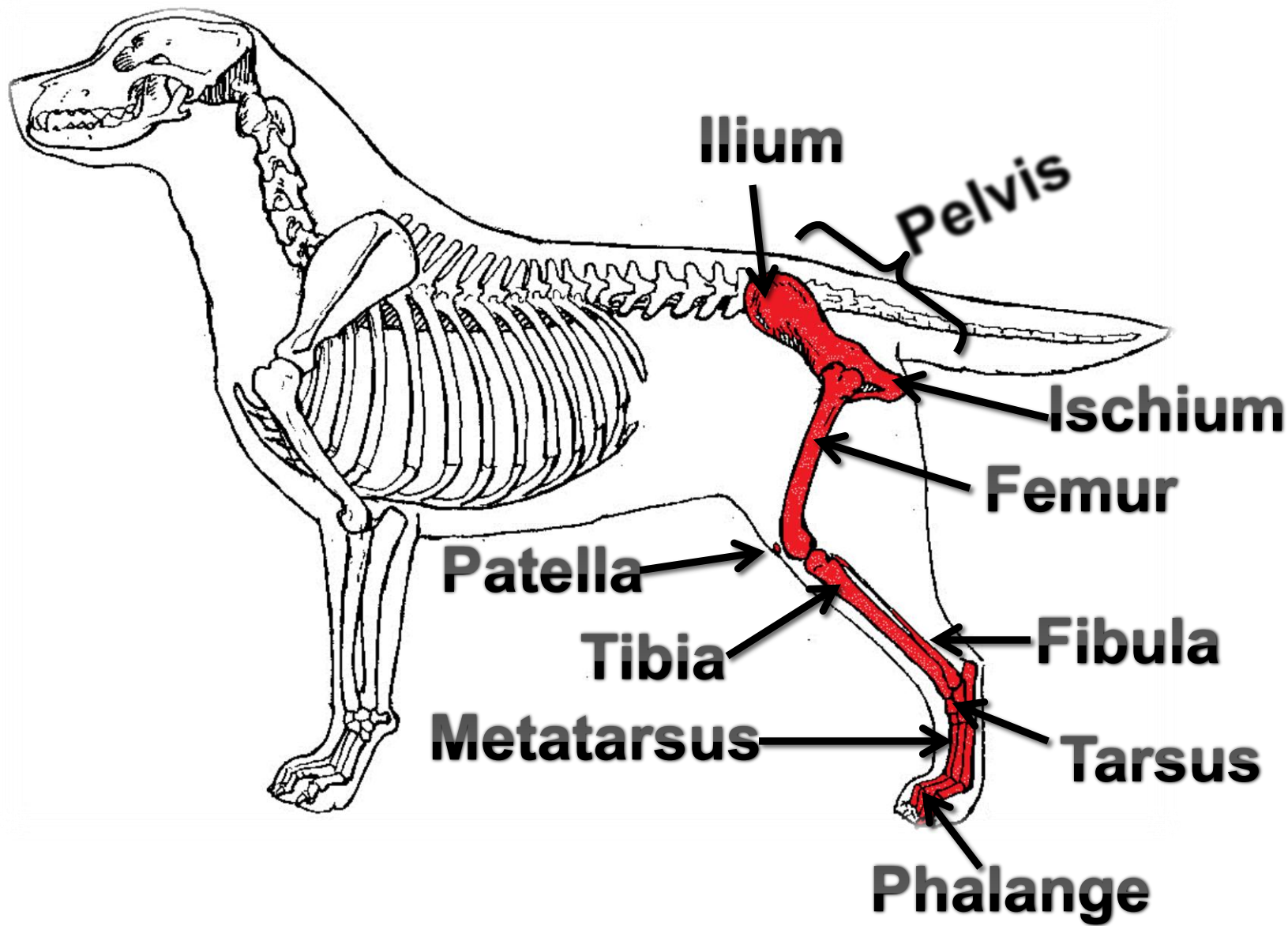


Bones of the Pelvic Skeleton

- Pelvis
 - Ilium
 - Ischium
- Femur
- Patella
- Tibia
- Tarsus
- Metatarsus
- Digits

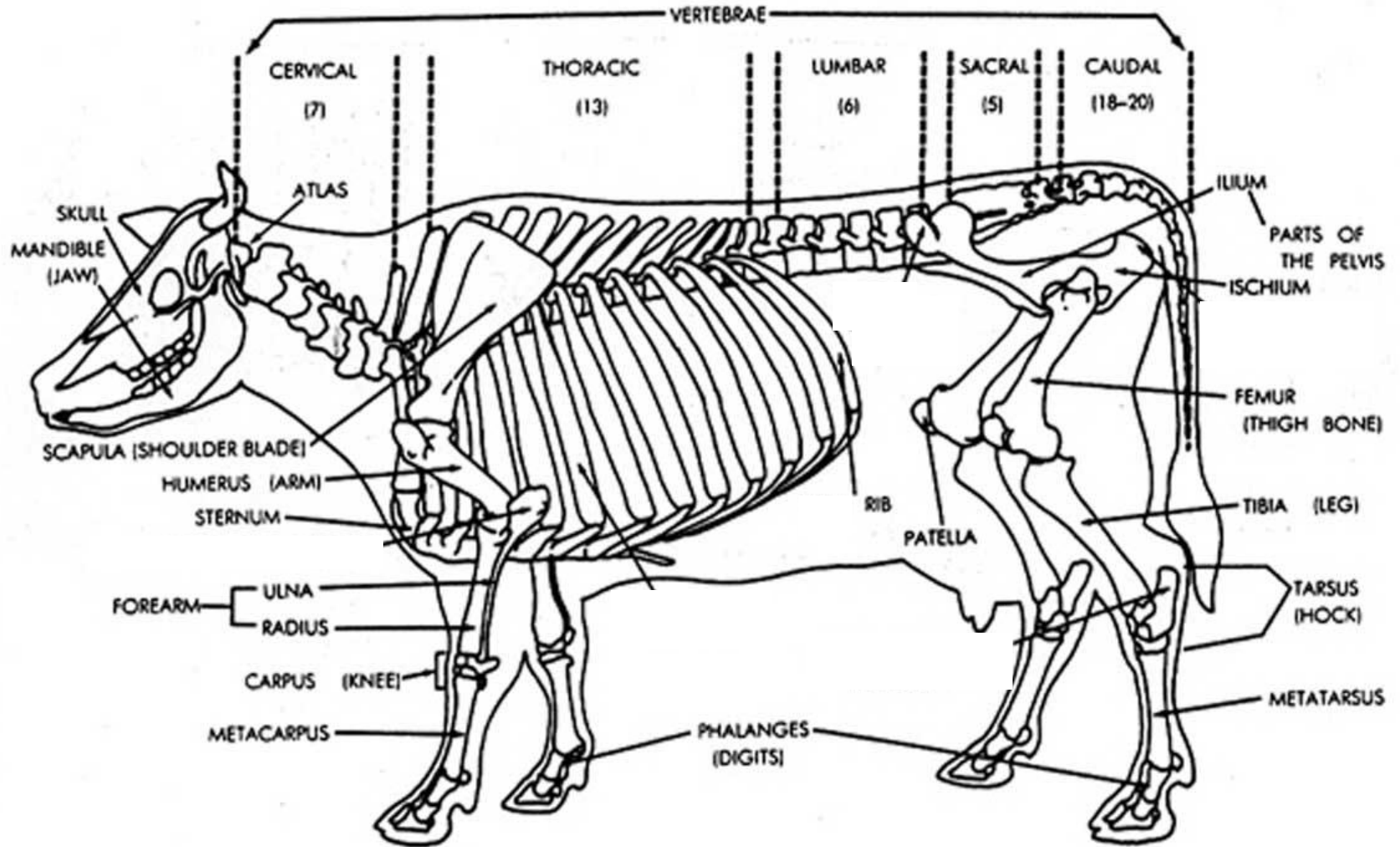




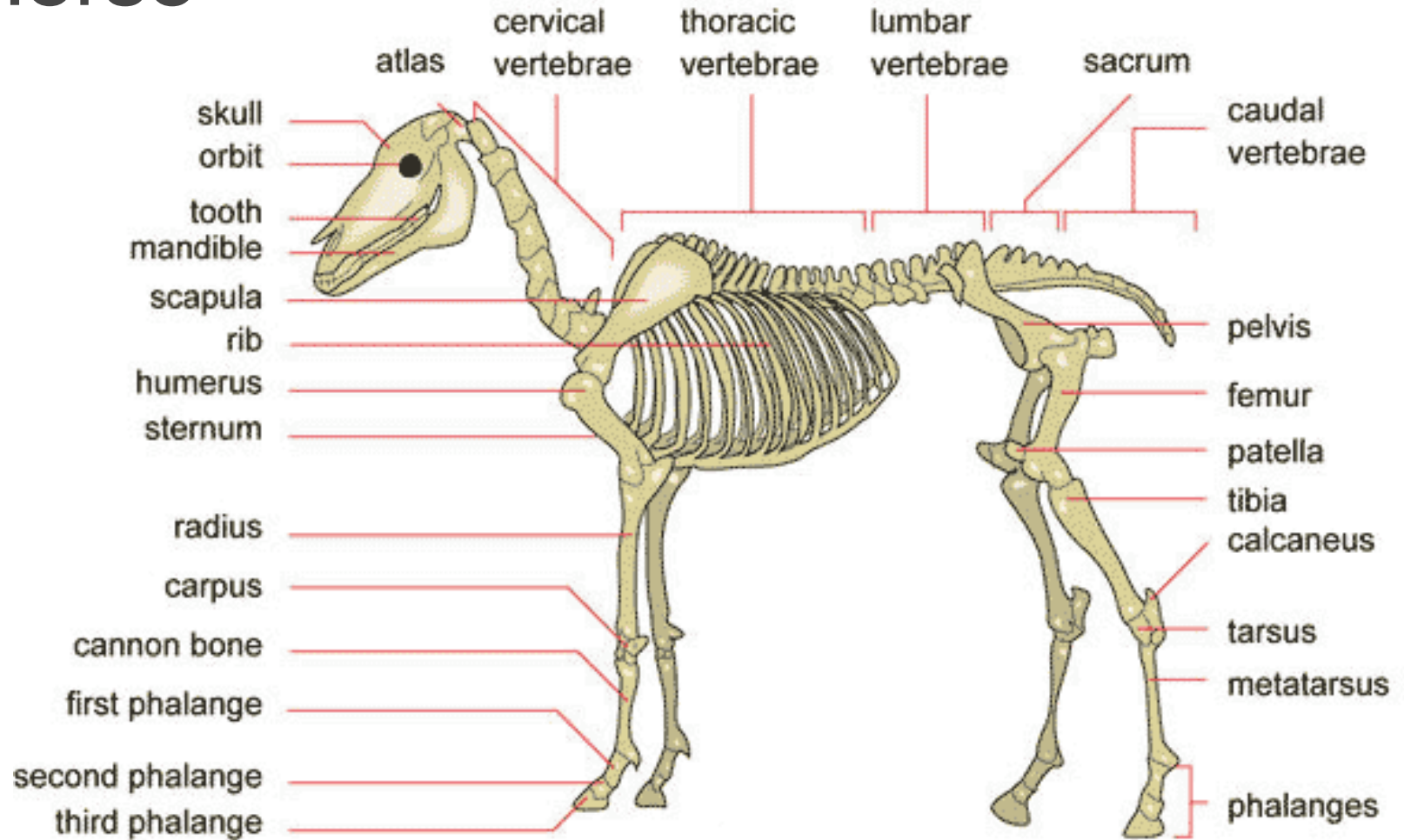


LETS LOOK AT THE
SKELETAL SYSTEMS OF
DIFFERENT LARGE ANIMALS!!

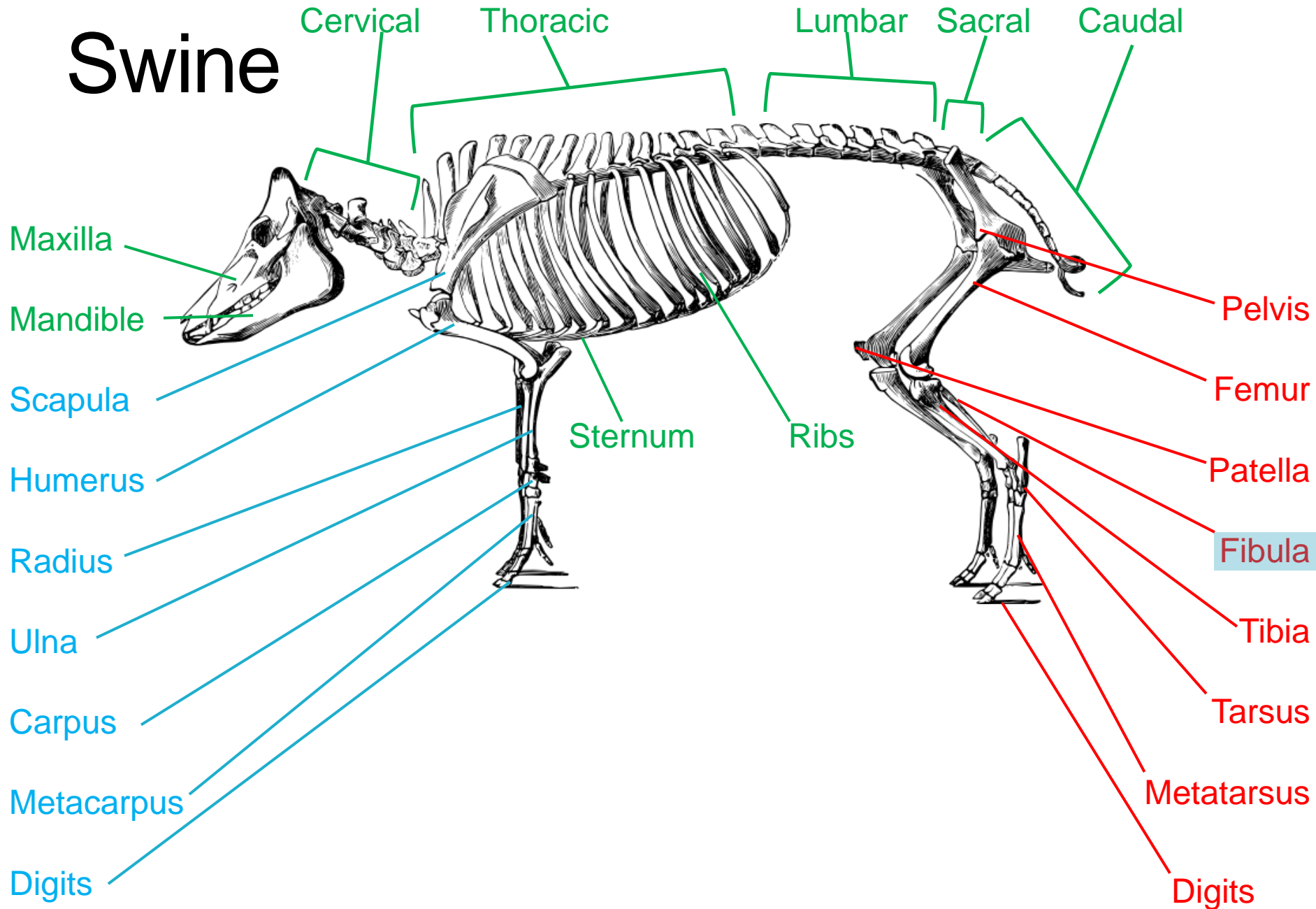
Cattle



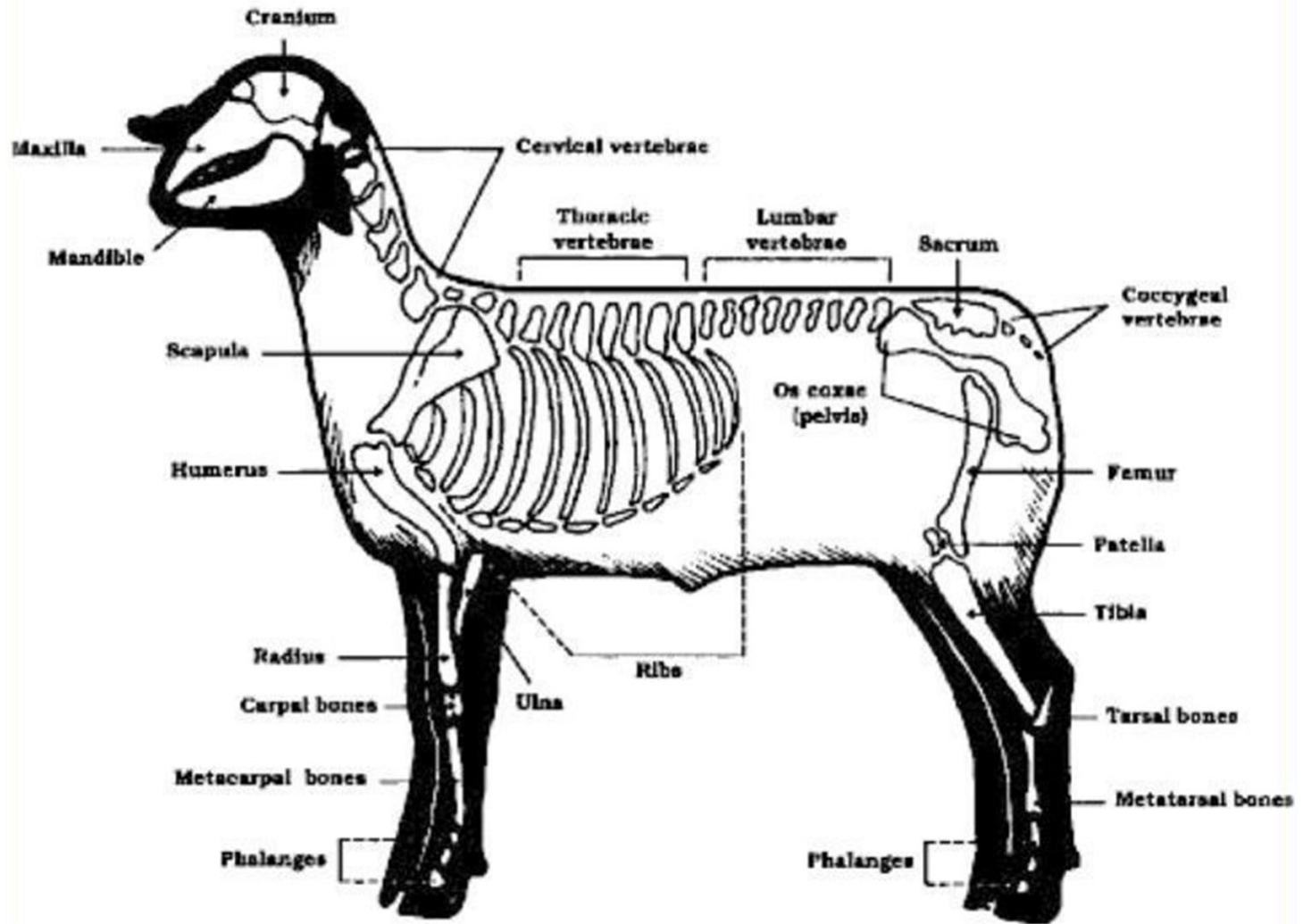
Horse



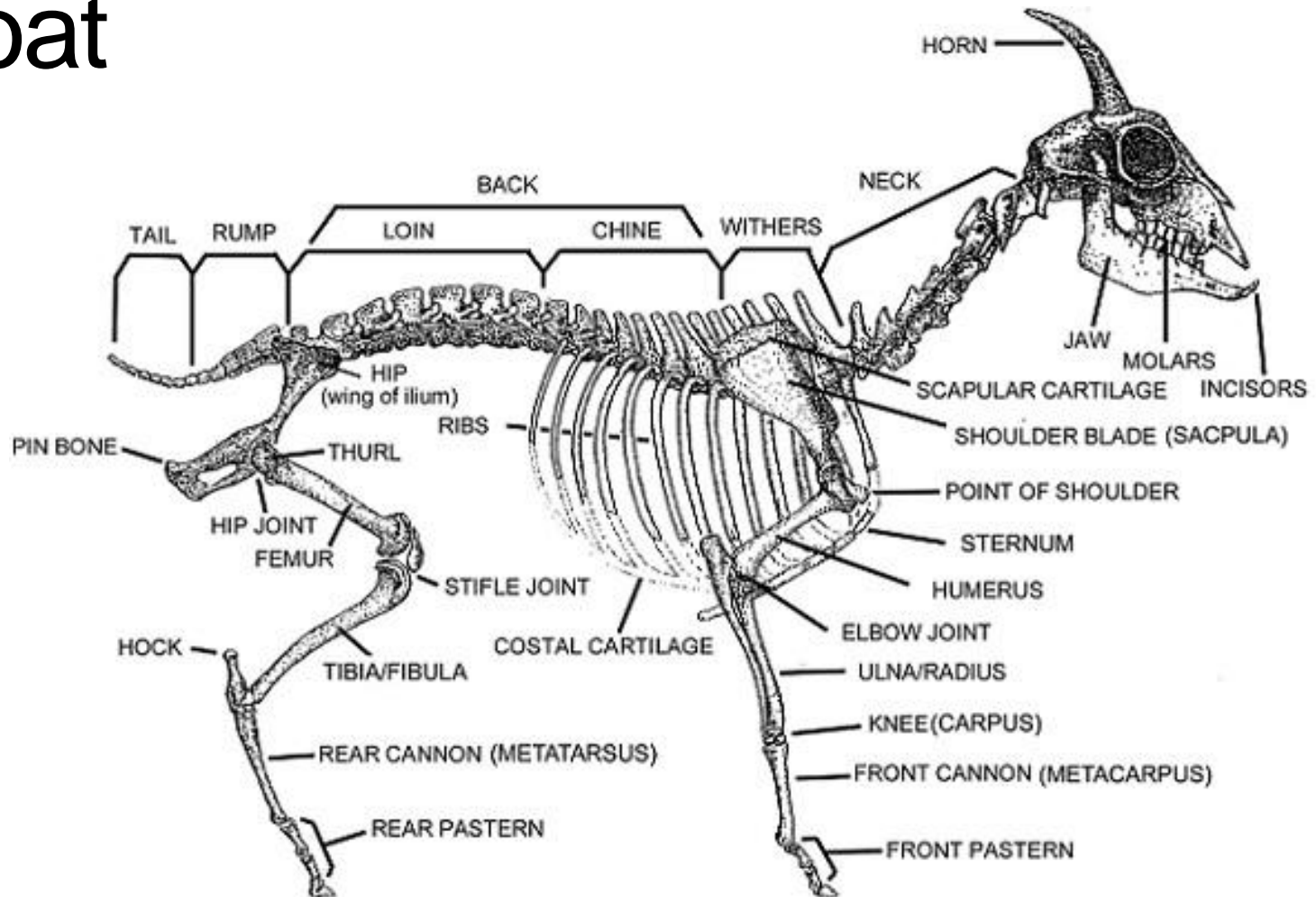
Swine



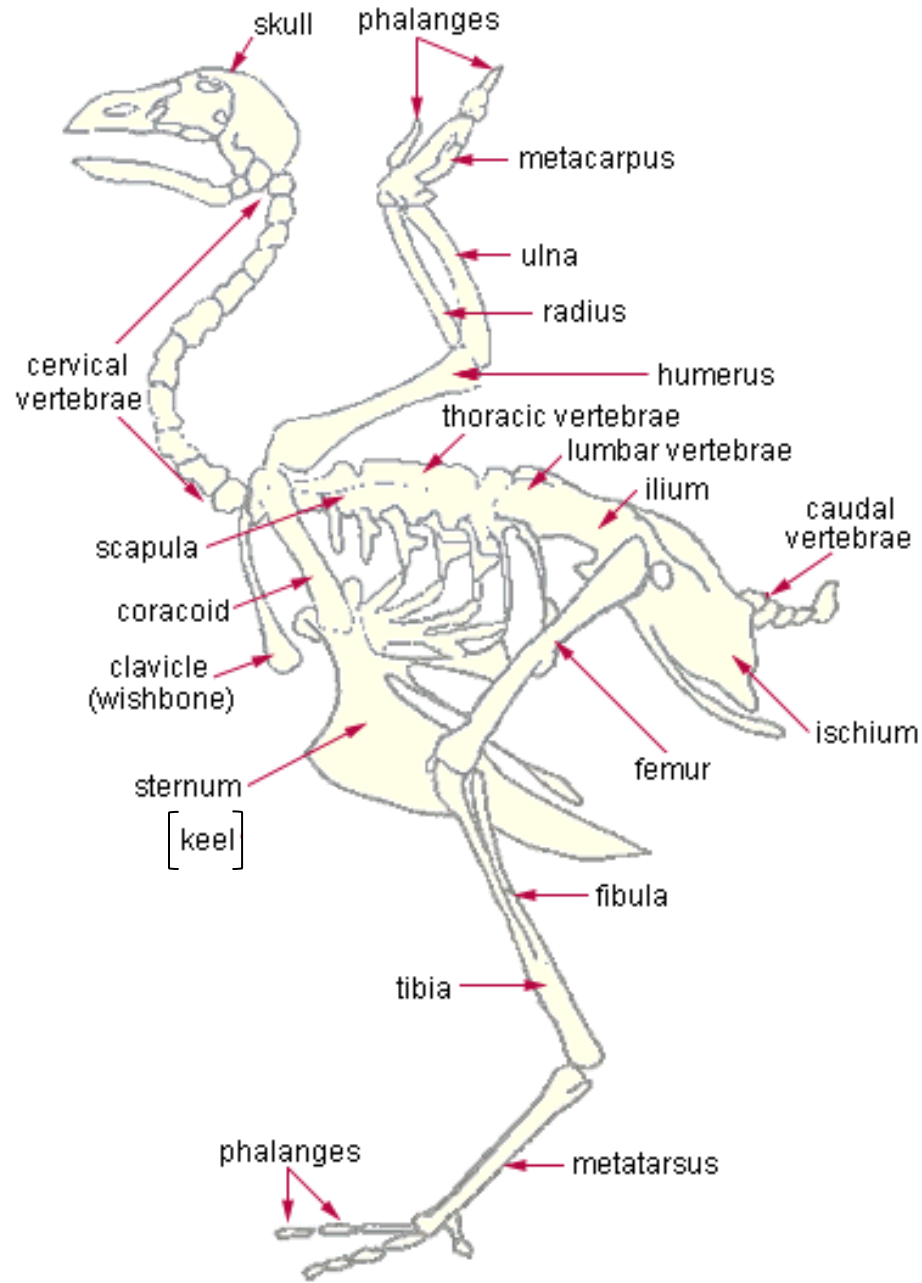
Sheep



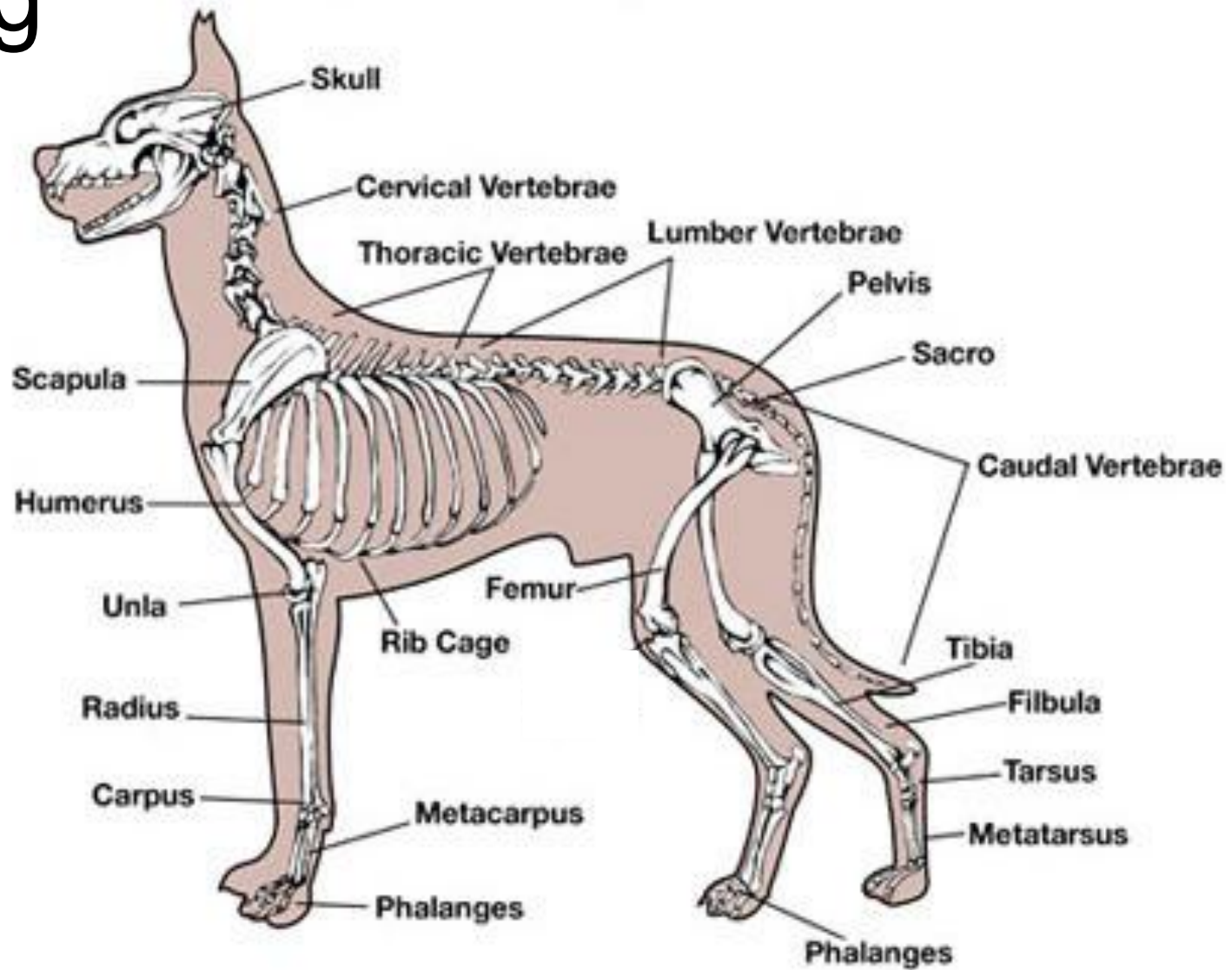
Goat



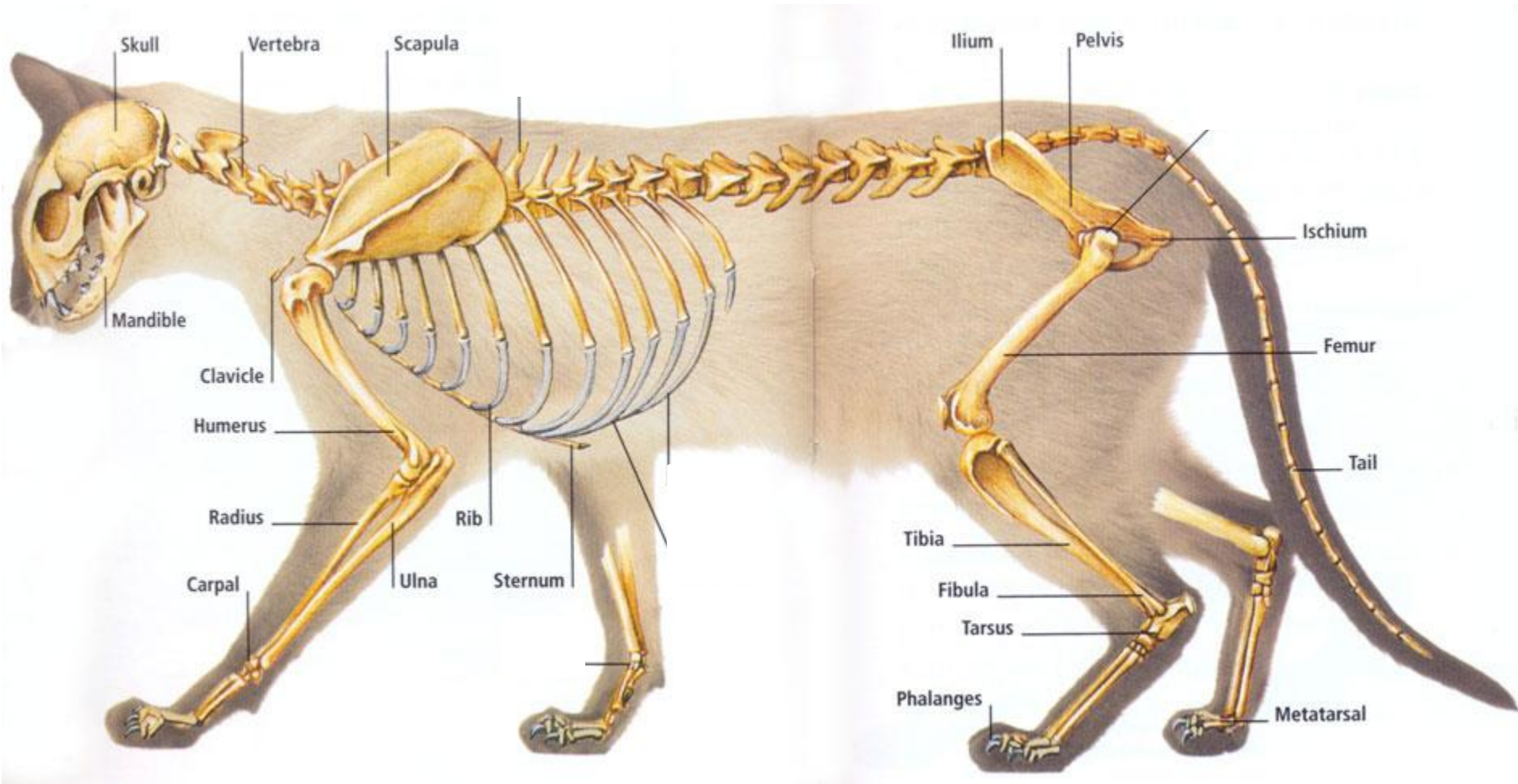
Poultry



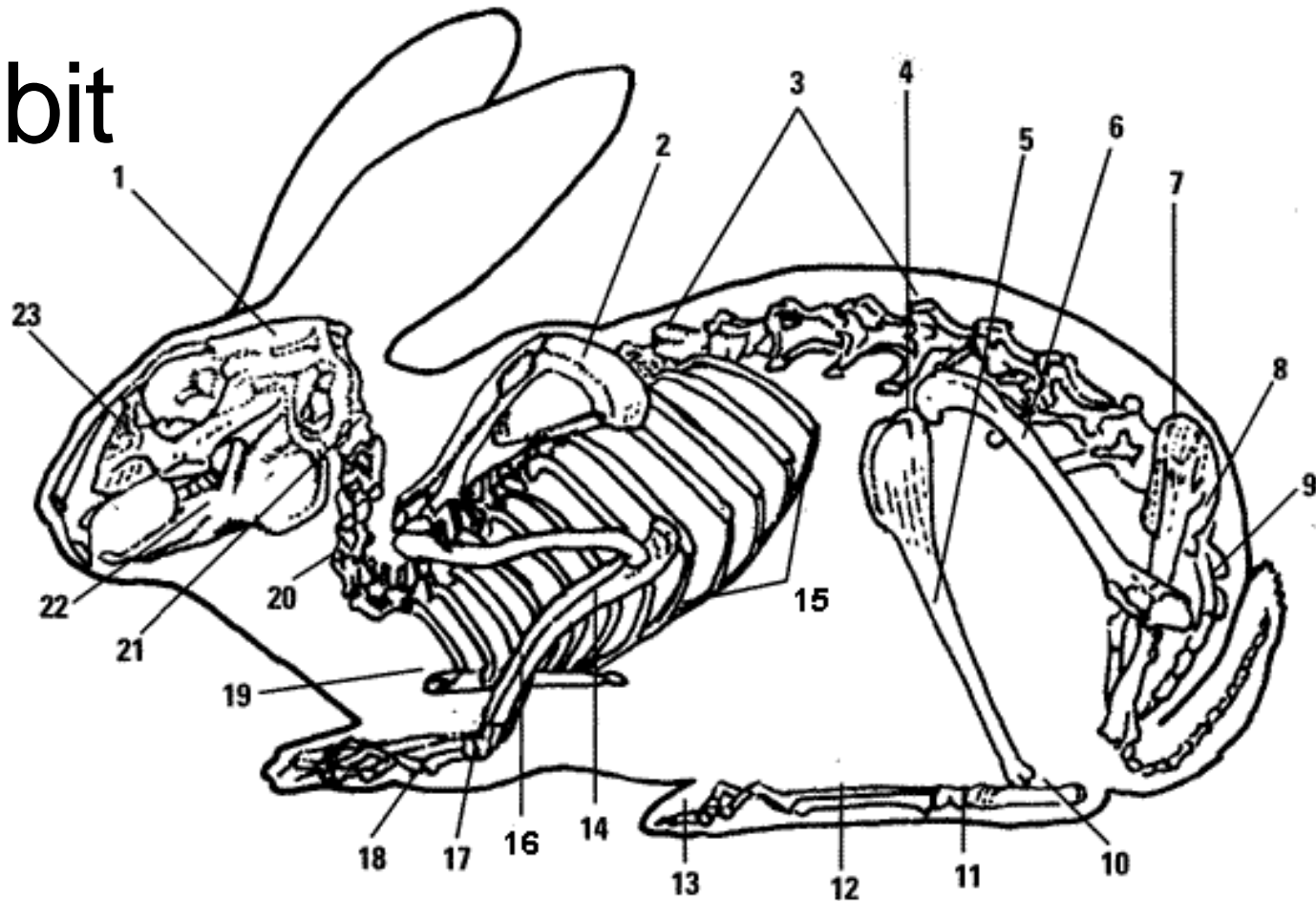
Dog



Cat



Rabbit



1. Cranium (Skull)
2. Scapula
3. Spine
4. Fibula
5. Tibia

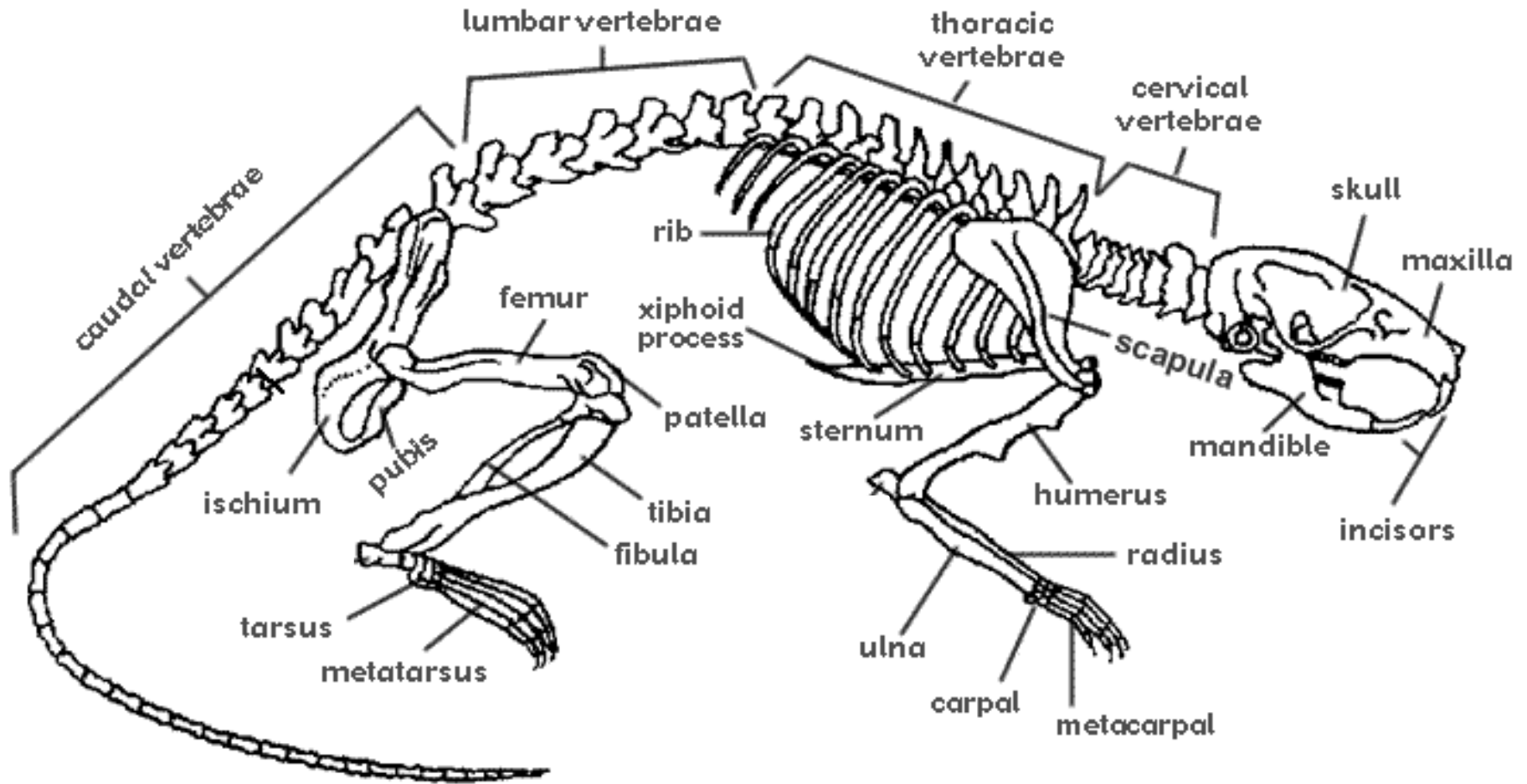
6. Femur
7. Ilium
8. Sacrum
9. Caudal Vertebrae
10. Calcaneus

11. Tarsus
12. Metatarsus
13. Phalanges
14. Ulna
15. Ribs

16. Radius
17. Carpus
18. Metacarpus
19. Sternum
20. Cervical Vertebrae

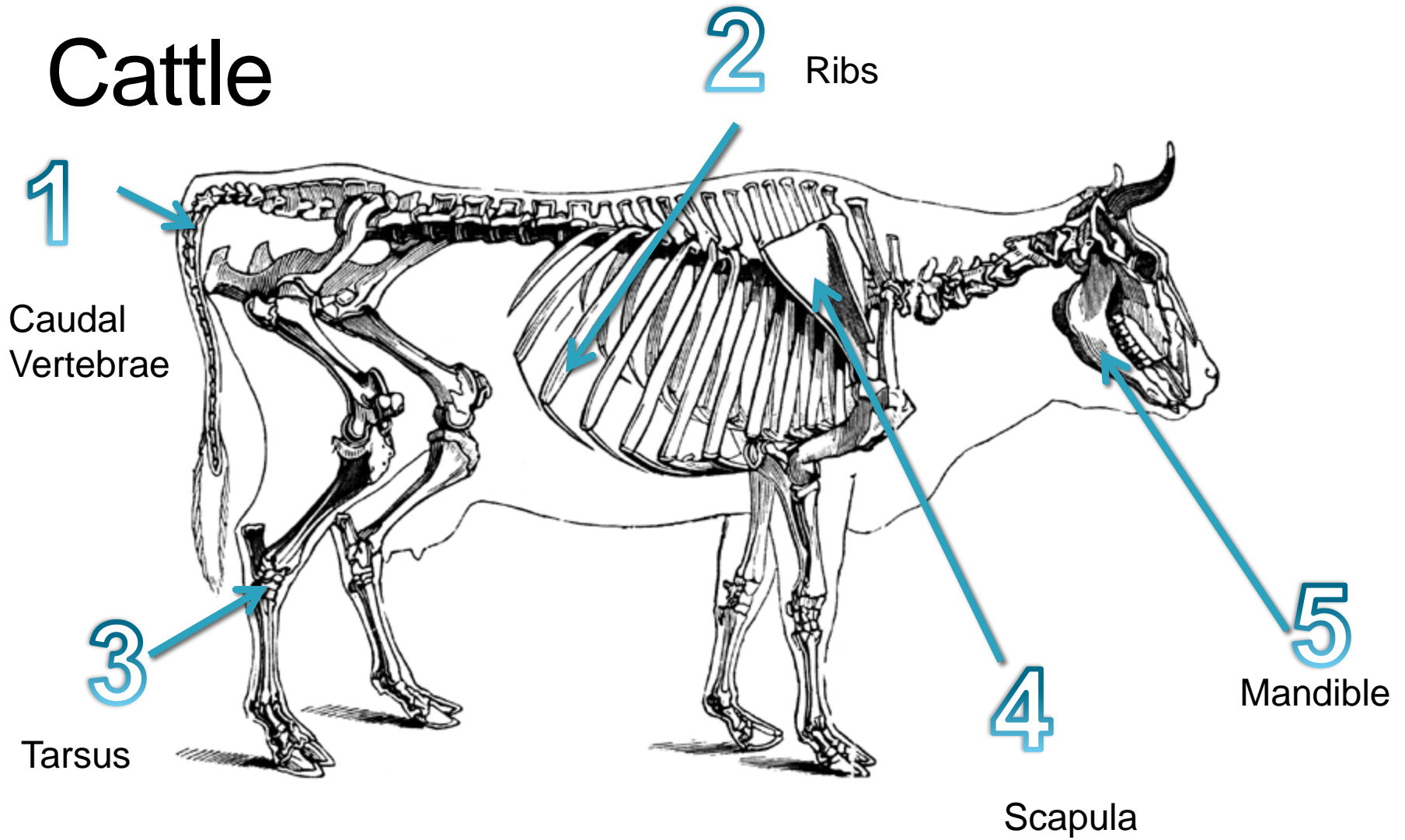
21. Atlas
22. Mandible
23. Maxilla

Rat

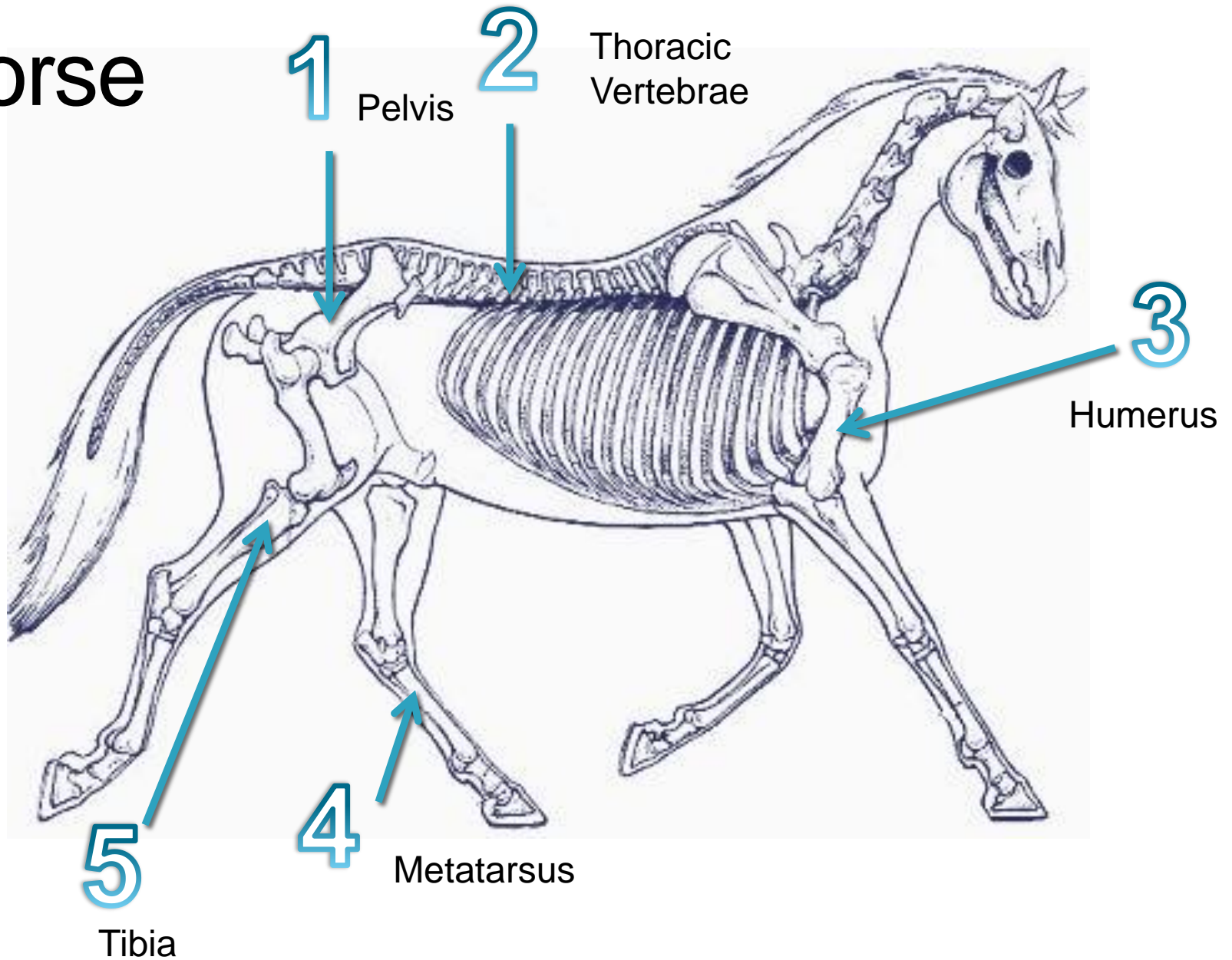


CAN YOU NAME THE BONES?

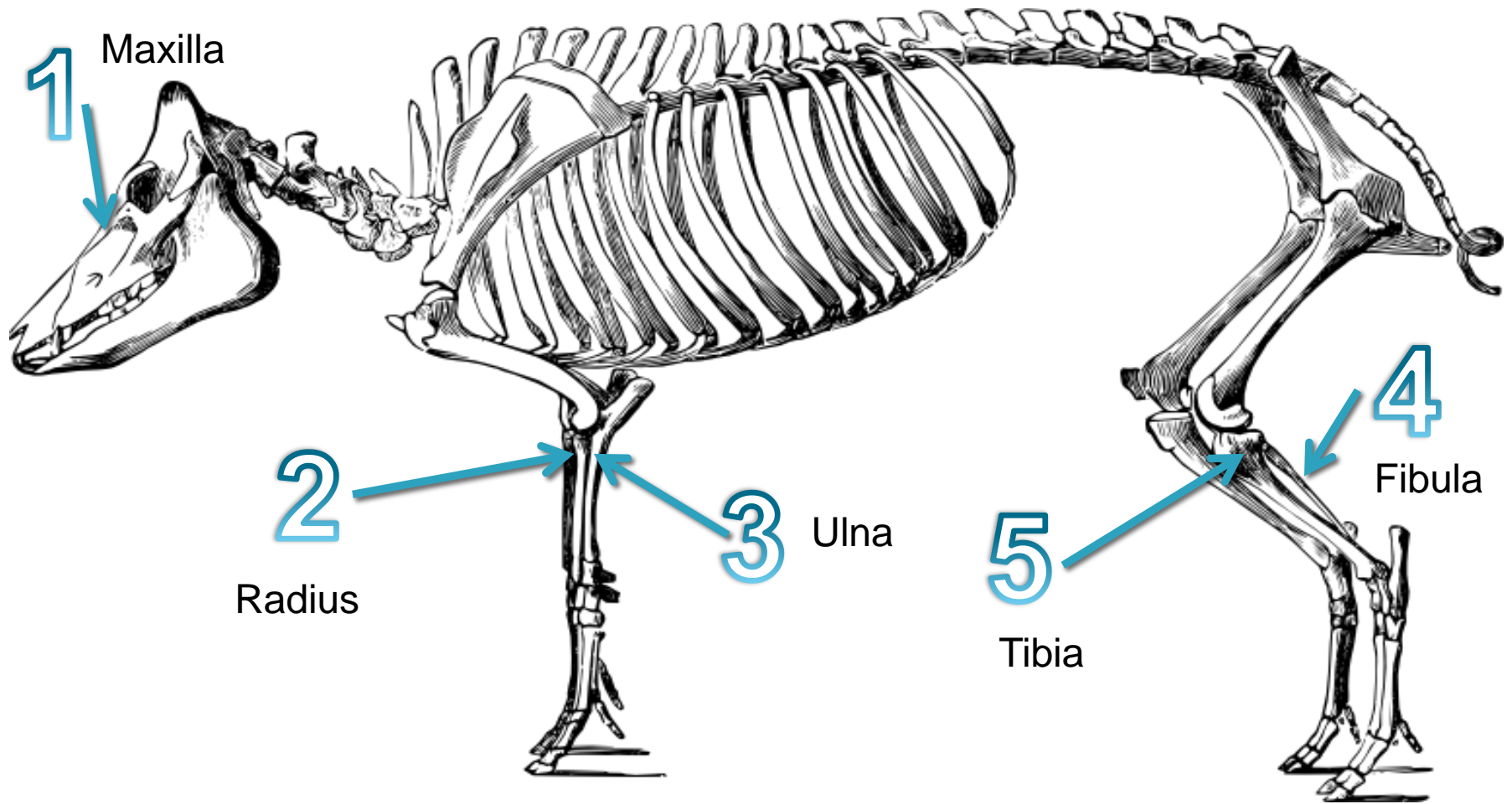
Cattle



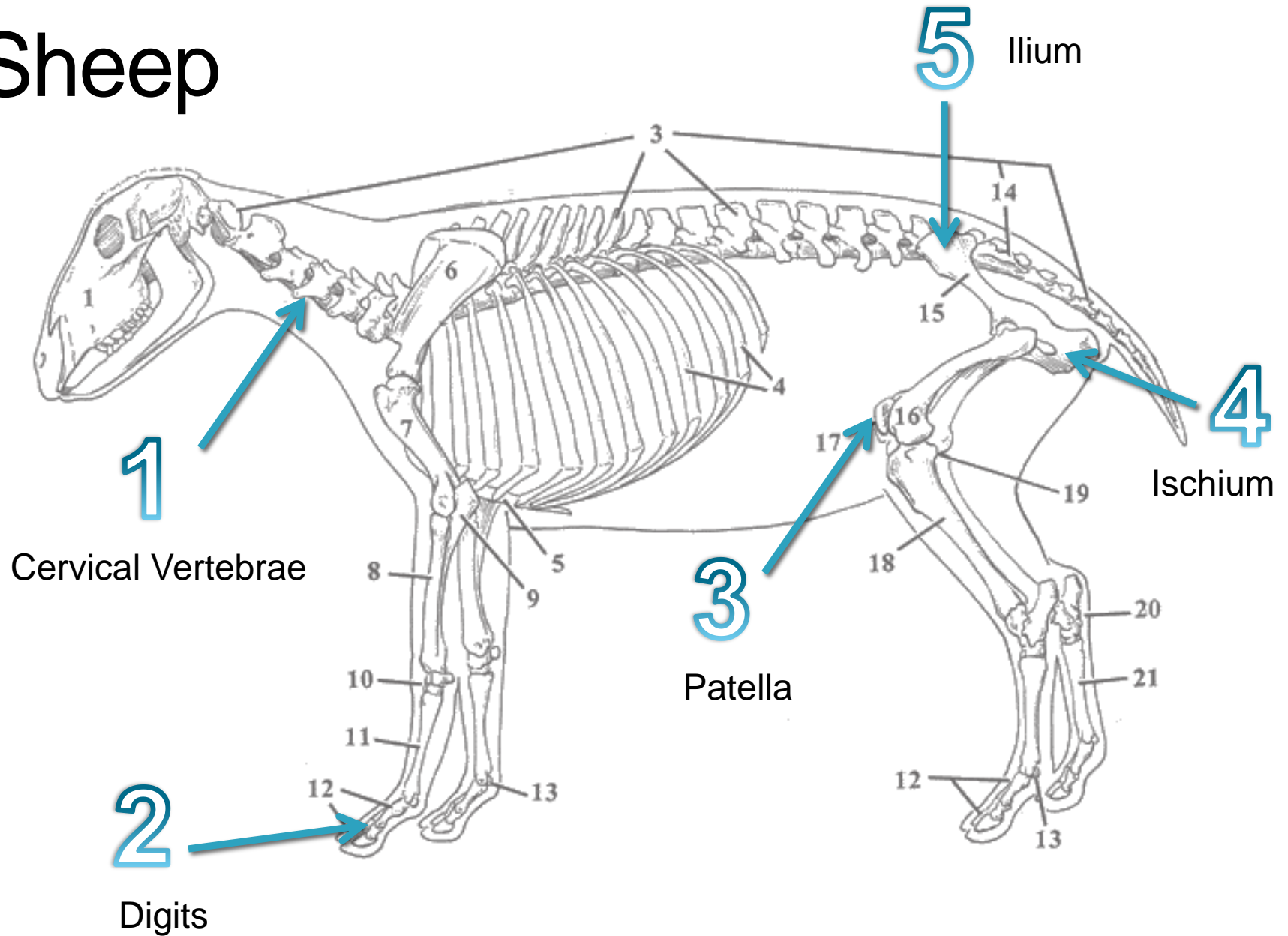
Horse



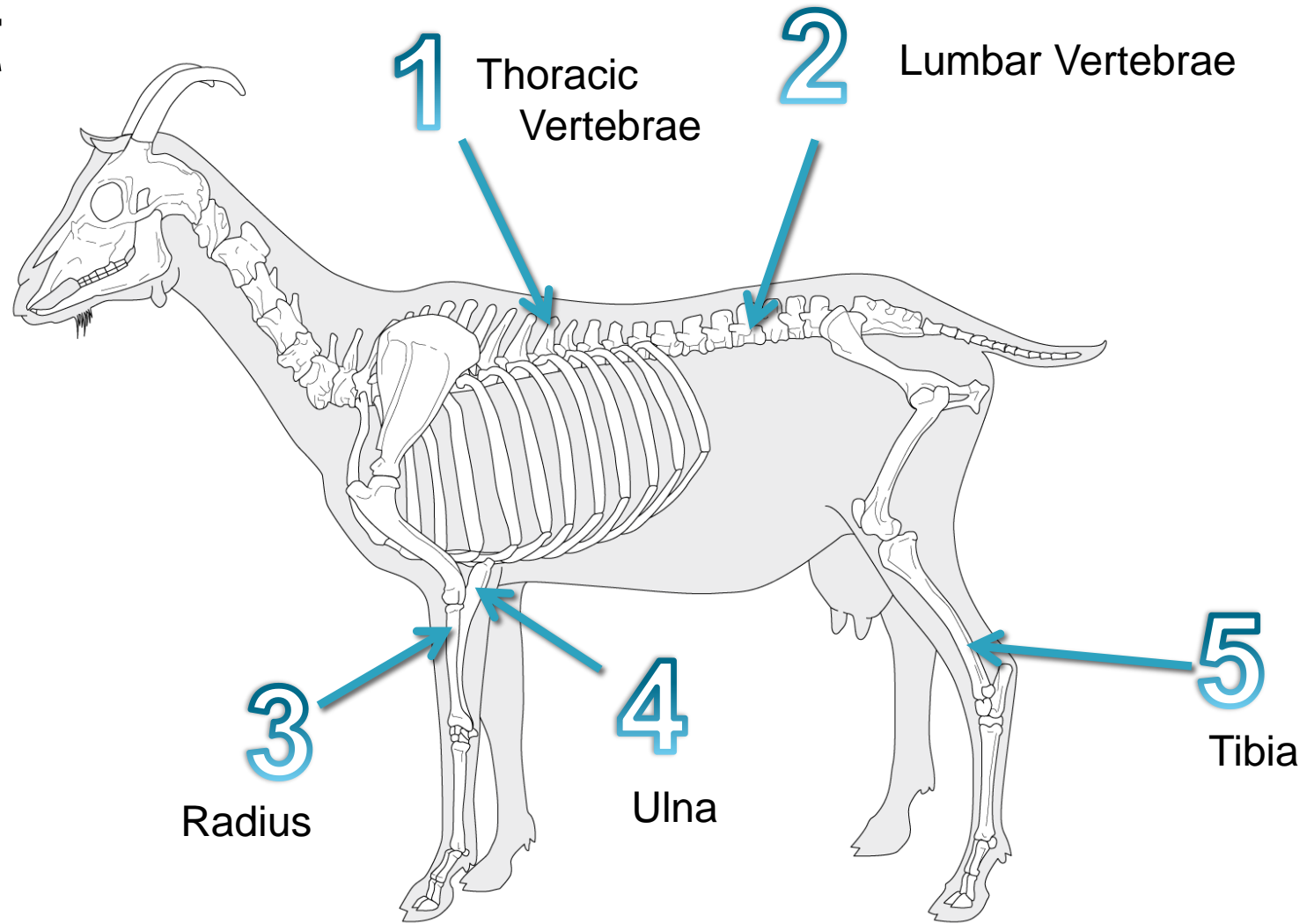
Swine



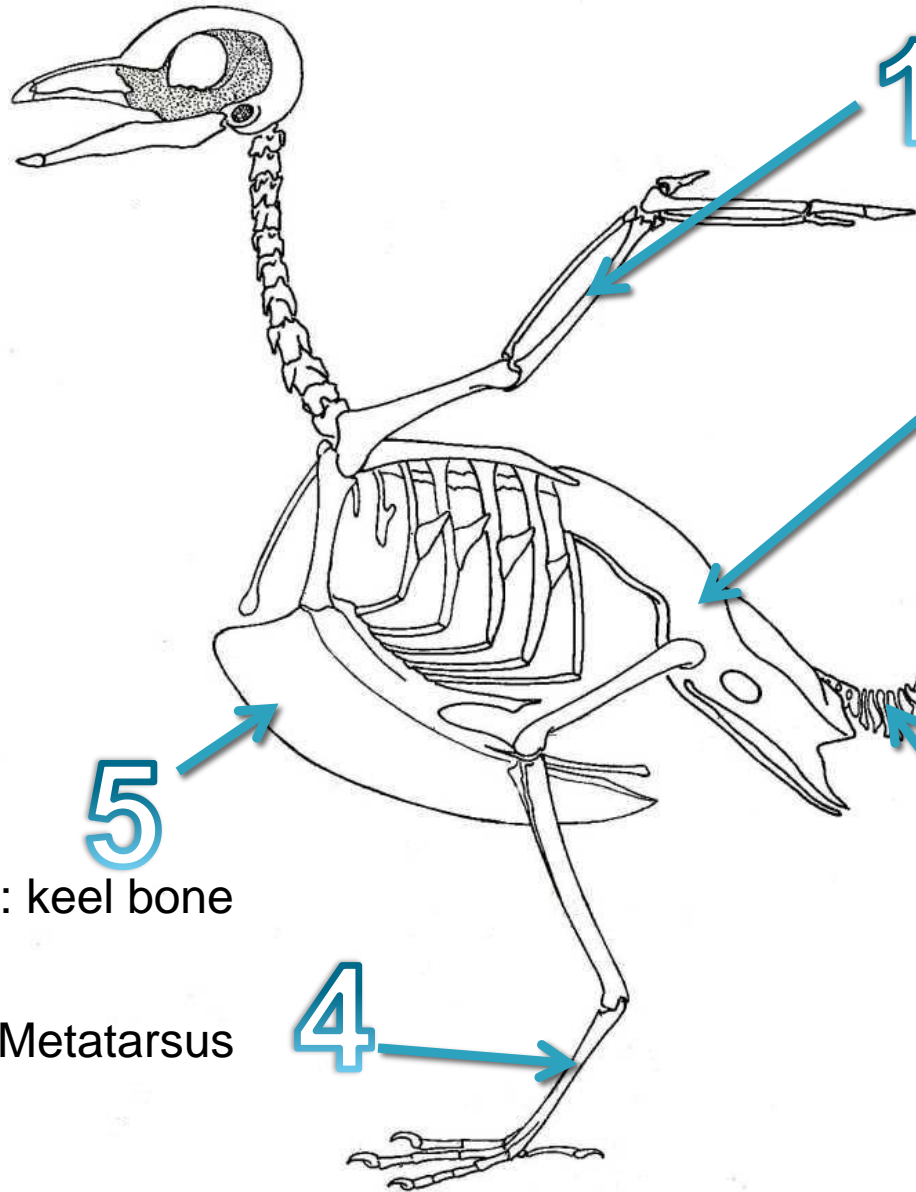
Sheep



Goat



Poultry



1 Ulna

2 Pelvis

5

Keeled Sternum aka: keel bone

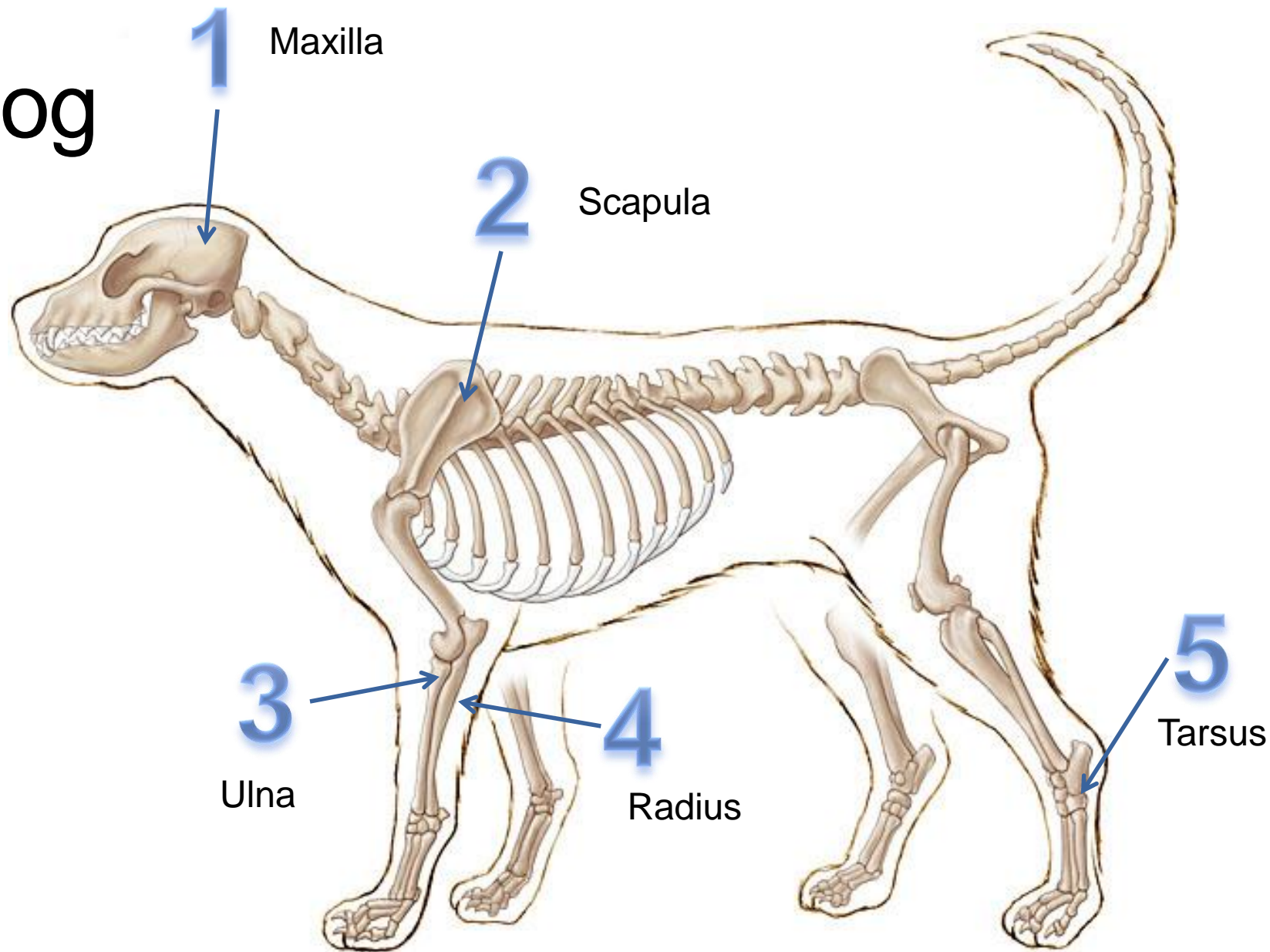
3

Caudal Vertebrae

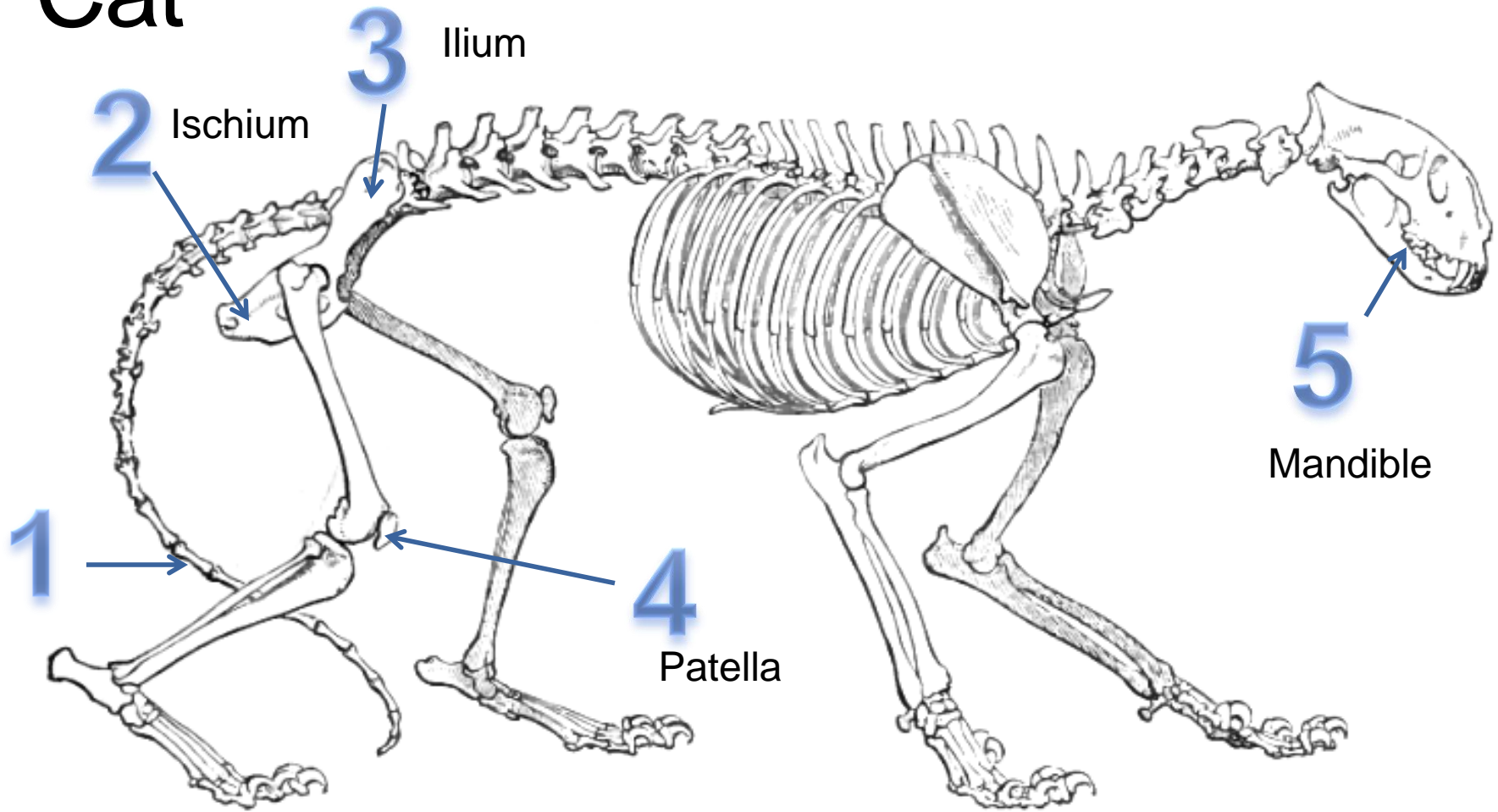
Metatarsus

4

Dog



Cat



1. Caudal
Vertebrae

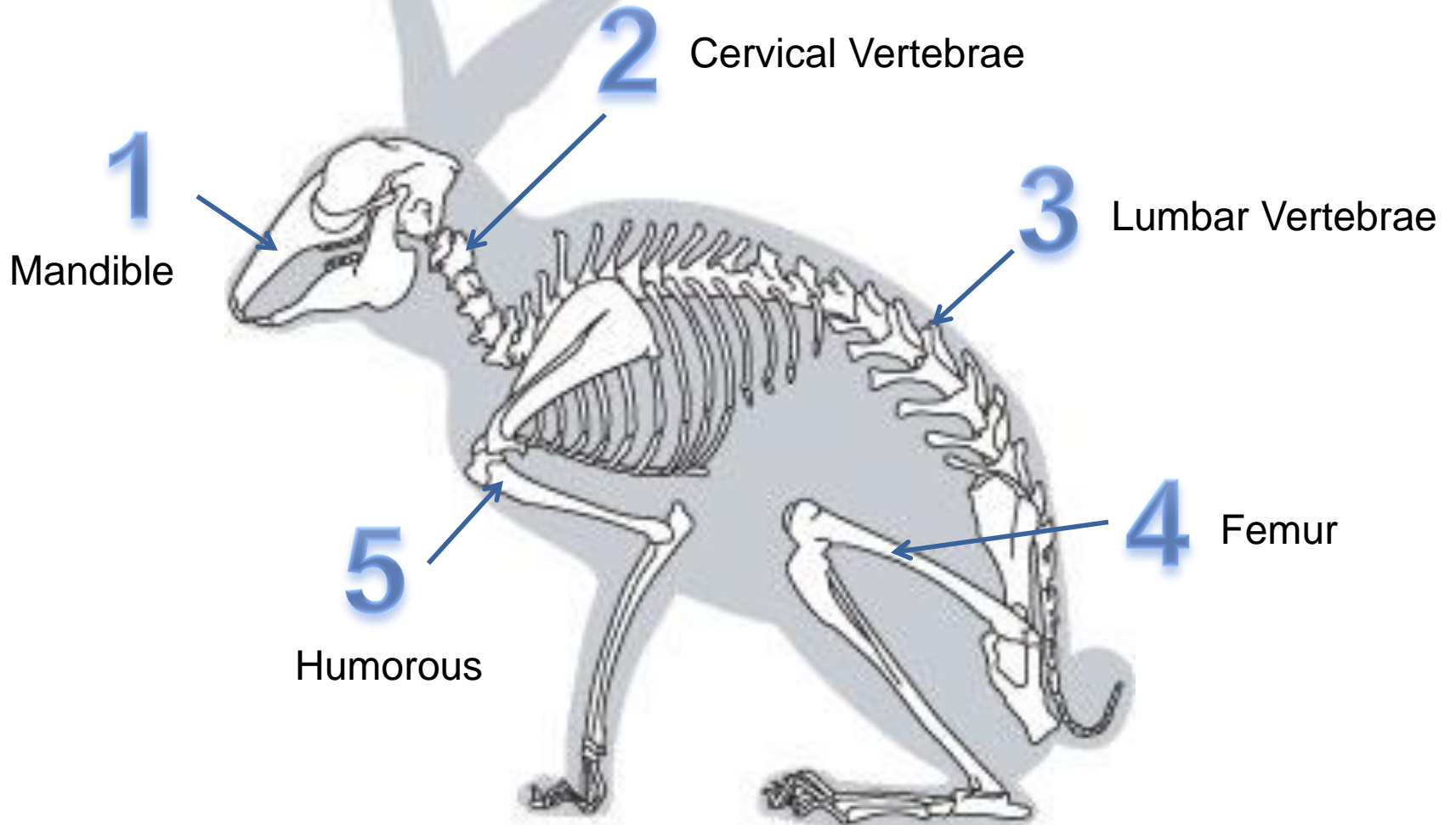
Ilium

Ischium

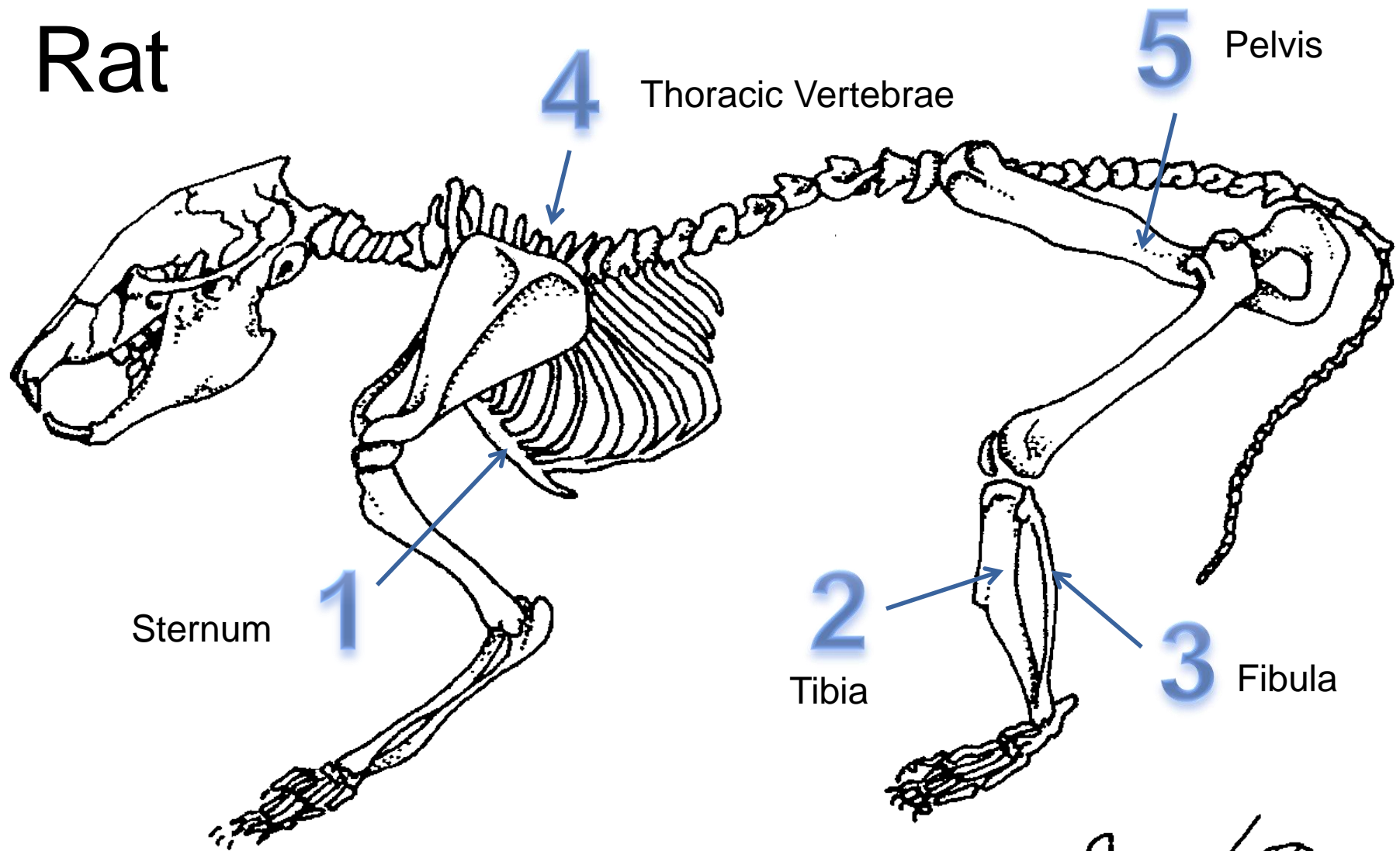
Mandible

Patella

Rabbit



Rat



Sternum

1

4

Thoracic Vertebrae

5

Pelvis

2

Tibia

3

Fibula

Guy/00