

Comparative Anatomy Human vs Canine Skeletal Systems

Developed by:

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With the help of Cindy Chotkowski (HS Animal Science teacher)

Discipline / Subject:

Animal Science

Topic:

Human and canine skeletal systems.

Grade Level:

High School

Resources / References / Materials Teacher Needs:**Texts:**

1. Human Skeleton labelled and not labelled
2. Canine Skeleton labelled and not labelled
3. Human vs Canine skeletal systems worksheet
4. Access to the internet for the following videos and resources

<https://www.youtube.com/watch?v=J8x6tZl2hVI> (Human Skeletal Sysytem)

<https://www.youtube.com/watch?v=Crg4jKtHRqk> (Canine Skeletal system)

<https://www.youtube.com/watch?v=7L6L0N2Yhm8> (Canine Glass Anatomy)

<https://www.youtube.com/watch?v=EdVS2jTi790> (Human vs bird, horse,

whale)

<https://www.youtube.com/watch?v=SiBzCpg6vu8> (Human Skeletal system)

<https://www.innerbody.com/image/skelfov.html> (Interactive website for the human skeleton)

Lesson Summary:

Students will compare and contrast the skeletal systems of dogs and humans. Identification of bones, bone structure, and bone location to develop an understanding of the skeletal system. This lesson would work best if students have already had exposure to both the human and canine skeletal systems.

Standards Addressed: (Local, State, or National)

- AS.02.02 Apply principles of comparative anatomy and physiology to uses within various animal systems.

Learning Objectives:

1. Student will identify the major bones in the human and canine skeletal system.
2. Students will identify the 4 types of bones.
3. Students will identify the purpose of the bone.
4. Students will identify if the bone is unique to either the canine or human.

Assessment:

Comparative Anatomy: Human vs Canine worksheet

Procedural Activities

1. Students are introduced to both the human and canine skeletal systems. Allow time for the students to explore both systems before and during the activity. Use the following videos to explore:

<https://www.youtube.com/watch?v=J8x6tZl2hVI> (Human Skeletal System)

<https://www.youtube.com/watch?v=Crg4jKtHRqk> (Canine Skeletal system)

<https://www.youtube.com/watch?v=7L6L0N2Yhm8> (Canine Glass Anatomy)

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whale)

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<https://www.innerbody.com/image/skelfov.html> (Interactive website for the human skeleton)

2. Hand out the Human vs Canine Skeletal Systems worksheet and explain the directions to the students.
3. Using information learned and the resources available have the students complete the comparative anatomy activity.
4. After the students have completed the activity have them share the differences they found between the human and canine skeletons.

Materials Students Need:

1. Human Skeleton labelled and not labelled
2. Canine Skeleton labelled and not labelled
3. Human vs Canine skeletal systems worksheet
4. Access to the internet for the following videos and resources
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<https://www.innerbody.com/image/skelfov.html> (Interactive website for the human skeleton)

Technology Utilized to Enhance Learning:

1. <https://www.youtube.com/watch?v=J8x6tZl2hVI> (Human Skeletal System)
2. <https://www.youtube.com/watch?v=Crg4jKtHRqk> (Canine Skeletal system)
3. <https://www.youtube.com/watch?v=7L6L0N2Yhm8> (Canine Glass Anatomy)
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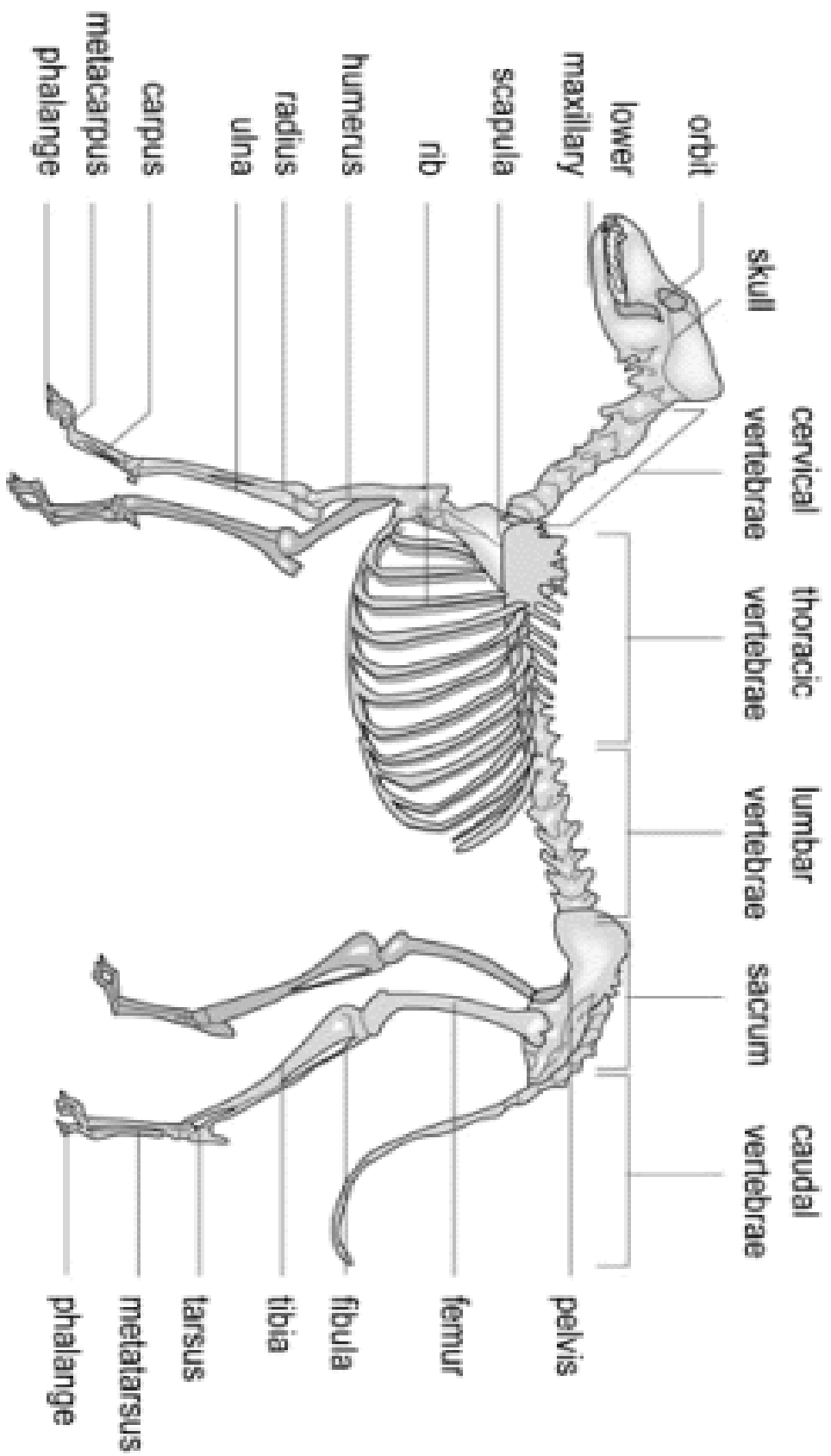
Other Information:**Modifications for Special Learners/ Enrichment Opportunities:**

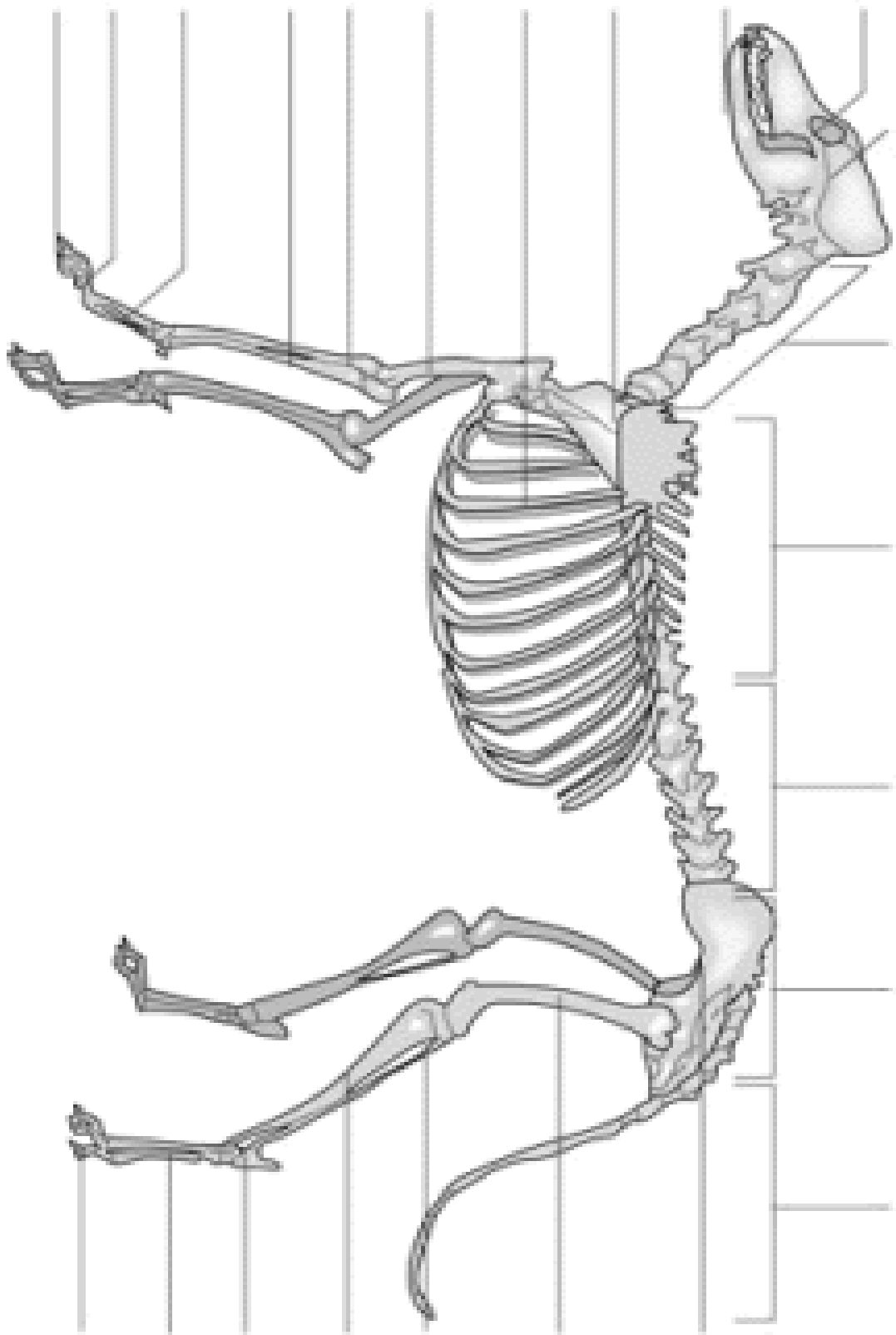
Modifications:

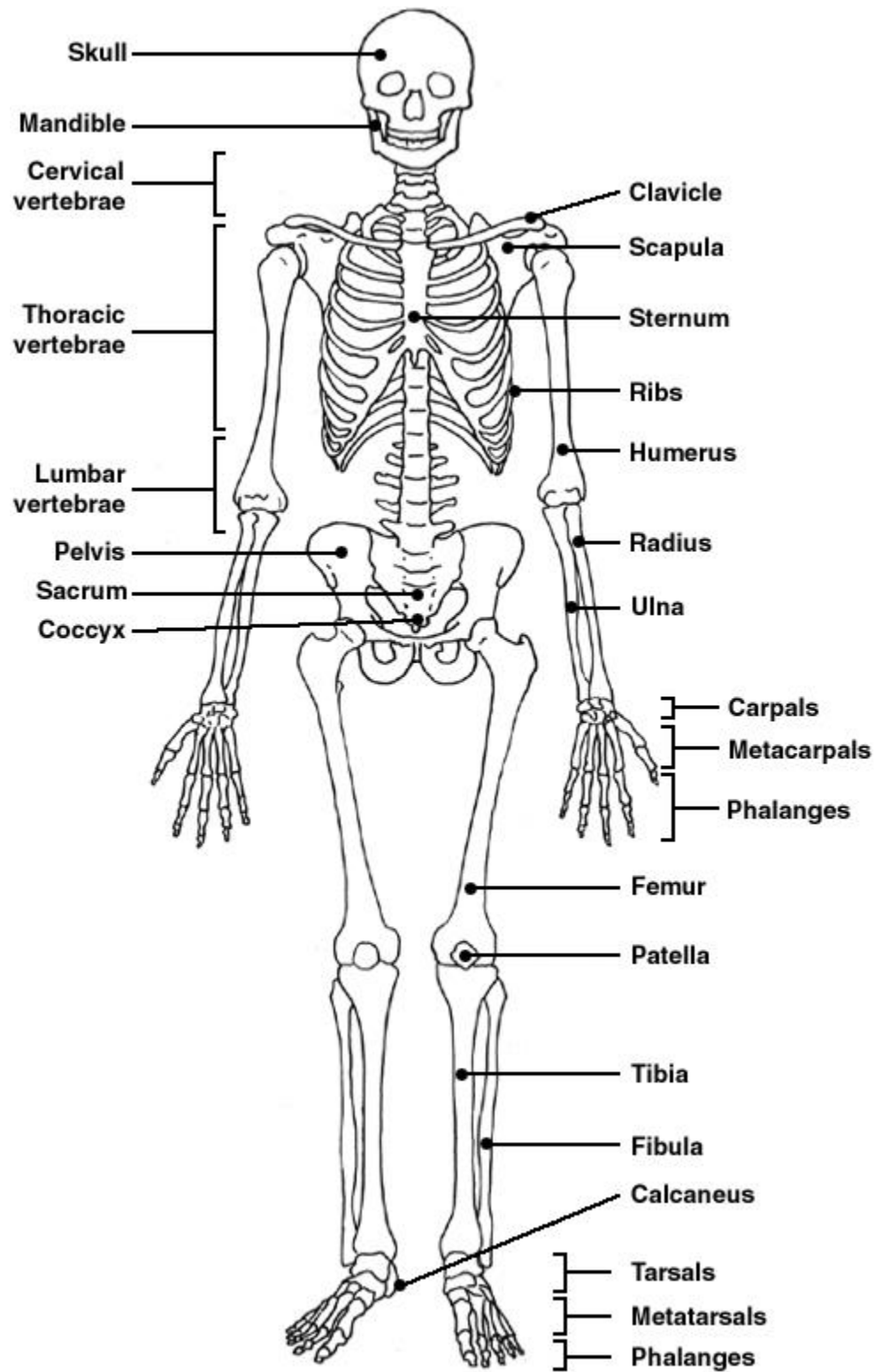
- Word bank for the blank skeletons

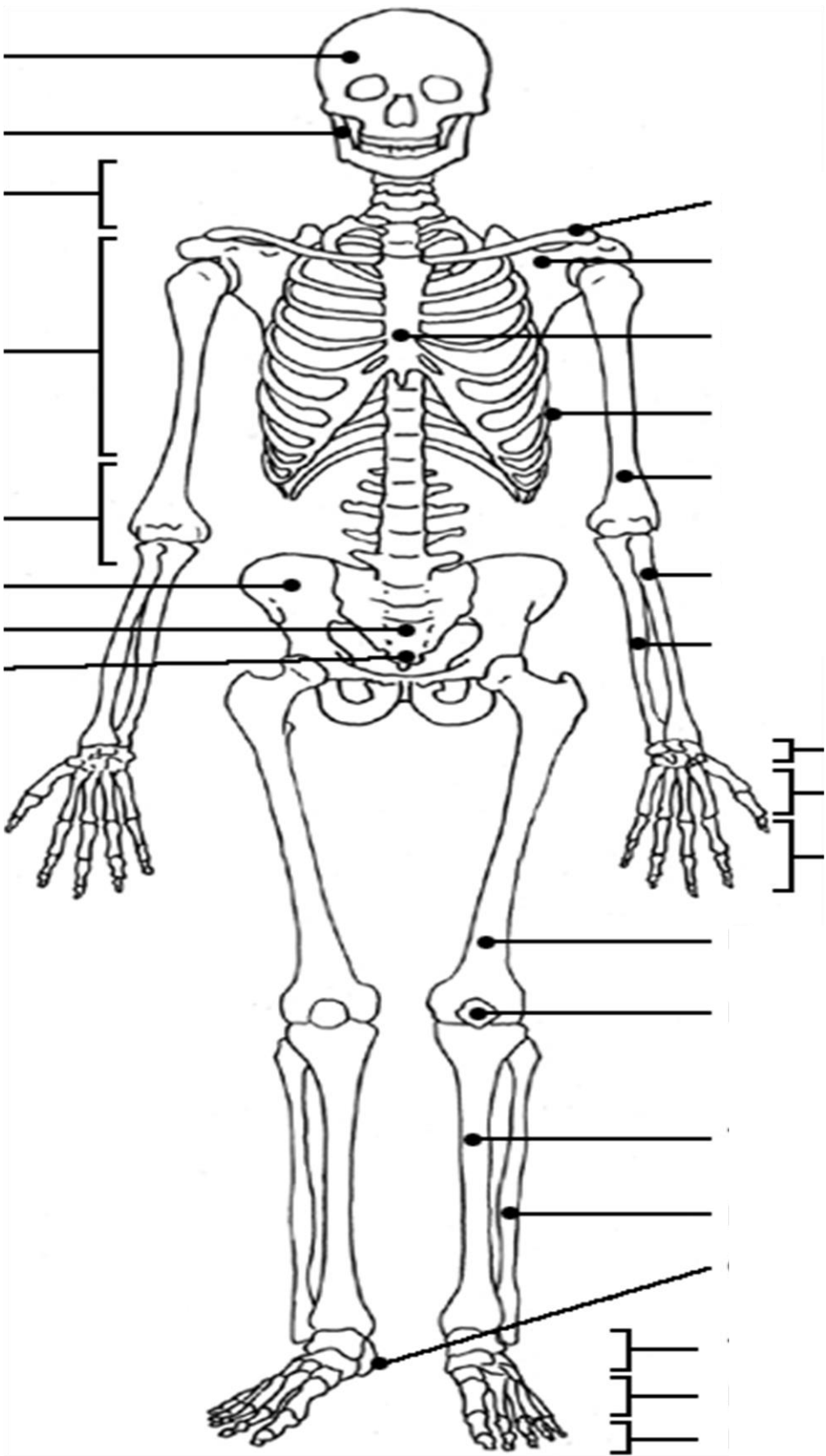
Enrichment:

- Compare canine to feline, bird, horse etc...
- Using a variety of materials (toothpicks, popsicle sticks, etc...) students can build 2D human and canine skeletons.









Human vs Canine Skeletal Systems

Name _____

Directions: For each bone listed below:

1. Label them on the blank skeleton.
2. Identify what type of bone it is (long, flat, short, irregular).
3. Identify the purpose of the bone (support, protection).
4. Identify if the bone is unique to either the human or canine.

Canine Skeleton

1. Cervical Vertebrae-

long / flat / short / irregular Support / Protection unique / not unique

2. Sternum-

long / flat / short / irregular Support / Protection unique / not unique

3. Scapula-

long / flat / short / irregular Support / Protection unique / not unique

4. Carpals-

long / flat / short / irregular Support / Protection unique / not unique

5. Lumbar Vertebrae-

long / flat / short / irregular Support / Protection unique / not unique

6. Skull-

long / flat / short / irregular Support / Protection unique / not unique

7. Pelvis-

long / flat / short / irregular	Support / Protection	unique / not unique
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8. Tarsals-

long / flat / short / irregular	Support / Protection	unique / not unique
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9. Caudal Vertebrae-

long / flat / short / irregular	Support / Protection	unique / not unique
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10. Femur-

long / flat / short / irregular	Support / Protection	unique / not unique
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Human Skeleton

11. Clavicle

long / flat / short / irregular Support / Protection unique / not unique

12. Thoracic Vertebrae

long / flat / short / irregular Support / Protection unique / not unique

13. Skull

long / flat / short / irregular Support / Protection unique / not unique

14. Radius

long / flat / short / irregular Support / Protection unique / not unique

15. Ulna

long / flat / short / irregular Support / Protection unique / not unique

16. Lumbar Vertebrae

long / flat / short / irregular Support / Protection unique / not unique

17. Phalanges

long / flat / short / irregular Support / Protection unique / not unique

18. Scapula

long / flat / short / irregular Support / Protection unique / not unique

19. Tibia

long / flat / short / irregular

Support / Protection

unique / not unique

20. Ribs

long / flat / short / irregular

Support / Protection

unique / not unique

What are the bones that are unique to the canine and the human skeletal systems?