

Name: \_\_\_\_\_

### **Anatomy and Physiology: A Human-Dog Comparison**

#### **Part 1 – Building a physical model of the digestive system**

A) Using any internet-enabled device, research the digestive system of both humans and dogs.

B) Use the bulletin paper to draw a ~6 foot outline of a human. Draw the outline of a dog (~4 feet) on a different sheet.

C) Using the materials-balloons, rubber bands, plastic tubing (if available) and tape-construct a physical model of the digestive system of both a human and a dog.

\*Be sure to use different balloons of different sizes, colors, and shapes to represent various organs of the digestive & excretory systems of each organism. Fit to scale as best you can on the drawn outline. Label the name of the organ with a marker on the representative balloon. Affix model to the appropriate location on each of the outlines.

D) The following organs are the minimum organs that must be represented in each model;  
Esophagus Stomach Intestines Colon/Rectum Anus Pancreas Gallbladder Liver

#### **Part 2 – Organ Functions**

Describe the function or digestive role of each:

A) Esophagus-

B) Stomach-

C) Intestines (Large & small)-

D) Colon/Rectum-

E) Anus-

F) Pancreas-

G) Liver-

H) Gallbladder -

#### **Part 3 – Dental comparison**

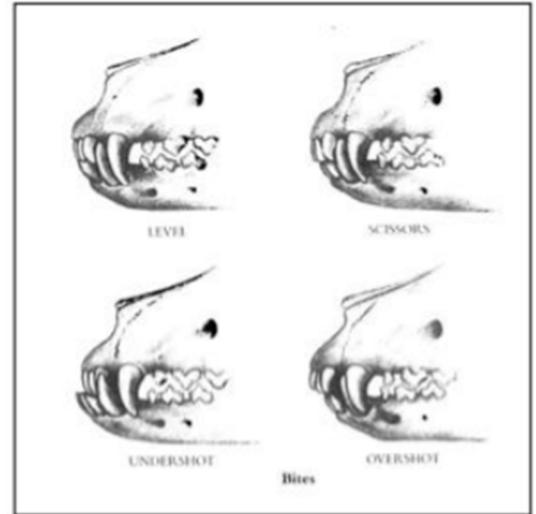
For most animals, the digestive process actually begins as the food enters the mouth, before swallowing. Let's compare a human bite with a dog's.

A) Using a mirror to view your own, or looking at lab partner’s teeth, observe the shape, layout, and “bite” of human teeth.

B) Using approved online images or the illustrations to the right, analyze the different bites some dogs may have.

C) In reviewing and comparing the shape, layout, and “bite” between humans and dogs, what conclusions can you make about the historical diet of each?

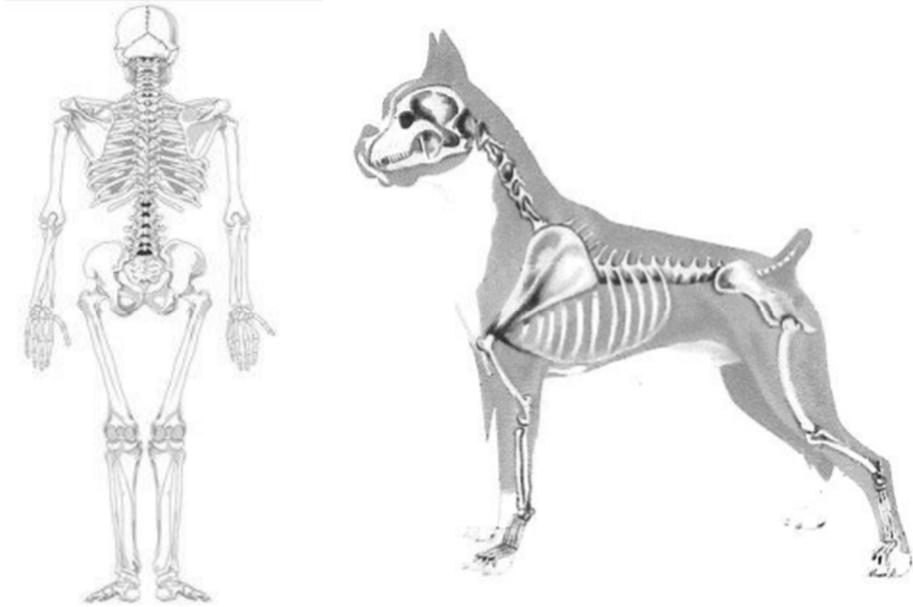
For more information on breed standard bite patterns, visit <http://www.akc.org/content/dog-training/articles/bites-judging-canine-dentition/>



**Part 4 – The Skeletal System, creating a color key**

Humans and dogs are not only both vertebrate animals, they are also mammals and share many similar features including the ability to provide milk to their young. You will also notice that many of the bones are similar. Using pencils, color the bones of both the dog and the human as directed below.

ATLAS-Orange	FEMUR-Yellow	HUMERUS-Brown	PELVIS-Dark Green
TIBIA-Purple	ULNA-Black	RADIUS-Red	FIBULA-Blue
METACARPUS-Pink	RIBS-Navy Blue	SCAPULA-Light Green	METARARSUS-Silver



### PART 5 – External Dog Features

Competition judges must be extremely knowledgeable when it comes to naming and evaluating a dog's external features, many of which have very different names when compared to humans. Using the allowed internet-enabled device, research the names of these external features and label them by writing in the correct letter in the blanks below.

- |                          |
|--------------------------|
| 1. ___ Withers           |
| 2. ___ Cheek             |
| 3. ___ Brisket           |
| 4. ___ Point of Rump     |
| 5. ___ Toes              |
| 6. ___ Crest             |
| 7. ___ Stifle            |
| 8. ___ Forearm           |
| 9. ___ Point of Shoulder |
| 10 ___ Hock              |

