

Name \_\_\_\_\_

Period \_\_\_\_\_



### Vertebrate Skeletons Lab



You can tell a lot about an organism, such as what it eats and how it moves, simply by looking at its skeletal structure. This lab will elaborate on the material we have studied thus far regarding vertebrate anatomy by asking you to examine and compare various vertebrate skeleton specimens.

1. As you proceed through the lab, complete the following chart:

Skeleton	# Vertebrae
Fish	
Frog	
Snake	
Bird	
Dog	
Cat	
Human	

#### Fish skeleton



2. Do the fish bones look light or heavy? \_\_\_\_\_ How does this relate to its habitat?



#### Frog skeleton

3. Does the frog have teeth? \_\_\_\_\_ If so, describe what they look like. \_\_\_\_\_

4. Frogs have limited head mobility. What about the frog skeleton supports this statement? (Hint: compare to bird skeleton) \_\_\_\_\_

5. a) Compare the frog's legs and digits with those of the human. What major differences do you observe? \_\_\_\_\_

b) Why do you think this is? (Hint: related to movement) \_\_\_\_\_

6. Examine the frog and human skeletons closely. What do we have attached to our vertebrae that the frog does not? \_\_\_\_\_ Why do you think this is? \_\_\_\_\_

#### Snake skeleton



7. Compare the snake with the frog and explain how the number of vertebrae affects how an organism can move. \_\_\_\_\_

8. Notice that, unlike the bird and mammal skeletons, snake ribs are not anchored in place by a breastbone/sternum and they have loose jaw bones (notice the gap in front). Why do you think this is? (Hint: related to feeding) \_\_\_\_\_

#### Bird skeleton



9. Examine the bird's eye sockets. Describe what you observe. \_\_\_\_\_ Why would this be beneficial? (Hint: related to flight) \_\_\_\_\_

10. Why do you think the bird has such a long neck? (Hint: what do you see birds frequently doing) \_\_\_\_\_

11. Compare the fused collarbone (furcula) and the keeled sternum (breastbone) with the human skeleton's corresponding parts. Why are they different (be specific)? \_\_\_\_\_  
 \_\_\_\_\_
12. Notice that birds have a smaller number of bones than mammals or reptiles, because they are fused. Why would this be beneficial? (Hint: related to movement) \_\_\_\_\_

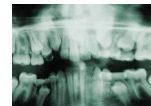


**Dog and Cat Skeletons**



13. Examine the dog's dentition (teeth). How are they adapted for feeding? (Hint: how are they different from the snake's dentition)? \_\_\_\_\_  
 \_\_\_\_\_
14. Notice that the dog and cat skeletons have "spiked" vertebrae towards the front of their bodies. What do you think the purpose of these spikes is? \_\_\_\_\_  
 \_\_\_\_\_
15. Closely examine the foot structure of both the cat and the dog. What part do they walk on? \_\_\_\_\_  
 Why do you think they do this? \_\_\_\_\_
16. There is one noticeable different between the nails on a dog and the nails on a cat. What is it? \_\_\_\_\_  
 \_\_\_\_\_

**Human skeleton**



17. Humans are bipedal (walk on 2 feet) and therefore their backbone enters the cranium (skull) from which direction? \_\_\_\_\_ This differs from the frog, a quadruped, whose backbone enters the skull from which direction? \_\_\_\_\_. The bird's neck must curve significantly in order to enter the skull in the same way as the \_\_\_\_\_.
18. Compare the human foot with the chimpanzee foot (photo). Explain why there is a difference in structure. (Hint: how is the foot used for each species). \_\_\_\_\_  
 \_\_\_\_\_

**EXTRA CREDIT ☺**

Examine the backbone on the front table. Draw a picture of the animal you think it belongs to **(make sure to include where the backbone would go!)**