

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

Date: \_\_\_\_\_

## CLADOGRAMS Option 2

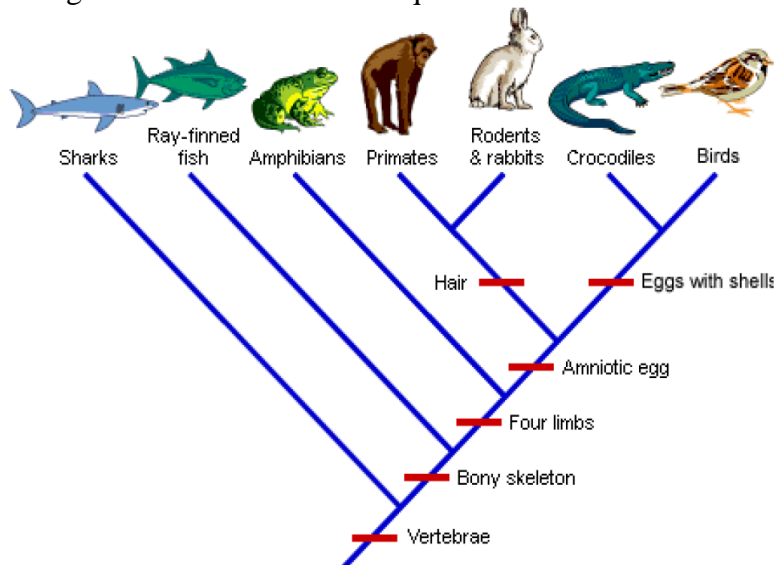
What is a cladogram? It is a diagram that depicts evolutionary relationships among groups. It is based on **PHYLOGENY**, which is the study of evolutionary relationships. Sometimes a cladogram is called a phylogenetic tree.

\*You will need headphones for this set of worksheets. View the movie that shows you how to construct a cladogram below. You do not need to know how to create a VENN diagram before making the cladogram. <http://ccl.northwestern.edu/simevolution/obonu/cladograms/Open-This-File.swf>

Draw the diagram that you are shown on the above website below, you don't need to make your own:



Use the completed cladogram below to answer the questions that follow.



What trait separates amphibians from primates on this cladogram? \_\_\_\_\_

What separates rabbits and primates from crocodiles on this cladogram? \_\_\_\_\_

Which organism is most related to the bird on this cladogram? \_\_\_\_\_

What 5 traits do these two organisms share? \_\_\_\_\_

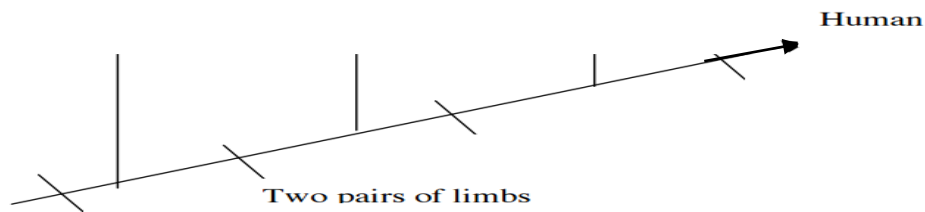
\_\_\_\_\_

Which organism will have DNA most similar to the bird? \_\_\_\_\_

Which organism's DNA will differ the most from the bird?

Characters	Shark	Bullfrog	Kangaroo	Human
Vertebrae	X	X	X	X
Two pairs of limbs		X	X	X
Mammary glands			X	X
Placenta				X

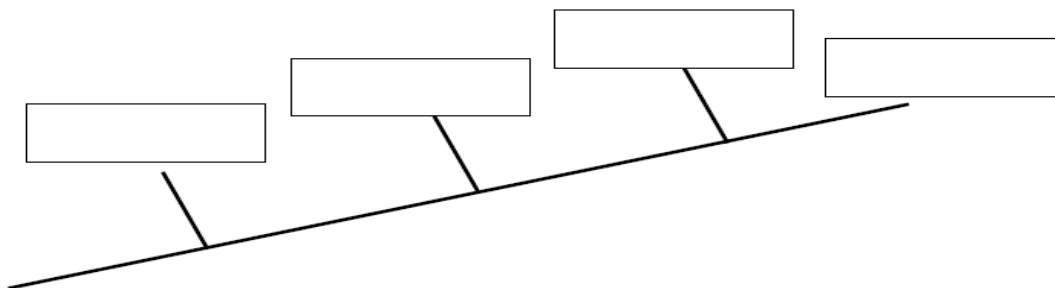
Fill in the cladogram below with the names of the organisms and the character traits. Two were done for you.



1. Fill in the following table. Mark an "X" if an organism has the trait.

	hair	legs	opposable thumbs	eyes
Human				
Snake				
Monkey				
Lizard				

- Add each of these organisms to the cladogram below: human, snake, monkey, lizard
- USING complete sentences, explain why you put each organism where you did on the cladogram.



- On the cladogram above, add traits that make the organisms different from each other.
- According to your cladogram, which two species are more closely related: humans or snakes or humans or monkeys? How do you know?
- According to your cladogram, what species are humans most closely related to? How do you know?