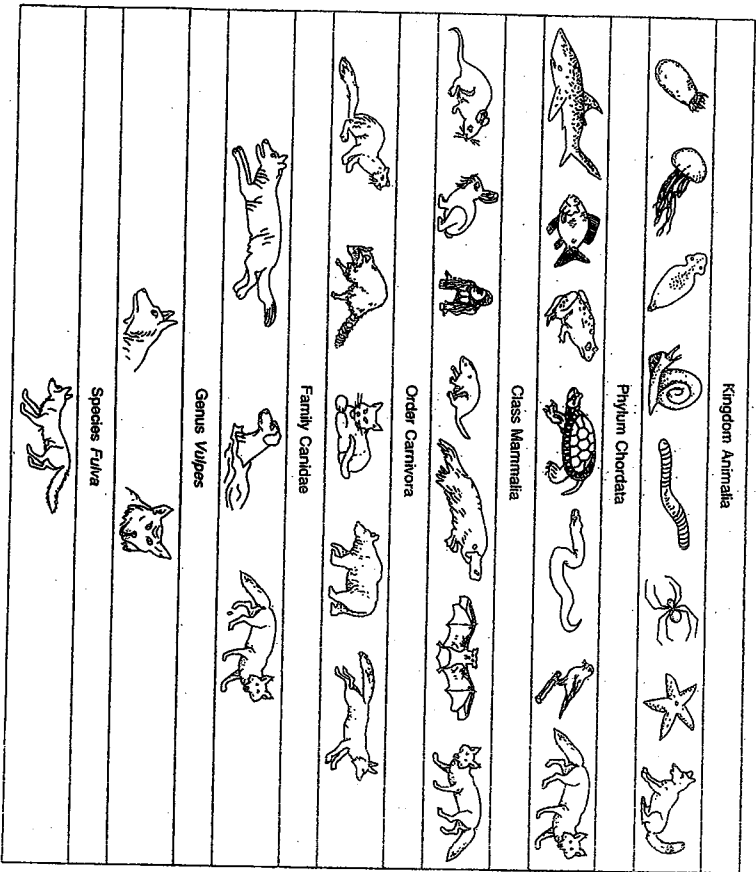


Analyzing Relationships Within a Classification System

The living world shows great diversity. There are a large number of different organisms, and each species has characteristics that are different from the others. In this activity you will identify and analyze the structure of a commonly used classification system. The figure below shows a scheme used to classify animals.

Figure 1



1. List the common features of the animals in each group.

2. Describe the major differences between each group. For example, the decision to classify an organism in either kingdom or phylum is that some animals have a spinal cord and others do not.

Phylum-Class _____

Class-Order _____

Order-Family _____

Family-Genus _____

Genus-Species _____

1. Describe what happens to the degree of diversity at both ends of the scheme, from the higher taxonomic levels to the lower taxonomic levels.

CLASSIFICATION SHOWS CLOSENESS

<u>DIVISION</u>	A	B	C	D	E
<u>KINGDOM</u>	Animalia	Animalia	Animalia	Animalia	Plantae
<u>PHYLUM</u>	Chordata	Chordata	Chordata	Arthropoda (ahr THRAH uh duh)	Tracheophyta
<u>SUBPHYLUM</u>	Vertebrata	Vertebrata	Vertebrata		
<u>CLASS</u>	Mammalia	Mammalia	Mammalia	Insecta	Gymnospermae
<u>ORDER</u>	Carnivora	Carnivora	Primates	Orthoptera	Coniferales
<u>FAMILY</u>	Felidae	Canidae	Hominidae	Locustidae	Pinaceae
<u>GENUS & SPECIES</u>	Felis domesticus	Canis familiaris	Homo sapiens	Schistocerca americana	Pinus strobus

Compare organisms A-E and answer the following questions

1. How many kingdoms are represented here? Name them.
2. Which organism is least related to the other four?
3. Examine the phyla of the remaining four. Which organism is least related to the other three? Explain
4. What three organisms are left? Of the 3 left, which 2 have more of the same structural similarities? Explain your answer.
5. Of all 5 organisms, which two are more closely related? Explain.
6. Are any of these organisms exactly alike?
7. The common names of these organisms are: human, dog, grasshopper, white pine tree, cat
8. Which organism was the white pine tree? the grasshopper?
8. Of the three remaining organisms, which was the human?
9. The mountain lion is also commonly called a puma, cougar, and panther. Its scientific name is Felis concolor. Examine the genera above. To which organism is it closely related. Explain
10. Which organism is the dog?