Vocabulary

o Taxonomy

o Common Names

o Scientific Names

o Systematics

o Binomial Nomenclature

o Phylogeny

Taxonomy Standards

1. What is taxonomy?

2. Why is taxonomy important?

3. Describe three different situations in which knowing the taxonomic classification of an organism could be helpful. (Review David Hone's Why Taxonomy is Important for help if needed.)

4. The scientific names of four different animals are listed below. Explain which animals you think are most closely related in this group and describe why you think so.
    o *Panthera tigris*
    o *Canis lupus*
    o *Panthera leo*
    o *Giraffa camelopardalis*

Discovering the Great Tree of Life

5. How many species are estimated to live on the plant today? How many of these species have been discovered so far?

6. What is the "tree of life"?

7. Why do you think scientists gather data from both the field and the laboratory to reconstruct the relationships that link life forms?

8. What is phylogony?

9. Describe a possible cause for branching in a phylogenetic tree. Use an example population (like the bunny population example shown in the Discovering the Great Tree of Life video) in your description. You can also use a labeled diagram in your explanation.

10. List three things that have fueled unprecedented advances in our understanding of the tree of life.

11. What surprises emerged from phylogenetic analysis of molecular information on *Rafflesia* (the parasitic flowering plant that smells like rotting flesh)? Why were these findings unexpected?