Assessment and Student Activity Masters

Preliminary Assessment

Directions: Fill in the blank with the correct word. A list of possible answers is provided at the bottom of the page.

1. _____ is the process of grouping organisms.

2. Scientists group living things so they are easier to _____.

3. _____ are scientists who classify organisms.

4. Organisms tend to be grouped based on common _____.

5. Taxa are categories ranging from broad to _____.

6. The naming system in which a living thing has two names is referred to as _____ _____.

7. Scientists use _____ in naming living things.

8. The two-part name of an organism forms its _____ name.

9. The broadest classification category is _____.

10. The most specific classification category is _____.

species	scientific
classification	kingdom
ancestry	study
Latin	binomial nomenclature
specific	taxonomists

<u>**Name**</u>

Preliminary Assessment

Directions: Decide whether the statement is true (T) or false (F).

11. Classification is a relatively easy task because there are so few organisms.　　　　　T　　　F

12. The process of developing a classification system has been going on for centuries.　　　　　T　　　F

13. When classifying organisms one or two characteristics are considered.　　　　　T　　　F

14. Several different kinds of organisms can have the same genus and species name.　　　　　T　　　F

15. A scientific name makes it clear what organism is being discussed.　　　　　T　　　F

16. The kingdom protista includes a wide variety and diversity of organisms.　　　　　T　　　F

17. The fungi kingdom includes plants and other autotrophs.　　　　　T　　　F

18. Members of the plant kingdom can produce their own food via the process of photosynthesis.　　　　　T　　　F

19. Monerans are commonly referred to as bacteria.　　　　　T　　　F

20. Humans are not members of any of the kingdoms.　　　　　T　　　F

<u>**Name**</u>

Video Review

Directions: During the course of the program, answer the questions as they are presented in the video. At the end of the video, answer the Video Quiz questions.

You Decide!
   1. How would you group these pieces of sporting equipment?

You Compare!
   2. How are dolphins and trout different?

You Decide!
   3. What is the problem with a common name?

You Decide!
   4. What do the following living things have in common - this worm, this marmot, and this starfish?

Video Quiz:
1. _____ is the process of grouping things based on shared ancestry.
2. Scientists classify living things so they can be easier to _____.
3. Carolus _____ is the developer of the modern classification system.
4. The classification system consists of several groups called _____.
5. _____ nomenclature is the naming system in which an organism has two names.
6. Acer saccharum is this tree's _____ name.
7. The theory of _____ serves as the basis for modern taxonomy.
8. Classification is often based on the _____ appearance of an organism.
9. Organisms that evolved from a common _____ are grouped together.
10. There are a total of _____ categories in the modern classification system .

Post Assessment

Directions: Fill in the blank with the correct word. A list of possible answers is provided at the bottom of the page.

1. Organisms tend to be grouped based on common _____.

2. Scientists use _____ in naming living things.

3. _____ is the process of grouping organisms.

4. The most specific classification category is _____.

5. The broadest classification category is _____.

6. The two-part name of an organism forms its _____ name.

7. _____ are scientists who classify organisms.

8. Taxa are categories ranging from broad to _____.

9. Scientists group living things so they are easier to _____.

10. The naming system in which a living thing has two names is referred to as _____ _____.

kingdom
specific
ancestry
classification
binomial nomenclature

scientific
study
Latin
taxonomists
species

Post Assessment

Directions: Decide whether the statement is true (T) or false (F).

11. A scientific name makes it clear what organism is being discussed.   T   F

12. Humans are not members of any of the kingdoms.

                                                                  T   F

13. The kingdom protista includes a wide variety and diversity of organisms.   T   F

14. Classification is a relatively easy task because there are so few organisms.   T   F

                                                                 T   F

15. Monerans are commonly referred to as bacteria.

16. When classifying organisms one or two characteristics are considered.   T   F

17. Members of the plant kingdom can produce their own food via the process of photosynthesis.   T   F

18. Several different kinds of organisms can have the same genus and species name.   T   F

19. The fungi kingdom includes plants and other autotrophs.   T   F

20. The process of developing a classification system has been going on for centuries.   T   F

Grouping Things

Background: Imagine having to make dinner for your family some evening. But, when you go to the refrigerator it is a total mess with different kinds of food scattered all over with no organization whatsoever. And, when you try to find cooking utensils such as spoons, pots, and pans, you find them in several different cabinets, and some things you cannot even locate. Needless to say, the lack of organization makes it a lot more difficult for you to prepare dinner. With millions of different kinds of living things on the planet, scientists are faced with the challenge of organizing life forms into categories to make them easier to work with and study. In this activity you will experience this challenge by classifying and organizing some simple everyday objects.

Materials needed for each student group: blackboard eraser, yellow pencil, stapler, red pen, blue paper clip, yellow chalk, red paper clip, blue pen, piece of yellow paper, bottle of whiteout, piece of blue paper, binder clip, and blue magic marker, Grouping Things Data Sheet

Directions:

1. Your teacher will first divide you up into groups of three or four students.
2. When directed by your teacher, obtain the materials provided by your teacher for your group.
3. Lay the objects out on the desk or table so all members of your group can see them.
4. Discuss how you might go about placing all the different objects into three to five different groups. Once you have decided how to categorize the objects, go ahead and place them into their separate groups.
5. Next, group the objects based on color. Discuss whether you think this is a useful way to categorize the objects.
6. After grouping the objects by color, group them by composition. In other words, group the objects based on the materials of which they are made. Within your group discuss whether you think this is a useful way to categorize the objects.
7. Now categorize the objects based on function. In other words, group the objects based on the job they perform. After completing this task, discuss whether you think this is a useful way to categorize the objects.
8. Within your group discuss which method of classification you think makes the most sense and would be most useful. Finally discuss some of the challenges scientists face when classifying hundreds of thousands of different kinds of living things.

Name

Grouping Things Data Sheet

Objects grouped based on your ideas

Group 1   Group 2   Group 3   Group 4   Group 5

Objects grouped based on color

Group 1   Group 2   Group 3   Group 4   Group 5

Objects grouped based on composition

Group 1   Group 2   Group 3   Group 4   Group 5

Objects grouped based on function

Group 1   Group 2   Group 3   Group 4   Group 5
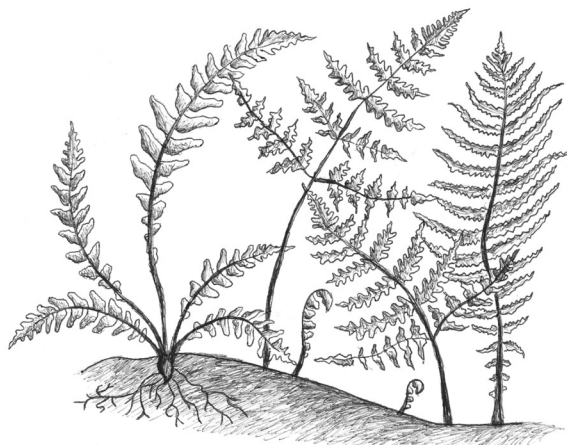
Classification Expedition

Background: As you know, scientists place different kinds of living things into groups to make them easier to study. Taxonomists are scientists who place organisms into categories. They use many characteristics to do this including an organism's outward appearance, anatomy, behavior, biochemical makeup, and ancestral relationship to other living things.

Take a minute to think about all the different kinds of living things in your neighborhood. You can probably think of the names of at least a hundred different kinds of living things. Chances are there are well over a thousand different kinds of living things right around your home, to say nothing of the vast number of microscopic organisms living around you.

In this activity you will take on the role of a taxonomist. With your class you will explore the environment surrounding your school on a classification expedition. On your expedition you will identify and classify some of the living things you discover.

Materials and preparation: Your teacher will guide you to an area near your school where it will be possible to observe several different kinds of living things. Bring along the data page titled, Classification Expedition Data Sheet, as well as pencils and markers.

Directions: Before beginning the activity, review the names of the major kingdoms and phylums. After your teacher shows you where to carry out your observations begin trying to locate living things. When you find an organism that matches the description of the kingdom and phylum draw its picture in the box. Below the picture write the common name of the organism. Remember to be very careful not to disturb or harm any of the living things you observe!
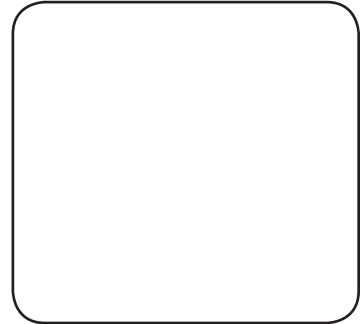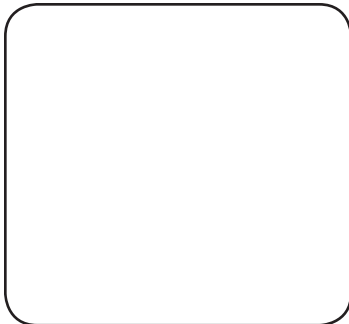
Classification Expedition Data Sheet
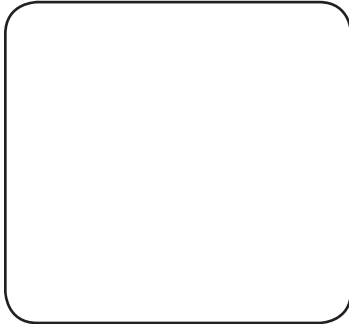
Plant Kingdom
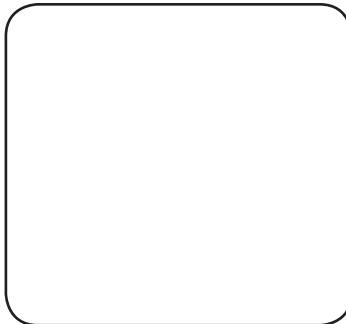Division: Bryophyta
Common Name:
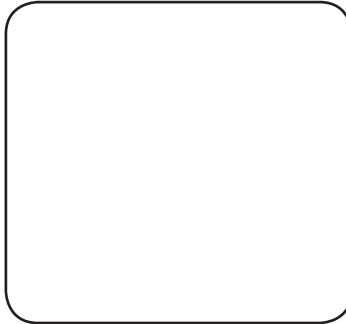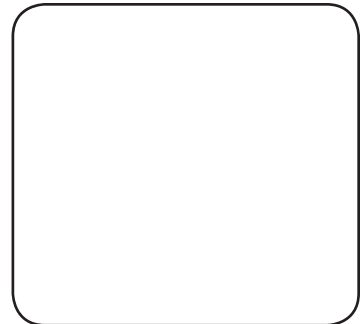
Plant Kingdom
Division: Angiosperma
Common Name:

Fungi Kingdom
Division: Basidiomycota
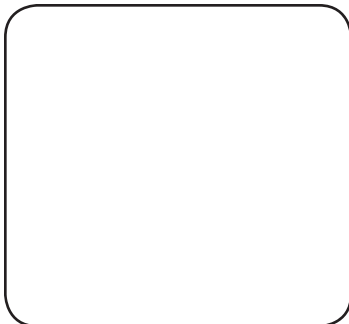(club fungi)
Common Name:
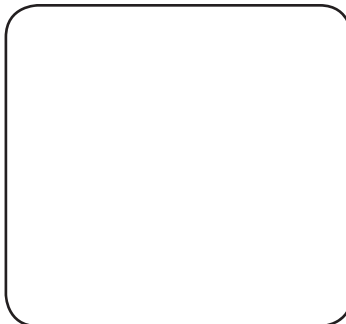
Plant Kingdom
Division: Gymnosperma
Common Name:

Animal Kingdom
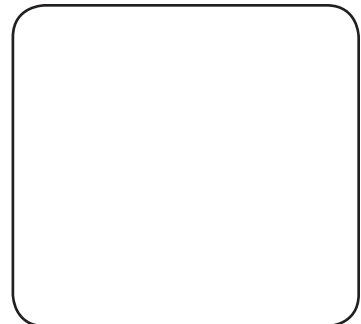Phylum: Annelida
Common Name:

Animal Kingdom
Phylum: Arthropoda
Class: Insecta
Common Name:

Animal Kingdom
Phylum: Chordata
Class: Aves
Common Name:

Animal Kingdom
Phylum: Chordata
Class: Mammalia
Common Name:

Living thing of your choice
Kingdom:
Phylum:
Class:
Common Name:

Name

Living Kingdoms

Background: The taxon (classification category) kingdom is the largest and most general category. The number of kingdoms is somewhat of an issue of debate among taxonomists. For the purpose of this activity we will consider six major kingdoms: eubacteria, archaebacteria, protists, fungi, plants, and animals.

Directions: Using your textbook, encyclopedias, the video "Classifying Life", and your knowledge fill in the information below concerning each of the six major kingdoms. You may want to record you answers on a separate sheet of paper.
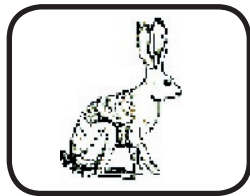
Kingdom Eubacteria
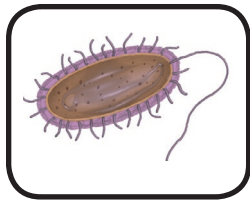
Examples:

Physical Characteristics:

Movement:

Food getting:

Usefulness:

Kingdom Plantae

Examples:

Physical Characteristics:

Movement:

Food getting:

Usefulness:

Kingdom Animalia

Examples:

Physical Characteristics:

Movement:

Food getting:

Usefulness:

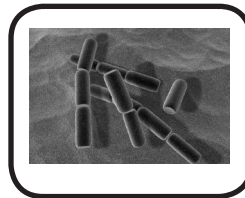## Kingdom Archaebacteria

Examples:

Physical Characteristics:

Movement:

Food getting:

Usefulness:

Kingdom Fungi

Examples:

Physical Characteristics:

Movement:

Food getting:

Usefulness:

Kingdom Protists

Examples:

Physical Characteristics:

Movement:

Food getting:

Usefulness:

Name _____

Vocabulary of Classifying Life

_____ 1. csfaolsitnaici _____

_____ 2. ttsaixmoon _____

_____ 3. rucslao nsienlua

 _____ _____

_____ 4. ioilamnb cenlroaumtne

 _____

 _____

_____ 5. csicfiietn mnea _____

 _____

_____ 6. xtaa _____

_____ 7. mconom cyatsnre _____

 _____

_____ 8. natli _____

_____ 9. sseeicp _____

_____ 10. igodnmk _____

a. an organism's genus and species name.

b. categories into which related living things are placed.

c. broadest category in classification system.

d. the basis by which organisms are grouped together.

e. language used for an organism's scientific name.

f. a scientist responsible for classification of living things.

g. most specific category in classification system.

h. the process of placing organisms into groups.

i. Scientist credited for development of the system of modern classification.

j. the process of giving an organism two names.