# Unit 11: Classification & Ecology DAYSHEET 109: Introduction to Dichotomous Keys & Unit 11 Review

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

**Bellringer:** Read the passage below and then answer the questions.

Ecosystems change over time. In some cases, changes result from natural events such as floods, forest fires, or volcanic eruptions. In other cases, changes to ecosystems are caused by human activities, such as cutting down forests or filling in wetlands to make land available for homes or farms. These events are called **disturbances**.

**Succession** is the process in which the communities in ecosystems are replaced by newer communities. Succession that occurs in an area where no communities already exist is called **primary succession**. Primary succession can take place on a newly formed volcanic island or in an area of bare rock exposed by a retreating glacier.

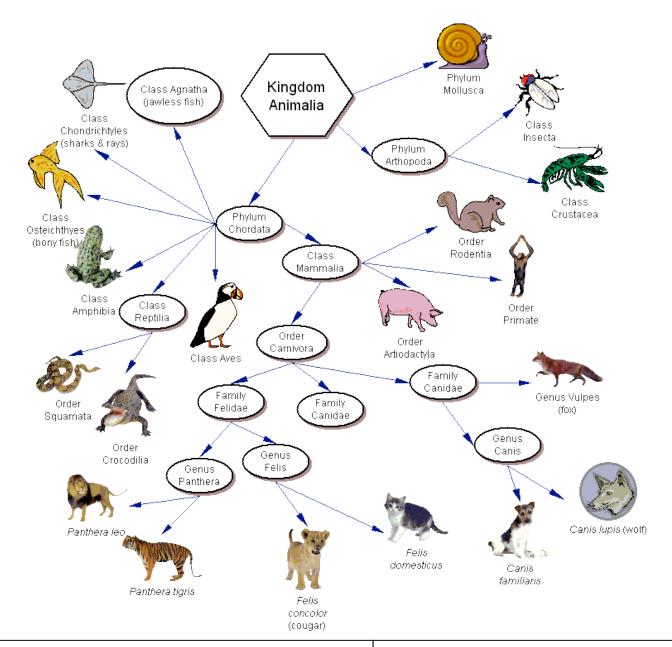
Primary succession takes place on bare land with no soil. The first species to live in the area are called **pioneer species**. These species must be very tough, with adaptations that help them survive the harsh conditions. Pioneer species are usually mosses or **lichens**.

Succession that takes place in an area where organisms previously lived is called **secondary succession**. This type of succession takes place after an existing ecosystem has been disturbed in some way, such as by a fire or flood. In secondary succession, there is already soil in place.



The final community that results from succession is called the **climax community**. The climax community is diverse, and stable. It will stay in place until another disturbance occurs.

- 1. Which of these would be most likely to grow on a small island that was formed by a volcanic eruption?
- A. climbing vines
- B. hardwood trees
- C. bushes
- D. lichens
- 2. Which term refers to the final stage of a forest's development?
- A. pioneer forest
- B. secondary forest
- C. climax forest
- D. conifer forest
- 3. Based on your reading, what type of succession follows when a farmland is abandoned?
- A. primary succession
- B. secondary succession
- 4. Based on your reading, what type of succession occurs on an area of bare rock?
- A. primary succession
- B. secondary succession



**Directions**: Answer true or false

- 1. \_\_\_\_ Dogs belong to the order Felidae.
- 2. \_\_\_\_ Lions belong to the class mammalia
- 3. \_\_\_\_\_ All arthropods belong to the Class Insecta
- 4. \_\_\_\_ All amphibians belong to the class reptilia.
- 5. \_\_\_\_ A lion belongs to the genus Felis.
- 6. \_\_\_\_ All mammals are primates.
- 7. \_\_\_\_\_ Insects and lobsters are arthropods.

**Directions**: In each set, indicate which pair is most closely related.

- 8. snakes & crocodiles | snakes & frogs
- 9. rats & cats | cats & dogs
- 10. insects & lobsters | insects & birds
- 11. lions & tigers | lions & cougars
- 12. foxes & rats | foxes & dogs
- 13. cats & dogs  $\mid$  cats & lions

#### **Activity 1: Introduction to Dichotomous Keys**

#### Example 1:

1. Has pointed ears ......go to 3 Has rounded ears .....go to 2

2. Has no tail ...... Kentuckyus Has tail ...... Dakotus

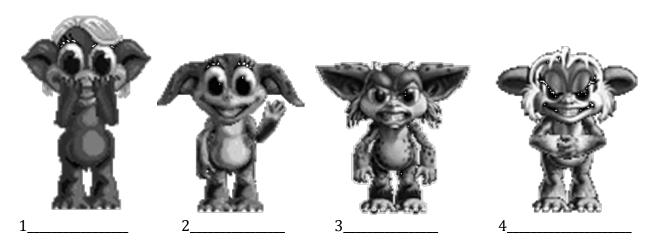
3. Ears point upward ...... go to 5 Ears point downward ......go to 4

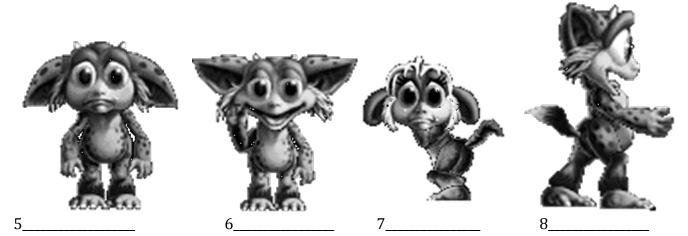
4. Engages in waving behavior ...... Dallus Has hairy tufts on ears ......Californius

5. Engages in waving behavior ...... WalaWala Does not engage in waving behavior ......go to 6

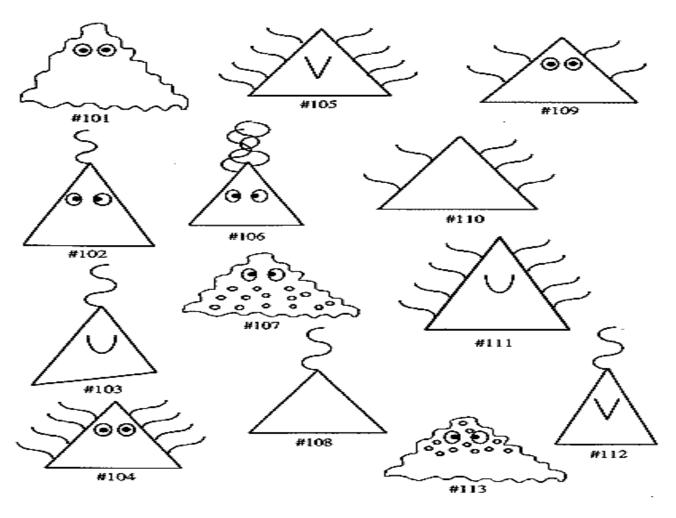
6. Has hair on head ...... Beverlus Has no hair on head (may have ear tufts) ......go to 7

7. Has a tail ...... Yorkio Has no tail, aggressive ...... Rajus





### **Example 2: Trianges**

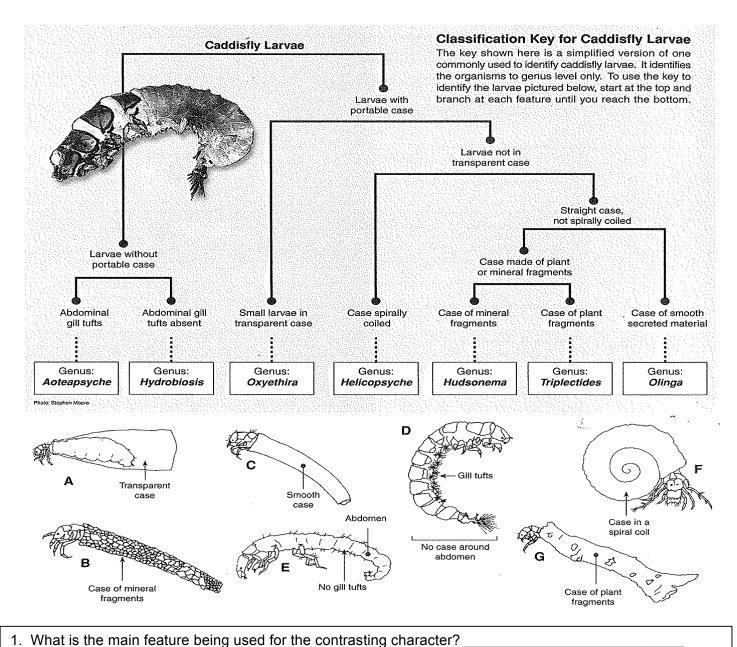


**Directions:** Use the dichotomous key on the opposite page to write the scientific name for each of the creatures above

#101:	#108:
#102:	#109:
#103:	#110:
#104:	#111:
#105:	#112:
#106:	#113:
#107:	#114:

- 1. A. Sides are straight lines Go to 2
- B. Sides are wavy lines Go to 10
- 2. A. Has no eyes Go to 3
- B. Has eyes Go to 5
- 3. A. Has flagella (whip-like tail) for movement Go to 4
- B. Has cilia (short hairs) for movement Go to 7
- 4. A. The three sides are of equal length *T. equalius*
- B. The three sides are not of equal length Go to 12
- 5. A. Has crossed eyes Go to 6
- B. Eyes not crossed Go to 9
- 6. A. Has a single flagellum (whip-like tail) for movement *T. monoflagelleum*
- B. Has two or more flagella (whip-like tail) for movement *T. polyflagelleum*
- 7. A. Total number of cilia (hairs) for movement are odd *T. oddcilius*
- B. Total number of cilia (hairs) for movement are even Go to 8
- 8. A. Has a pointed nose *T. pointiatus*
- B. Has a rounded nose *T. roundiatus*
- 9. A. Has two cilia (hairs) on each side for movement *T. biciliatus*
- B. Has more than two cilia (hairs) on each side *T. Polycilius*
- 10. A. Has crossed-eyes Go to 11
- B. Eyes not crossed *T. waveus*
- 11. A. Lower half of the body has a dot pattern *T. ventrodotteus*
- B. Upper half of the body has a dot pattern *T. dorsalidotteus*
- 12. A. Has a pointed nose *T. pointiflagelleum*
- B. Has a rounded nose *T. roundiflagelleum*

#### **Activity 2: More Dichotomous Key Practice**



2. Use the key to determine the genus of each of the larvae.

A.\_\_\_\_\_\_

B.\_\_\_\_\_

C.\_\_\_\_\_

D.\_\_\_\_

E.\_\_\_\_

F.\_\_\_\_\_

G.\_\_\_\_\_

### **Activity 3: Designing and Classifying Your Own Organism!**

<b>Directions</b> : Design your own organism by answering the questions in the space below.					
1. What kind of environment does your organism live in?					
2. What adaptations does your organism have?					
3. Is your organism a eukaryote or a prokaryote?					
4. Is your organism multicellular or unicellular?					
5. How does your organism get energy?					
6. Can your organism move? If so, how?					
<b>Directions</b> : Draw a picture of your organism in the space below. Color your organism. Then use the key on the opposite page to classify your organism into one of the 6 kingdoms of life!					

MY ORGANISM IS IN THE KINGDOM \_\_\_\_\_

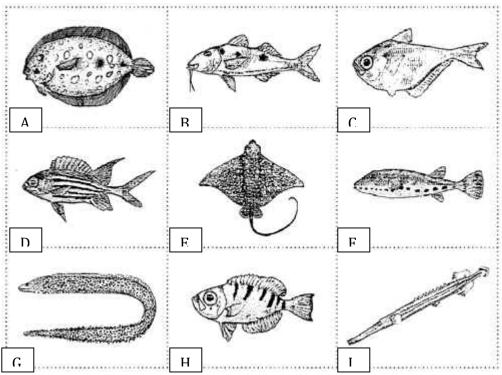
## Dichotomous Key to the Kingdoms of Life

1a. Prokaryotic	go to 2
1b. Eukaryotic	go to 3
2a. Lives in extreme environments	Archaebacteria
2b. Does not live in extreme environments	Eubacteria
3a. Unicellular	Protista
3b. Multicellular	go to 4
4a. Autotrophic	Plantae
4b. Heterotrophic	go to 5
5a. Feeds by absorption	Fungi
5b. Feeds by internal digestion: motile	Animalia

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

## Fishy Classification

**Directions**: Find the name of each fish using the dichotomous key below. Write the name of the fish above or below it.



#### Fish Dichotomous Key

Step 1	Step 5		
If fish shape is long and skinny then go to step 2	If fish has spots, then go to step 6		
If fish shape is not long and skinny, then go to step 3	If fish does not have spots, then go to step 7		
If fish has pointed fins, it is a trumpet fish  If fish has smooth fins, it is a spotted moray eel	Step 6 If fish has chin "whiskers," it is a spotted goat fish If fish does not have chin "whiskers," it is a band-tail puffer		
, ,	Step 7 If fish has stripes, then go to step 8 If fish does not have stripes, it is a glassy sweeper		
If fish has long whip-like tail, it is a spotted eagle ray	Step 8 If fish has a v-shaped tail, it is a squirrel fish If fish has a blunt tail, it is a glass-eye snapper		