

Dichotomous Key

Wednesday, January 7th, 2014

Do Now

- ▶ Homework
 - Create your own Dichotomous key with at least 4 steps and 4 organisms with pictures

Do Now

- ▶ Identify as many structural characteristics as you can from the picture



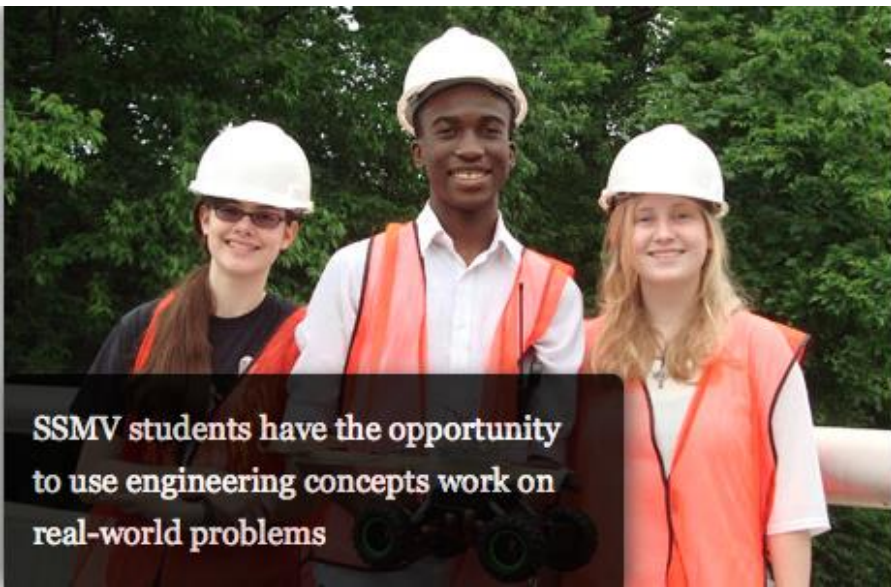
Vanderbilt School for Science and Math



Students develop their laboratory skills and techniques through the classroom lessons at SSMV



Dr. Eeds looks on as SSMV students analyze gel electrophoresis results as a part of a gene sequencing project



SSMV students have the opportunity to use engineering concepts work on real-world problems



Sophomore group projects include collecting and studying bacteria from Mammoth Cave

Objectives

- ▶ SWBAT **classify** an unknown organism based on **structural** characteristics by using a dichotomous **key**.

Essential Question

- ▶ How do scientists classify organisms based on structural characteristics?

Vocabulary

- ▶ Dichotomous Key

- A key used to identify a plant or animal in which each stage presents descriptions of two distinguishing characteristics, with a direction of where to go next until the species is identified



#1. Does the insect have wings?

Yes Go to #2

No Go to #6

#2. How many pairs of wings does the insect have?

One Order *Diptera*

Two Go to #3

#3. Does the insect have very short antennae?

Yes Go to #4

No Order *Odonata*

#4. Are there two or three long, slender, tail-like appendages at the tip of the abdomen?

Yes Order *Ephemeroptera*

No Go to 5

#5. Does the insect have five segments on each leg?

Yes Order *Neuroptera*

No Order *Isoptera*

#6. Is the insect ant-like with a narrow waist?

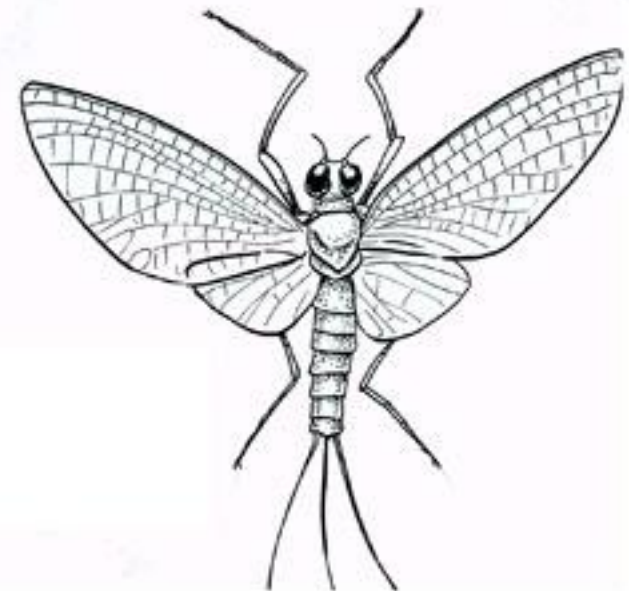
Yes Order *Hymenoptera*

No Go to 7

#7. Are the antennae long, and composed of many segments?

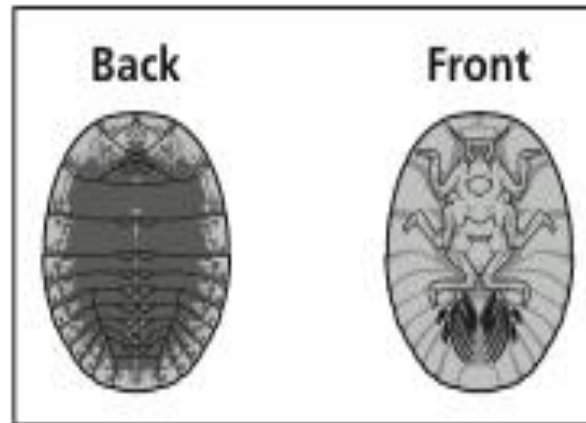
Yes Order *Psocoptera*

No Order *Mallophaga*



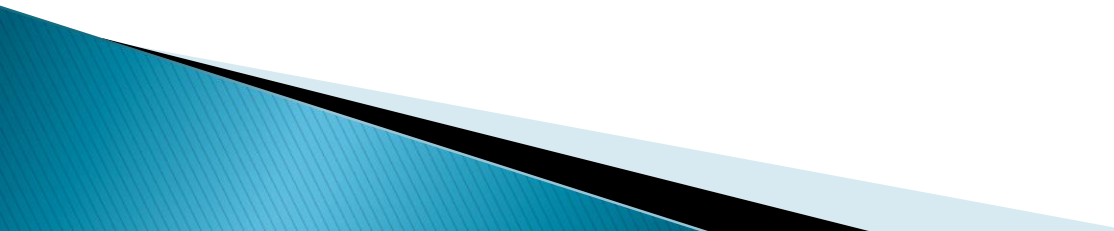
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An organism and a classification key are shown below.



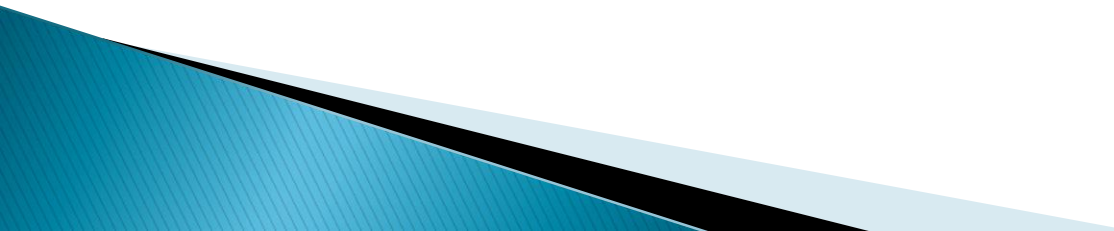
1. Long segmented bodygo to 2
Oval-shaped, segmented body.....go to 4
2. No legsearthworm
Many legsgo to 3
3. One pair of legs per segment.....centipede
Two pairs of legs per segmentmillipede
4. No tailwater penny
Tail.....horseshoe crab

Using Dichotomous Keys

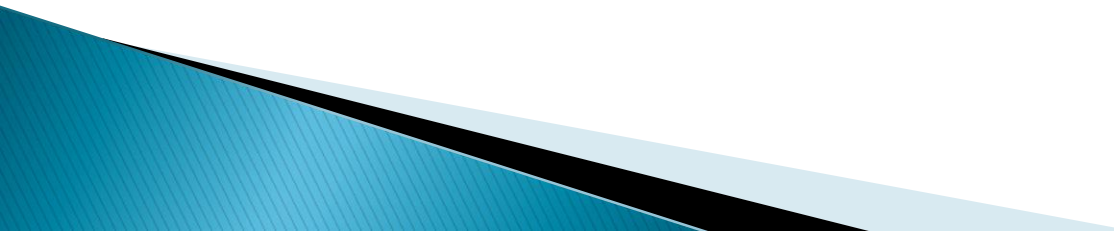
- ▶ Use the dichotomous keys to complete the worksheet
 - ▶ If you finish early you can start the homework
 - ▶ Please do this independently
 - ▶ You can ask the people next to you or raise your hand if you don't know a word
- 



Follow up questions

1. What is a mammal?
 2. Write 1 sentence explaining the difference between amphibians and reptiles.
 3. Which pairs of animals on the back of the sheet are most similar (just list 1 pair)? More different (list 1 pair)? Explain your reasoning.
 4. The *Atrax infensus* (4b) and the *Hapalochlaena lanulata* (9a) both have 8 limbs, don't have an endoskeleton, and are predators. Which characteristics separate them?
- 

Homework

- ▶ Create your own dichotomous key
 - ▶ Does not need to be animals/plants
 - instruments
 - food
 - buildings
 - ▶ Make it at least 4 steps long
 - ▶ Include 4 “objects” with pictures
- 

Answer the Essential Question

- ▶ How do scientists classify organisms based on structural characteristics?

Exit Ticket

1) what is the fish on the right?



Characteristics	Direction
1a) Lives on the land 1b) Lives in the ocean	go to 2 go to 5
2a) Walks on 2 legs 2b) has more than 2 legs	<i>Homo sapien</i> Go to 3
3a) Has 4 legs 3b) Has 6 legs	<i>Panthera hernandesii</i> go to 4
4a) Has wings 4b) Does not have wings	<i>Sympetrum flaveolum</i> <i>Gryllus assimilis</i>
5a) Has fins 5b) Does not have fins	go to 6 <i>Anguilla rostrata</i>
6a) Is brightly colored 6b) Black or grey in color	Go to 7 <i>Mugil cephalus</i>
7a) Has a rounded tailfin 7b) Has a forked tailfin	<i>Amphiprion ocellaris</i> <i>Stegastes variabilis</i>