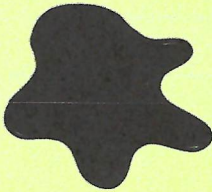
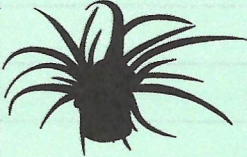
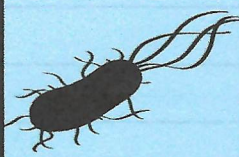




Amoeba Sisters Video Recap: Dichotomous Keys with Scientific Names

Organism A	Organism B	Organism C	Organism D	Organism E
				
Amoeba	Plant	Bacterium	Mushroom	Archaeon
<ul style="list-style-type: none"> -Feeds on other organisms such as algae -Contains nucleus -Specimen A is 700 µm in length 	<ul style="list-style-type: none"> -Photosynthetic -Cells that make up organism have nuclei -Specimen B is 60 cm in height 	<ul style="list-style-type: none"> -Lacks a nucleus -Cell walls contain peptidoglycan (amino acid and sugar polymer) -Specimen C is 2 µm in length 	<ul style="list-style-type: none"> -Feeds on decaying matter -Cells that make up organism have nuclei -Specimen D is 5 cm in height 	<ul style="list-style-type: none"> -Lacks a nucleus -Cell walls lack peptidoglycan (amino acid and sugar polymer) -Specimen E is 5 µm in length

*Organisms drawn above are not to scale.

Discover the correct scientific names for the mystery organisms in the above chart by using the dichotomous key below. To receive full credit, you are asked to write the steps you used in the dichotomous key to arrive at the answer. Organism A has been done for you as an example.

Dichotomous Key:

- 1A. Cell(s) is/are prokaryotic...go to 2.
- 1B. Cell(s) is/are eukaryotic...go to 3.
- 2A. Cell wall(s) contain(s) peptidoglycan ...it's *Escherichia coli*.
- 2B. Cell wall(s) do(es) not contain peptidoglycan ...it's *Methanopyrus kandleri*.
- 3A. Autotrophic...it's *Chlorophytum comosum*.
- 3B. Heterotrophic...go to 4.
- 4A. Organism is multicellular ...it's *Agaricus bisporus*.
- 4B. Organism is unicellular...it's *Amoeba proteus*.

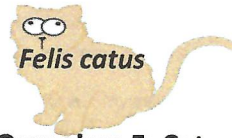
*Reminder: Above dichotomous key is only designed to work with organisms A-E in the chart.

Organism A (Example from Video)
Steps: <u>1B, 3B, 4B</u>
Scientific Name: <u><i>Amoeba proteus</i></u>
Organism B
1. Steps: _____
2. Scientific Name: _____
Organism C
3. Steps: _____
4. Scientific Name: _____
Organism D
5. Steps: _____
6. Scientific Name: _____
Organism E
7. Steps: _____
8. Scientific Name: _____

9. Why do we use scientific names rather than common names when classifying organisms?

Dichotomous Key Challenge

10. Remember how we mentioned that the dichotomous key we provided was only designed for use with organisms A-E in the chart? If we add another organism such as the cat below, you will find that the dichotomous key cannot arrive at the scientific name, *Felis catus*, for this cat. In the space below, please redesign the dichotomous key so that it includes the cat. You can still reuse steps as the key should now be able to arrive at all organisms A-F.



Organism F: Cat

