

Name: _____ Date: _____

Life Science Notes 5
Scientific Naming and Dichotomous Keys

Common Name

Example

Dog

Where does the name come from?

Tradition

What does the name tell us?

Nothing

Does this organism have other common names?

Many. Every language has a different word.

Does this name show us relationships?

No.

Scientific Name _____

Example

Canis familiaris

Where does the name come from?

Genus + species

What does the name tell us?

familiaris = familiar
domesticated
canis = dog like

Does this organism have other scientific names?

No. Each organism has only one scientific name and it is unique.

Does this name show us relationships?

Yes. Canis familiaris is in the same genus as Canis lupus (gray wolf). They are related.

Another example of binomial nomenclature

Quercus alba (white oak)

- Quercus is the genus name.
- Alba is the species name.
- There is only 1 Quercus alba, but there are many trees in the genus

Quercus.

Dichotomous Keys

- The word dichotomous means (from the Greek):
 - dica = in two
 - tomia = to cut
 - dichotomous = to cut in two.
- Dichotomous keys use descriptions of external characteristics such as:
 - Length
 - color
 - spots
 - width

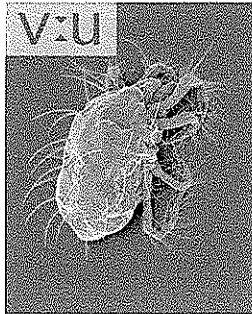
Using a Dichotomous Key

- Dichotomous keys begin with two descriptions labeled 1a and 1b. If the organism has the characteristic described in 1a, the key usually instructs the student to go to step 2. If the organism has the characteristic described in 1b, the student is usually directed to go to step 3.
- The student would then proceed to follow the directions in each step by checking the descriptions
- Eventually, the student will be told that they have identified an organism and the dichotomous key will give the student the name of the organism.
- Note: you should always start with the letter a in each step.

Example of a Dichotomous Key

Below is an example key of some mites and ticks of North America. It can be found in the book.

- 1a. If the organism is red, go to step 2.
- 1b. If the organism is brown or other than red, go to step 3.
- 2a. If the animal is smooth, globular, and somewhat elongated, it is a red freshwater mite, *Limnochares americana*.
- 2b. If the animal is oval to rounded rectangle, and has dense velvety red hair, it is a velvet mite, *Trombidium* species.
- 3a. If the animal is only 0.5mm in length, it is a two-spotted spider mite, *Tetranychus urticae*.
- 3b. If the animal is larger than 0.5mm in length, go to step 4.
- 4a. If the animal is reddish-brown, has a small shield of black-speckled grating near the head and has brown legs, it is an Eastern wood tick, *Dermacentor* species.
- 4b. If the animal has a soft plate on the back and is brown with an oval, flattened body, it is a mammal soft tick, *Ornithodoros* species.



5mm