Name: _____ Date: _____

Life Science Notes 5
Scientific Naming and Dichotomous Keys

Common Name	Scientific Name _____
Example Dog	**Example** Canis familiaris
Where does the name come from? Tradition	**Where does the name come from?** Genus + species
What does the name tell us? Nothing	**What does the name tell us?** familiaris = familiar domesticated Canis = dog like
Does this organism have other common names? Many. Every language has a different word.	**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? No.	**Does this name show us relationships?** Yes. Canis familiaris is in the same genus as Canis Lupis (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):
  - dicha = 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 uriticae.*

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 grat 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