Name _____ Date _____ Class _____

Construct a Dichotomous Key

Materials

shoes

computer with Internet access (optional)

Dichotomous keys are used to assist in the identification of organisms. Scientists use them to identify and separate organisms based on similarities and differences in characteristics. *Dichotomous* means "divided in two." Dichotomous keys are constructed through a series of two opposite statements based on qualitative observations. The statements begin broad and become increasingly specific as the key develops. In this lab, you will explore the concept of dichotomous keys, and create your own key using qualitative observations of shoes.

Question

What is a dichotomous key, and how is it used to facilitate the classification and identification of organisms?

Objectives

- **Record** qualitative observations on 8 pairs of shoes.
- **Use** your observations to create your own dichotomous key.

Procedure

Part A. Qualitative Observations

1. Read and complete the lab safety form.
2. There are 8 pairs of shoes at the front of the classroom. Observe the distinct characteristics of each pair, and record your observations in **Table 1**. Your observations should be as detailed as possible, to facilitate the construction of your key in Part B.
3. Use your observations to create opposing statements based on the characteristics you observe. For example: "Laces" and "No Laces." Write your statements in **Table 2**.

Part B. Construct Your Own Dichotomous Key

1. Use **Table 3** to create your own key. Each characteristic (identified in Part A) will have two statements associated with it. Remember these statements are opposite of each other. The statements should begin broad and become progressively more specific. Record the opposing statements in the "a" and "b" sections of **Table 3**. Identify the shoe in the third column of **Table 3**.
2. You can search online for "Dichotomous Key examples" to get a better idea of how dichotomous keys are constructed. Use pencil or make a draft of your key before you construct the final key in **Table 3**.