

# Dichotomous Key

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**Level: Grades 6-8**

**Materials required:**

- Plastic Trays to hold groups
- Approximately 10 different kinds of the following:
  - Dried Beans
  - Leaves
  - Dry Cereal
  - Shells
  - Fruit
  - Vegetables
  - Nuts
- Rulers
- Overhead or chalkboard

**Activity time:** 90 minutes

**CIM Standards:**

Students will draw comparisons between organisms.  
Students will classify organisms

**Background Information:**

Students should have some knowledge of observations and classification.

**Experiment options/ applications :**

This experiment is designed to introduce students to dichotomous keys and how to create and use a dichotomous key to identify a variety of objects.

**Procedure:**

1. Begin class by defining classification, introducing the classification steps, and giving examples (we used humans and bees), defining binomial nomenclature, and dichotomous key.
2. As a class on the board, have the students create a dichotomous key of themselves (or their shoes, etc). We started by writing steps using the formal dichotomous key format and drawing a "family tree" shaped chart, but it was easier for the students when we just used the family tree shaped chart. If you want to do this lesson in 2 -45 minute sessions you

will have time to do the entire class but if not, limit yourself in this section. A good example so that the kids understand why they are learning this is: to say that it is useful if you don't know one of their names and then go through to find one of the kid's names.

3. Divide the students into groups of about 4 students each.
4. Each group gets one set of objects (i.e., beans or shells)
5. They are asked to create a family tree shaped dichotomous key so that all of the objects are separated from one another. This is the lengthy part of the lab and is the most fun. You should mingle around the room and answer questions. We didn't know all of the names of all of the leaves so we let the kids make up names if they didn't want to know or want to ask.
6. If time permits have the students who have finished their key take one of their objects and one of their keys to another group and see if they can identify the object using the other group's key.