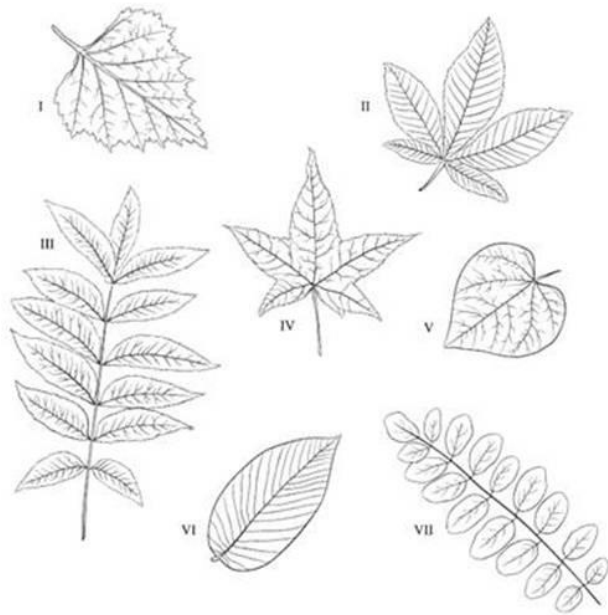


Name \_\_\_\_\_

## Classification of Candy Lab

**Introduction:** Our current system of classification and naming is known as the Linnaean classification system. This system includes the organization system we've discussed that groups all living organisms into different levels of groups called **Domain, Kingdom, Phylum, Class, Order, Family, Genus, Species**. Each group gets more and more specific, and a species will include only organisms of the same species that can (and will) interbreed and produce fertile offspring. An organism's scientific name includes the genus and species name written in two parts. For example, *Ursus maritimus* tells us that polar bears are in the genus *Ursus* and are the specific species *maritimus*.

We can also use a tool called a dichotomous key to help determine which organism is which. Dichotomous keys use visible characteristics to differentiate between organisms.



| Dichotomous Key for Leaves   |                                      |
|--|--------------------------------------|
| 1. Compound or simple leaf   |                                      |
| 1a) Compound leaf (leaf divided into leaflets)                                   | .....go to step 2                    |
| 1b) Simple leaf (leaf not divided into leaflets)                                 | .....go to step 4                    |
| 2. Arrangement of leaflets   |                                      |
| 2a) Palmate arrangement of leaflets (leaflets all attached at one central point) | ..... <i>Aesculus</i> (buckeye)      |
| 2b) Pinnate arrangement of leaflets (leaflets attached at several points)        | .....go to step 3                    |
| 3. Leaflet shape   |                                      |
| 3a) Leaflets taper to pointed tips   | ..... <i>Carya</i> (pecan)           |
| 3b) Oval leaflets with rounded tips  | ..... <i>Robinia</i> (locust)        |
| 4. Arrangement of leaf veins   |                                      |
| 4a) Veins branch out from one central point                                      | .....go to step 5                    |
| 4b) Veins branch off main vein in the middle of the leaf                         | .....go to step 6                    |
| 5. Overall shape of leaf   |                                      |
| 5a) Leaf is heart-shaped   | ..... <i>Cercis</i> (redbud)         |
| 5b) Leaf is star-shaped  | ..... <i>Liquidambar</i> (sweet gum) |
| 6. Appearance of leaf edge   |                                      |
| 6a) Leaf has toothed (jagged) edge   | ..... <i>Betula</i> (birch)          |
| 6b) Leaf has untoothed (smooth) edge   | ..... <i>Magnolia</i> (magnolia)     |

When using a dichotomous key, you always begin at statement 1.

Each statement is a pair of statements that are used to differentiate between organisms and eventually lead you to one individual leaf.

You will have to start with one characteristic that could divide your organisms into two groups and then go from there.

**Objective:** Students will create a classification system using different types of candy. Each type of candy will be given a scientific name. Students will also create a dichotomous key for their candy.

### Directions:

1. Obtain a bag of candy from your teacher.
2. Work with your group to separate your candy into groups based on characteristics of your choosing.
3. You will create a taxonomic system similar to ours; except, you will only have 3 levels, Kingdom, Genus and Species. You must have at least 2 kingdoms and give them scientific sounding names. From there, you will group your candy into different genus (at least 2 in each kingdom) and then species. Each candy must have a scientific name.
4. Write your system on the answer sheet provided and include the scientific names and common names of each candy.
5. After you have grouped and named your candy, you will create a dichotomous key for your candy. The easiest way to get started is to create a flow chart using yes or no statements to go through your steps. Then you can put it into the dichotomous key on the last page.
6. Your dichotomous key will be written on the answer sheet provided. It would be a good idea to use pencil just in case you mix up your "go to" statements.

**Classification System:**

Draw a diagram to show how you organized your candy into each kingdom, genus and species. You do not have to fill all the space and you can add more space as needed.

| Kingdoms | Genus | Species | Common Names |
|----------|-------|---------|--------------|
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**Flow Chart:**

