# Bubble Diagrams and Dichotomous Keys

Using the 14 plants that you collected on the scavenger hunt, you and your partner will create a single bubble diagram and then each of you will create your own dichotomous plant key. A dichotomous key uses a series of questions to successively divide a group of plants (or other organisms) into two sub-groups until a particular species is identified. **You may use your completed dichotomous key on the plant test!**

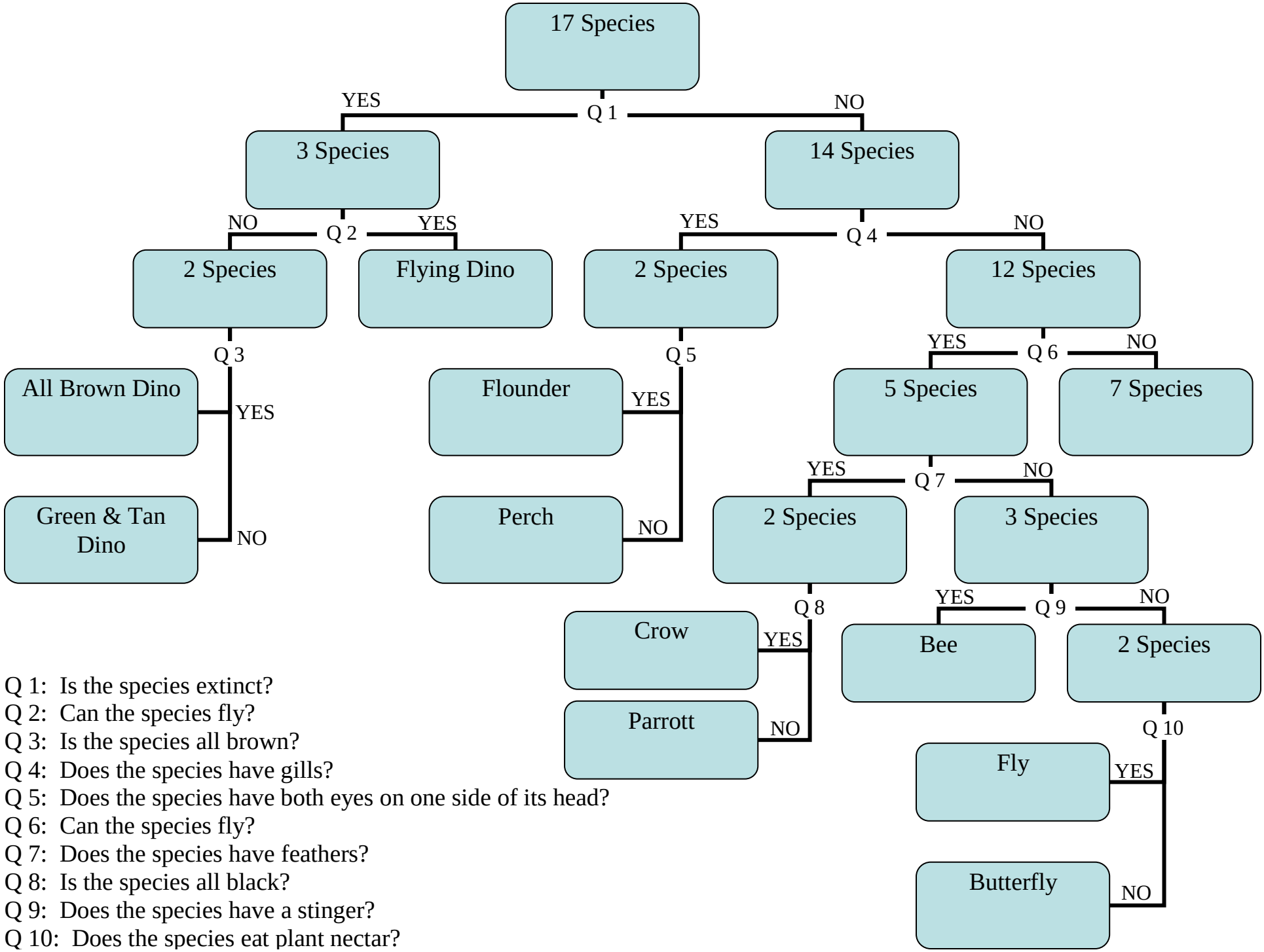
The first step to making a dichotomous key is to create a bubble diagram. You can work with your partner to create the bubble diagram. Bubble diagrams show how your plant samples can be divided into two sub-groups over and over until you reach individual species. When creating the bubble diagram, include the following:

1. Indicate which plants are in each group
2. Create a question that can be answered using ONLY visual observation of your plant sample
3. The question should be written so that it can be answered with either a "Yes" or "No"
4. The question should divide a larger group into ONLY two sub-groups
5. The questions should not include the plant name (for example: Has a typical maple leaf shape.)
6. The same question may be used more than once, but it must be used to separate different groups of plants
7. To help create a smaller bubble diagram, use a question key and place only the question number in the chart
8. Include the answer for each question in the bubble diagram
9. See the next page for an example of a bubble diagram that can be used to identify a random group of organisms

Your next step is to turn your bubble diagram into a dichotomous key. **You have to create your own dichotomous key.** When creating the dichotomous key, include the following:

1. Include all of the questions from your bubble diagram
2. You will have to create an opposite question for each question from your bubble diagram (for example: "1a. The species is extinct…..go to 2" and "1b. The species is not extinct…..go to 4"
3. Include all of the answers from your bubble diagram
4. The first question in your dichotomous key should be the first one from your bubble diagram
5. The second question should be the second question from your bubble diagram
6. Continue using questions from one branch of your bubble diagram until you reach the end
7. Once you get to the individual species in your dichotomous key, include both the common and scientific name
8. Scientific names are always written in italics, with the first word upper case and the second word lower case (for example: *Elymus glaucus*)
9. Each question should be identified by a number and a letter, and the answer to each question should take you to either a specific plant species or to another question
10. Your key should be neatly typed

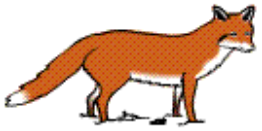
Here are some examples of dichotomous keys:
http://cbe.wisc.edu/assets/docs/pdf/biolearn/Classification/WhatIsLife/dichotomous_key.pdf
http://www.hort.uconn.edu/plants/keys/trees/treekey01.html
http://www.botany. hawaii.edu/reefalgae/Redskey201.htm

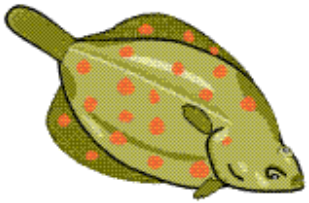



Q 1: Is the species extinct?
Q 2: Can the species fly?
Q 3: Is the species all brown?
Q 4: Does the species have gills?
Q 5: Does the species have both eyes on one side of its head?
Q 6: Can the species fly?
Q 7: Does the species have feathers?
Q 8: Is the species all black?
Q 9: Does the species have a stinger?
Q 10: Does the species eat plant nectar?

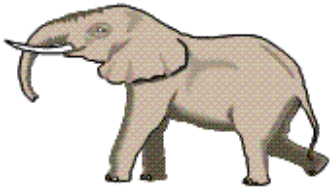


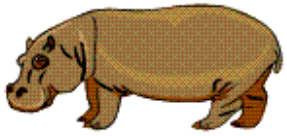











1a. The species is extinct……go to 2
1b. The species is not extinct……..go to 4

2a. The species can fly…….……*Flying dino*
2b. The species can not fly…….……go to 3

3a. The species is all brown…….……..……..*Brown dino*
3b. The species is not all brown…….……..….*Green-brown dino*

4a. The species has gills…….……..go to 5
4b. The species does not have gills……...……...……go to 6

5a. The species has both eyes on one side of its head…….....*Flounder fish*
5b. The species does not have both eyes on one side of its head……*Perch fish*