Outdoor Activity: Introduction to Dichotomous Keys

Note: we strongly recommend completing the in-class activity first before moving on to the outdoor activity.

1. Lead the students to an outside space with some plant diversity. Ideally this is a place where students are allowed to take samples of different plants. Assign a base of operations and set up a table covered by a white blanket or sheet, or lay the blanket down on the ground.
2. Assign the students the job of collecting samples of two plants each and bringing them back to the base. The best samples contain examples of as many parts of the plant as possible (leaves, stem, flower, fruit or cone, etc.).
3. Assign a recorder with paper and pen/pencil.
4. When all of the samples have been collected, choose eight different samples from among those available. Hold up each sample at a time and ask the students to come up with a name for the plant. Have a recorder write down all the names. When all eight plants have been given a name, ask the students to come up with one characteristic that can be used to tell the difference between half or close to half of the plants (example; these plants have thorns and these ones don't). Then repeat the process for each of the two groups of plants. Repeat this process until differences have been described that split the plants into groups of one.
5. Create a chart that outlines the decision tree you have created as a group.
6. Ask a volunteer to choose one of the eight plant samples without showing the rest of the class which one they have chosen.
7. Have the other students take turns asking the person questions from the decision tree chart until the class can guess which plant sample is being held by the volunteer.
8. Optional: Put the students into groups to create their own plant key using a different set of plant species.