CORE LESSON: Plant ID Tournament

Objectives and Summary: This activity, which can be done anywhere at Waskowitz, provides a simple introduction to the world of plant identification. Students will use Plant ID cards with a name, picture, and characteristics to help them find a real, living specimen of that plant. This activity teaches students:

- New botanical vocabulary words
- How to use that vocabulary in the classification and identification of new plants
- Observation skills and developing a logical approach to identification
- Collaboration with peers
- The names of at least 5 plants native to the Pacific Northwest

Background: In order to identify plants correctly, you must be familiar with some important vocabulary. The Plant ID Vocabulary guide (refer to it while reading the background info below) is a resource for you to teach these words to the students. Starting with a Big Picture approach, then becoming more detailed. A great place to start in your identification adventure. How big is it, and is it woody?

Tree: Single-stemmed, woody vascular plants greater than 10 meters tall at maturity

Shrub: woody vascular plant less than 10 meters tall at maturity that can be multi-stemmed.

Fern: Ancient group of vascular plants that reproduce with spores instead of seeds.

Next, note that plants can either be **deciduous** (shed their leaves annually at the end of each growing season) or **evergreen** (leaves remain attached for 1 to several years).

Branching Pattern is also a useful characteristic to note**,** and a great way to teach branching patterns is with branching aerobics: Have students stand in a circle, arms-width apart. They have to form the branching pattern as you call them out. Either opposite (feet together, both arms out), alternate (left arm out, right leg out), or whorled (both arms out and spin as they lower to the ground).

Alternate: leaves and branches do not grow directly across from one another.

Opposite: Leaves and branches grow directly across from one another.

Whorled: Typically on coniferous trees and certain non-woody vascular plants, branching pattern is a spiral down the tree, or there are multiple branching out points from a **node** (the "joint" where branches and leaves stem off).

Help students note that leaves can either be **simple** (one leaf per petiole/stem) or **compound** (consisting of multiple **leaflets,** but all one leaf).

Finally, point out that leaf **margins**, or the edge of a leaf, can either be **entire** (smooth edges), or **serrated** (with teeth that have many different names that we don't need to get into).

The big WHY: Why are plants important? Why does it matter? For one, different plants have different human uses. Some are medicinal, some are edible, and some are toxic. Additionally, plant identification is a good way to begin to understand the complexities of your ecosystem. Which plants grow where and why? What is their importance in the ecosystem? What other plants and animals rely on this type of

plant? All of this information can lead to a deeper understanding of the impacts of human development on the ecosystem.

Materials provided (in Toolbox):

- 4 sets of plant ID cards with grease pencil
- Vocabulary guides and plant ID checklists (1 per 2 students)
- Plant field guides (optional)

Location and Duration: The Plant ID Tournament can take place anywhere. This activity is designed to take up 1.5 hours.

HS Leader Role: High School Leaders keep the bag of plant ID cards throughout the lesson. When a student pair thinks they have found the plant, the leader checks to make sure they can identify at least 3 characteristics of the plant before giving them a new card on the Plant ID Checklist. Leaders can also be used to keep the smaller groups occupied until the others finish, by reviewing ID with students, playing games, or supervising a journaling prompt.

Procedure

Introduction (10 minute): Introduce the new vocabulary with the Visual Vocabulary sheet. You can take a Big Picture to Small Detail approach (What is the shape of the overall plant? Deciduous v. Evergreen? Branching Pattern? Leaf Shape? How does it reproduce?). Most of the cards are arranged this way.

Divide the students into 4 groups. Within those groups, students will work in pairs. Each group will have one HS Leader as the group leader. Ask students to stand with their leader while you explain the rules. Each group receives one set of Plant ID cards and enough visual vocabulary sheets and checklist for each pair of students. You may bring plant field guides for additional reference. The leader keeps the bag of plant ID cards through the lesson. This can either be a competition or not. Before they can check off a plant from the ID Checklist, they must prove to their leader that they can identify at least 3 characteristics of the plant. Once the student pair has proved 3 characteristics, the High School Leader checks off that plant from the ID Checklist with the grease pencil.

Lesson/Activity (45 minutes- 1 hour): Begin the tournament. Ask one student from each pair to reach into their leader's bag and grab a card. Tell them not to look at their card until every pair has one. Once everyone has a card, students go off searching for the plant listed on their card, looking for 3 characteristics on the card that they can show to their leader. They continue until all of the plants on their checklist have been discovered.

Pairs will finish at different times, so short trail activities should be prepared to keep them busy until everyone has a chance to finish. Use your HS leaders here to play games with students, or give them a journaling or sketching prompt.

Conclusion (15-20 minutes): Sit students down in a shelter or other comfortable spot to play Plant Jeopardy! Give students 3 or 4 characteristics of a plant from one of the cards. The students raise their hands if they know the answer. They must say the answer like they do in jeopardy (What is Salal?). **Or,** have the students you call on go and stand by the plant, ask students to raise their hand and say what plants they learned and would be able to identify, etc.

Extension: With this foundation in plant identification, students can take this as far as they like. For the rest of your time at Waskowitz, you can cement this lesson either by quizzing students on hikes, or having them greet the plants they learned as they see them. The basic concept of vocabulary + real world identification is very useful for identifying everything in the natural world (from insects, to mammals, to different types of fungus). This activity could also be extended into a discussion of the variety of plant life in terms of adaptation.

Back in the classroom, students can make their own identification cards for plants at Waskowitz, or make ID cards for plants around your school.

Notes: There is a lot of difficult vocabulary in Plant ID. We have Vocabulary Lists to help the students familiarize themselves with the terms. Picking a few to introduce and then letting students discover the rest is a good way to go.