

Serpentine Species  
Field Trip

## **Guided Walk: I Notice, I Wonder, It Reminds Me Of**

**Overview:** Students will build a framework for exploring and talking about the natural world through the observation strategy 3I's of Scientist: I Notice, I Wonder, It Reminds Me Of. Students will increase curiosity and learn the difference between an observation and an opinion.

**Guiding Questions:** "What can I find out by observing the natural world/this specific place?"

### **Set up & Materials:**

- (Optional) Hand lens or magnifying glasses can be helpful and fun
- (Optional) Plant field guides

### **Procedure:**

- 1) Before hiking, gather students to practice their observation skills using the 3Is of a Scientist: "I notice, I wonder, It reminds me of."
- 2) Start with students collecting a common object like a leaf on the ground. Model an observation ("it is brown") versus thoughts or opinions ("I think it's dead, I like it..."). Students should turn to a partner and share observations before sharing as a group.
- 3) Next students will ask questions using "I wonder...". Share with a partner before sharing as a group.
- 4) Lastly, students will state what the object reminds them of. This promotes a personal connection to the object, there is no right or wrong answer. Share with a partner, then as a group.
- 5) Use this technique as you hike. Stop along the path for students to look for objects and use the 3Is. They should do this aloud with a partner.
- 6) As you hike students will inevitably notice various plant species, especially if certain species are in bloom. Use the 3Is with these plants and identify them if you feel the need, such as rare or endemic species depending on your field trip site. Students may also record their "I wonder" questions and research their objects when returning to the classroom.
- 7) Conclude the hike with students sharing about an object that particularly stood out to them.

## Arts Integration: Botanical Illustration & Dissection

**Overview:** By creating a botanical illustration of *Darlingtonia californica* students will make careful, thorough observations resulting in insightful exploration and depth of understanding of the plant (compare the level of observation required to draw an object versus taking out a phone and snapping a quick photo). These observations will lead to a line of inquiry which will guide the dissection of a *Darlingtonia* plant performed by the teacher.

### Guiding Questions:

Botanical Illustration: “What can an illustration tell us that a written description cannot? And why draw or paint a specimen when you can just take a picture?”-Smithsonian in Your Classroom: Botany and Art.

Form = Function: “What do you notice about your plant? What do you think is the purpose of these structures/patterns/colors?”

### Set-up & Materials:

- Art supplies: water containers, watercolor paints or pencils, watercolor paper for each student
- Dissection kit for teacher
- Background info for teacher [Darlingtonia californica, Carnivorous Plants Online](#)

### Procedure:

- 1) Introduce students to the idea of Botanical Illustration using the information provided above. Ask the Guiding Questions, but do not have students answer aloud yet-they should mull these questions over while they work.
- 2) Students will prepare their materials: Collect water from the fen in containers; lay out watercolor paints/pencils and paper. Note that the lesson is created using watercolor paints or watercolor pencils to make the intentional connection between the water used in the illustration and the water in the fen creating the *Darlingtonia*'s habitat.
- 3) Students will select their subject. Remind students to be respectful of the plants-do not walk on or pick *Darlingtonia* when choosing a plant to be the subject of your botanical illustration. Students should make sure to be able to view their plant from a comfortable seated position while they work.
- 4) Before beginning to paint, ask students to get to know their *Darlingtonia*-give it their full attention and focus. “What do you notice? What colors, patterns, textures (you may gently touch your plant)? What is the size or scale of your plant? What does your plant remind you of?”
- 5) Give students time to illustrate. As they work, repeat the Guiding Questions. Additionally, ask students to write down 3 or more questions they may have about the form of the plant. Examples include: “Why does it have two big leaves,

why does it have see through windows on top, what is the inside of the stem like, does it have flowers...?" etc.

- 6) When students feel their work is complete, share their illustrations in a "Gallery Walk" where students lay out their work and carefully walk around to view the work of their peers.
- 7) Students will return to their original spots and share something they observed during their own process ("I noticed my plant has two big leaves) or something they observed by viewing a classmate's work ("I hadn't noticed the pattern on the stem but A painted it with detail and accuracy"). Return to the Botanical Illustration Guided Questions-what did students observe by illustrating that they may have missed by taking a photo? Why would botanists want illustrations in addition to photos?
- 8) Next share the questions students had about their plants. Use these questions to guide a dissection of *Darlingtonia californica* to discuss the plant's adaptations. To dissect, select one plant and make a cut in half long ways revealing the inside of the hollow stem. Pass around the plant parts to students as you dissect. An excellent summary of *Darlingtonia californica*'s form and function can be found at [Darlingtonia californica, Carnivorous Plants Online](#) and can guide your dissection. (Note: in order to preserve the Darlingtonia fen for the plants themselves and other visitors that number plants taken for dissection is limited and thus this is a teacher led dissection).
- 9) As you describe the structures during the dissection you may have students label them on their Botanical Illustrations. This step may also be completed in the classroom after the field trip.
- 10) Depending on the time of year of your field trip, you may conclude this portion of the field trip by observing the flowers of *Darlingtonia californica*. Ask students why they think they are positioned this way high above the leaves of the plant.
- 11) To clean up, please pour used watercolor water containers on soil, not back into the fen water. The class may keep the dissected plant to use in the classroom or show absent students.