



NATURE OBSERVATION

Practices that Build Skills

Targeted Grade Level: 4-6th

Lesson time: 1-hour session

Materials:

- Brown paper lunch bags
- Leaves from plants in the schoolyard
- Journal supplies such as paper, pencils
- Magnifying Lenses

OVERVIEW



Through a variety of observation activities, students will learn what it means to make observations, why we make observations, and how to become better observers.

Students make “blind” observations of a leaf hidden in a bag. After representing observations with words and artwork, students locate “their” plant in the field without seeing the specimen.

When the plant is confirmed time is spent with the plant in its habitat and students reflect on what made them successful.

INTERESTED IN LEARNING MORE?

Check out the BEETLES Program for a variety of explorations and that build student observation skills.



- **GUIDING QUESTION(S):** What makes someone a good observer? How can we become better observers?

Highlighted NGSS

Crosscutting Concepts:

- Patterns
- Scale, Proportion, & Quantity

Science and Engineering Practice:

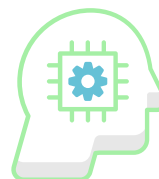
- Obtaining, Evaluating, & Communicating Information

Contact:

SMILE Program

<http://smile.oregonstate.edu/>

LESSON OBJECTIVES



Students will:

- make observations and ask questions
- begin to see patterns in nature through their observations
- begin to develop a curiosity mindset
- use their senses to get to observe and identify a leaf in a different way



Part 1: UNDERSTANDING OBSERVATION

PROCEDURE



Take students outside to a quiet place where they will be able to sit and observe. Have them bring science notebooks and once they are seated have them record date, time and weather information.

Tell students that one of the things that scientists do to better understand the natural world is to make observations, today they are going to practice making observations.

Invite students to close their eyes. Tell students that when you ask them to do so, they will open their eyes and look around silently for 20 seconds while making a mental note of everything that they see. There are no right or wrong answers and that the goal isn't to find the most items, it is simply to NOTICE what is around them.

When the 20 seconds has ended, give students 60 seconds to list everything that that they saw while only looking at their paper, no looking around!

Ask for volunteers to share their observations. Have students raise their hands if they saw the same. Raise their hands if they saw something different. Point out that they had different observations because each one of us is attracted to different things.

Have students turn and talk to a partner about the following question:

- *What makes someone a good observer?*



Discuss with students that making observations is a skill that we build through practice. Share Sherlock Holmes quote-fictional detective **"I see no more than you, but I have trained myself to notice what I see."**

Ask students to share what that quote means to them.

Explain that people often don't notice what's around them and miss out on a lot of interesting things. We'll learn some strategies that can change the way we investigate and experience the world.

Tell students that the way that we make observations is by using our 5 senses, in our first activity we used the sense of sight. Have students turn and talk to a partner about the other senses we rely on to observe the world around us. *Smell, touch, hearing & taste.*

Let students know that they are going to do an activity that will allow them to focus on their other 4 senses (really 3 because they will not use taste!)

Teaching Tips



Prepare a bag with a leaf (add a seed, bark, etc, for extra hints) for each student to be able to work with a partner. Have a designated area where you gather leaves from a variety of plants and where the students can go to identify their plants.



Part 2: LEAF IN A BAG



Tell students that they will be trying to identify a plant that grows here using only the mystery item(s) that they find inside the bag, they can't look inside!

Let students know that they will work with their partner to describe what they feel, smell, hear (shake the bag), they will not use sight.

Encourage students to describe their leaves with as much detail as possible. Have students divide a page into two sections, one for words and another for sketching. They may list what they find, write phrases, a paragraph.

Ask students:

- Can you distinguish veins? What do they feel like? Can you feel them clearly or are they faint?
- What can you say about the edges? Does it feel like a critter has been nibbling on your leaf?
- What might it sound like if you crushed it?
- Is it smooth and waxy or dry and rough or...?
- Is the leaf bigger than your hand or can you describe it?



After students have had a chance to explore and record, they will go searching for their different plants. Make sure to give them a designated area where you collected the leaves from. Students can work with a partner and discuss which plants have similar characteristics to their observations. When they believe they have found the plant, they can then open their bag and look.

Once students have located their plants have them and record additional observations. If possible, provide them with field guides to identify their plants and find information that is interesting to them.

Discuss:

- How was this harder or easier than you thought it would be?
- What did you find out? Were there any surprises for you?

Have students share their work and their leaves to compare experiences. Talk about how much they have learned about a single leaf and invite them to spend a few minutes looking at the sky, look at any trees, the grass, the ground/soil, etc.

Debrief:

- Do you feel like better observers? Why or why not?
- What helped you to be successful today?

REFERENCES

No Student Left Indoors: Creating a Field Guide to Your Schoolyard, Jane Kirkland
I Notice, I Wonder, It Reminds Me, BEETLES Program UC Berkeley
To Each Its Own, Nature Journaling, John Muir Laws
Islandwood SOP Program

Teaching Tips



Invite students to use identification guides or the [*iNaturalist*](#) app to classify and further describe and illustrate their leaves and the plant that it came from.

Career Corner



Ask students how scientists use observation in their work? Talk about the amazing observers throughout time highlight diverse examples.

Lesson at a Glance: Nature Observation

Part 1: Understanding Observation

Practicing Observation

1. Take students to an outdoor location with a science notebook and let them know that they will be practicing making observations.
2. Have students close their eyes and when they open them have them look around and make as many observations as they can in 20 seconds. Tell them to make a mental note of everything that they observe.
3. When time is up, have students record everything that comes to mind. Ask students to share out.
4. **Ask:** *what makes someone a good observer?* Have students turn and talk.
5. Share the Sherlock Holmes quote: “I see no more than you, but I have trained myself to notice what I see”. Ask students to share what it means to them.
6. Talk to students about how we often do not notice what is around us and they are going to learn some strategies by using all of their senses.
7. Have students turn and talk about the 5 senses: sight, smell, taste, touch, & hearing. Let them know that they are going to do an activity using 3 of these senses.

Part 2: Leaf in a Bag

Mystery Plant

1. Pass out “mystery bags” to students and tell them that their challenge will be to figure out what is inside using only their sense of feel, sight and hearing. Have students find a partner.
2. Encourage students to describe with detail. Have them split their paper in half using one side for words and another for drawing.
3. **Ask students:**
 - *Can you distinguish the veins? What do they feel like?*
 - *What can you say about the edges? Has a critter been nibbling on the edges?*
 - *What might it sound like if you crushed it?*
 - *Is it smooth & waxy or dry & rough?*
 - *Is it bigger than your hand?*
4. After students have explored and recorded their observations have them look for their plants in a designated area. When they believe they have located their plant they can then open their bag and compare.
5. Have students record any additional observations and/or use field guides or iNaturalist to learn more about their plants.
6. **Discuss:**
 - *How was this harder or easier than you thought it would be?*
 - *What did you find out? Were there any surprises?*
7. *Have students share their work and their leaves to compare experiences. Talk about how much they have been able to learn about just one leaf. Allow students to continue exploring if time allows.*

Final Reflection:

- *Do you feel like better observers? Why or why not?*
- *What helped you be successful today?*