

Water and Precipitation

Lesson Description

This lesson introduces the necessity of water and precipitation for the garden. Students will practice measuring water in rain gauges, hunt for water sources in the outside garden space and listen to a Tribal Elder discuss traditional beliefs about water and rain.

- Time required: 60 minutes
- Location of lesson: Classroom and garden

Learning Objectives

- Define and describe the word “precipitation”.
- Appreciate the necessity of water for the garden to grow.
- Listen to a Tribal Elder discuss traditional beliefs about water and rain/water preservation.

Materials and Preparation

- Invite a Tribal Elder to discuss traditional beliefs about water and rainfall
- 5 clear (glass or plastic) jars
- 5 rulers with both inches and centimeters noted
- Water to fill the jars to varying levels
- Classroom whiteboard
- Dry erase markers
- Preparation for Reading Rain Gauges activity:
 - Print off your local average rainfall graph (visit: <https://rainfall.weatherdb.com/>). Make a copy large enough so that students can read it.
 - Prepare a precipitation station on a table in front of the class. Fill each of the 5 clear jars with a different amount of water. Place a ruler next to each jar.
-  **Precipitation**
-  **Water Hunt**
- Prepared vegetable snack of the week – 1 for each student
- Water to drink during the Class Warm-up – water dispenser in the classroom and 1 cup or a water bottle for each student

Class Warm-up: Champion Cheer and Veggie Taste Test (5-10 minutes)

- Give each student a cup of water or ensure that they have a filled water bottle in front of them.
- Give each student the prepared veggie snack of the day.
- Lead the students in enthusiastically reciting the  **Champion Cheer**.

- At the end of the cheer, drink water and eat the veggie snack together.
- Have students complete their  **Taste Test Observations** about the vegetable snack of the week.

Review of Last Lesson (2-3 minutes)

- Review the evaluation questions from last week's lesson. Evaluation questions from all lessons are listed at the end of the workbook .

Class Discussion (10 minutes)

What does the word, "precipitation" mean? (Answer: moisture coming from the clouds in the sky, such as rain or snow) Is precipitation necessary for the garden to grow? (Answer: yes) Do we have any control over what the weather will be like? (Answer: no!) What happens if we water plants too much? (Answer: they die) What happens if we don't water plants enough? (Answer: they die) Why is it helpful to know what the weather will be like? (Answer: helps us decide how often we are going to water the garden)

Rain is sometimes collected and measured in rain gauges. Climatologists, or weather experts, measure the rainfall each day in the year and make an annual average rainfall graph. What is our local weather like? Compared to other areas, do we get a lot of precipitation or a little? We will look at the graph for our area today. And we will practice measuring rainfall.

Activities (40 minutes)

-  **"Reading a Rain Gauge" (10 minutes):** Students practice measuring water in a rain gauge.
 1. Refer students to their workbook page  **Precipitation**.
 2. Choose 1 student or student volunteer to come up and help measure data in the precipitation station.
 - a. Show the ruler to the class. Point out the inches side of the ruler and let the students get an idea of the size of inches. Point out the centimeter side of the ruler and let the students get an idea of the size of centimeters.
 - i. Students will predict how many inches and how many centimeters of water are in Jar 1. Have students record their predictions in the workbook.
 - b. Hold the ruler vertically against jar 1 of water with the zero end on the table. Help the student volunteer to read how many inches and how many centimeters of water are in the jar. Have students record the actual number of centimeters of water in the jar in the workbook.

3. Repeat step 2 with the remaining 4 jars of water. Choose a different student volunteer for each jar. Or allow students to rotate through the station and work on their own.
 4. Discuss. Show students the annual rainfall average graph for your area. *Why do you think knowing the average rainfall can help us grow a garden? When should we plan to water more- June or August? What kinds of plants should we put in the garden based on our area's average rainfall?*
-  **“Outside Water Hunt” (10 minutes):** Students look for at least 3 places water might be stored in the garden.
 1. Refer students to their workbook page  **Water Hunt.** *Water can be found in places you may not expect- inside the leaves of a plant, a few inches down in the soil, as part of an insect. Or in some places you do expect- like in a puddle, a water pipe or bucket.*
 2. Divide students into teams of 4-6. Allow 5 minutes for teams to explore the garden and, if necessary, the entire school ground area. Students will record in their workbooks at least 3 places where they found water.
 3. Return to the classroom to share team reports.
 - a. Ask each team to report their observations. List on a whiteboard and discuss.
 - **Elder Discussion (20 minutes)**
 1. Invite an Elder to discuss traditional beliefs about water and rain, and local preservation of water.

Evaluation Questions (5 minutes)

1. *What does the word “precipitation” mean?* (Answer: any form of moisture, such as rain, snow, sleet or hail that falls to the earth’s surface)
2. *Where does precipitation come from?* (Answer: the clouds)
3. *Do we need precipitation for our garden to grow?* (Answer: yes)
4. *If it doesn’t rain for a while, should we water our garden more or less?* (Answer: more)
5. *How much water should you drink every day?* (Answer: at least 6 cups of water a day)
6. *How many fruits and vegetables should you eat every day?* (Answer: at least 5 fruits and vegetables a day)
7. *Does gardening connect you to your culture and help you learn new words in your language?* (Answer: yes)

Preparation for Future Lessons – Reminder for the Instructor

- Review the materials and preparation needed for the next lesson.

- Remember that an Elder guest instructor is needed for these Spring lessons: lesson 1 (Eating a Rainbow), lesson 4 (Water and Precipitation), and lesson 9 (Plant Parts: Identifying Parts of a Flower).

Notes
