

The Water Cycle

Lesson Description



This lesson introduces the water cycle. Students will observe experiments that demonstrate the phases of the water cycle 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

- Observe, describe and illustrate the water cycle.
- Define and describe the words “precipitation” and “evaporation”.
- 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
- Tea kettle or saucepan to heat water
- Electric Hot plate (electric outlet necessary)
- Cardboard or plastic cup
- Oven mitts
- Colored pencils/crayons
- Blank paper plates or paper – 1 per student
-  **The Water Cycle**
-  **Water Cycle Definitions**
- 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)

Why is it that the world doesn't run out of water? Why don't the rivers and lakes dry up like puddles do? Where does the rain come from? Do you think water goes in a cycle over and over again? (Yes, it does!)




Water is necessary for life. The water on earth doesn't run out because it goes through a cycle that keeps recycling it back for us. The water we see today is the same water our ancestors saw many generations ago. It is up to us to keep it clean and not to waste it.

Today, we will observe the water cycle. Temperature is important in the water cycle.

- *What happens when water gets really hot? (Answer: turns into steam)*
- *What happens when steam cools off? (Answer: turns back into water)*

So, why do you think the sun is important in the water cycle?

Activities (40 minutes)

-  **"Overview of the Water Cycle" (10 minutes):** Students are introduced to the water cycle.
 1. Refer students to their workbook page  **The Water Cycle**.
 2. Consider drawing a diagram on the board to illustrate as you explain the water cycle. *The water cycle works like this: The sun heats water on earth. The heated liquid water turns into steam or vapor and rises into the air (evaporation). As the vapor rises, the temperature drops and it cools off, forming tiny droplets of water that turn into clouds (condensation). When the clouds get heavy and can't hold the droplets anymore, they fall as rain back onto the earth (precipitation). Then, it repeats again and again!*
 3. Have students take turns reading the definitions of the words, evaporation, condensation, precipitation, accumulation, and transpiration from the workbook page  **Water Cycle Definitions**. The most important words for them to know are evaporation and precipitation.
 4. Have students illustrate their own diagram of the water cycle. Pass out paper or paper plates, crayons and colored pencils. Have students label the processes of "evaporation" and "precipitation" on their diagram.

- **“Water Cycle Experiment” (10 minutes):** Students observe experiments that illustrate the water cycle.
 1. Heat a kettle of water on the hotplate. *Do you see steam rising? That is **evaporation**.*
 2. Using oven mitts, hold a piece of cardboard or a plastic cup above the boiling kettle of water (right over the steam, a few inches above the spout). Water droplets will form. *This is **condensation**.*
 3. Continue holding the cardboard or cup above the steam. *Soon, it can’t hold the condensed water droplets anymore and they begin to fall. This is **precipitation**.*
- **Elder Discussion- Traditional beliefs about water and rain/preservation of water (20 minutes)**

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. *Does the water cycle ever end?* (Answer: no)
3. *What does the word “evaporation” mean?* (Answer: the water vapor created when the sun heats water on the earth rises into the air)
4. *What does the word “condensation” mean?* (Answer: tiny water droplets formed when water vapor rises into the air, cool to form clouds)
5. *Why is the sun important in the water cycle?* (Answer: provides the energy to heat up the water and turn it into steam or vapor)
6. *How much water should you drink every day?* (Answer: at least 6 cups of water a day)
7. *How many fruits and vegetables should you eat every day?* (Answer: at least 5 fruits and vegetables a day)
8. *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 (The Water Cycle), and lesson 9 (Plant Parts: Pollination).

Notes
