

Science Concept:

Water rises into the air.

Objectives:

The student will:

- describe how water that rises fits into the water cycle;
- make observations and inferences about the water cycle; and
- write a story about how a drip travels through the water cycle.

GLEs Addressed:**Science**

- [3] SD1.2 The student demonstrates an understanding of geochemical cycles by describing the water cycle to show that water circulates through the crust, oceans, and atmosphere of Earth.
- [3] SA1.1 The student demonstrates an understanding of the processes of science by asking questions, predicting, observing, describing, measuring, classifying, making generalizations, inferring and communicating.

Writing

- [1] W1.2.1 The student writes for a variety of purposes and audiences by writing thoughts or ideas to communicate with specific audiences (e.g., cards, letters, notes, lists).

Vocabulary:

cloud formation (condensation) – when water changes from vapor to liquid and gathers together on tiny particles high in the sky

rain/snow falls (precipitation) – rain is water that falls in drops; now is rain that freezes in the sky; both fall from clouds to the ground

water collects (collection) – water gathers together, such as in lakes, rivers, and oceans

water cycle – water is a liquid that falls to the ground as rain or snow; it goes through a cycle which goes around and around by rising, forming clouds, falling back to the ground and collecting to rise again

water rises (evaporation) – when water changes from a liquid form to a gas form and rises to form a cloud

NOTE: The words collection, condensation, evaporation, precipitation, and water vapor may also be used in this lesson. However, students are not accountable for these words, as this vocabulary is not assessed until they are in the 5th and 6th grades.

Materials:

- Chalkboard
- Chart paper
- Paper towels (two per student)
- Resealable plastic bags (one per student)
- Clothes line or heavy string
- Clothes pins
- Bowl (one per group)
- Water

- Permanent markers
- Science Journal (one per student)
- Sponge
- Book or heavy paper, for fanning
- White construction paper, 11 inches x 14 inches (one per student)
- Watercolor paints and brushes
- Glue or tape
- OVERHEAD: "Water Cycle"

Activity Preparation:

Put water in bowl for each table.

Activity Procedure:

Gear Up

Process Skills: observing, describing, inferring, and communicating

1. Moisten the sponge (not too wet) and make a wide, damp streak on the chalkboard. Ask students to observe until the water has dried. Ask students what they observed about the streak of water on the chalkboard. Run another streak on the board and fan it with a book or piece of heavy paper. Ask students to describe what they noticed was different the second time. Record responses on the board or chart paper.
2. "Buddy Buzz": Ask students to turn to their neighbor and share what they know about the water cycle. After about one minute, call on every student to share his or her buddy's knowledge of the water cycle. Write their ideas down along with each student initials.
3. Share OVERHEAD: "Water Cycle" along with the vocabulary (water rises, cloud formation, rain/snow falls, water collects).

Explore

Process Skills: questioning, observing, describing, inferring, and communicating

4. Explain students will be exploring wet paper towels. Have students work with a partner. Distribute two paper towels and one zippered plastic bag to each student. Pass out permanent markers and ask students to write their names on their plastic bag and on one of their paper towels.
5. Instruct students to pick up the other paper towel, on which their name is not written. Ask them to watch and follow along while you model folding the paper towel in half and then in half again. Assist students who need help with folding.
6. Distribute a bowl of water to each table or group of students. Remind students about the importance of taking turns. Point out every table has one bowl of water they will need to share with all of the people at the table. Explain students need to thoroughly wet their folded paper towel and then carefully place it inside their bag. Students should help one another seal the bag.
7. Instruct students to bring their resealable plastic bag to a pre-designated area in the room and return to their table and wet the second paper towel. Hang the wet paper towels on a clothesline and wait for them to dry (this may take a day or two).
8. Once the towels have dried, distribute both the towel and bag to each student. Instruct students to observe and make inferences about what happened with each towel and draw and label their findings in their science journals.

Generalize

Process Skills: inferring, questioning, describing, and communicating

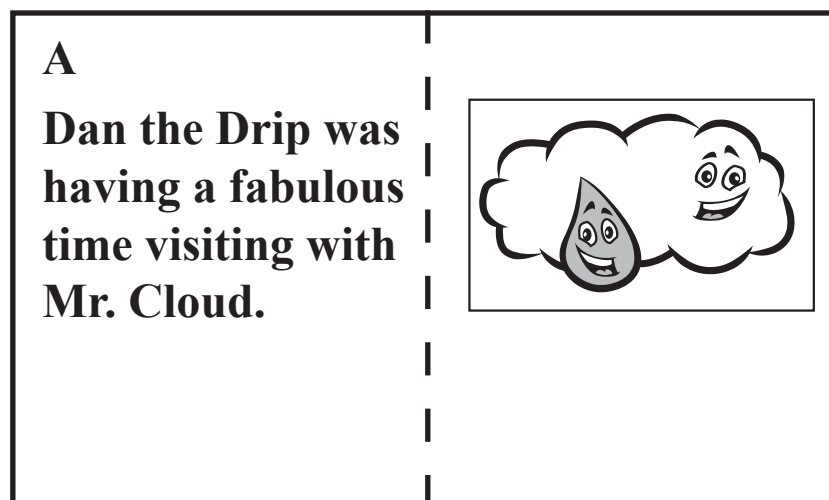
9. Ask students the following questions and discuss as a class. Write student responses on chart paper.

- a. What did you observe about the paper towels?
 - b. Why is the paper towel in the zippered plastic bag still wet?
 - c. What happened to the towel that was not in the zippered plastic bag?
 - d. How does the dry towel feel?
10. "Buddy Buzz": Ask students to "buzz" with their neighbor about where the water went. After about one minute, call on a few students to share their buddy's response. Write responses on the board or chart paper. Refer to the water cycle chart as the students share their findings about where the water went.

Apply

Process Skills: describing, making generalizations, and communicating

11. Explain Kamishibai is a Japanese style of story telling, which is told through traditional story cards. Stories are typically told in 12 or 16 cards. For the purposes of this exercise, create a class story that is the same number as the number of students in the class, or split the class into two groups and create two stories.
12. Write a story about the water cycle as a class. The teacher will type the dialogue and cut it into the number of cards (students) needed for the class. Distribute one part of the story to each student and a piece of white construction paper. Instruct students to glue or tape their card to the construction paper, and then draw a picture on the opposite side of the paper to represent that scene.
13. For example (see Illustration below): "Dan the Drip was having a fabulous time visiting with Mr. Cloud." Student (A) paints a corresponding picture on the opposite side of this card. The next card reads, "Suddenly, Mr. Cloud started to cough and rumble! Dan slipped off of Mr. Cloud and he turned into rain." Student paints a corresponding picture on the opposite side of this card, etc.



14. When the students complete the story cards, ask them to perform the story to the class or another class. Each student should hold up their card so that the picture is showing to the audience and read their part with inflection.

DAN THE DRIP

RUBRIC

Assessment Task:

In your science journal draw and label at least three parts of the water cycle (water rises, clouds form, rain/snow falls, water collects). Write at least one inference about how water rises. Write a story that explains how a drip of water rises and fits into at least one part of the water cycle.

Rubric:

Objective	GLE	Below Proficient	Proficient	Above Proficient
The student describes the water cycle.	[3] SD1.2	In science journal, the student does not draw and label or draws and labels one or two parts of the water cycle.	In science journal, the student draws and labels at least three parts of the water cycle.	In science journal, the student draws and labels four parts of the water cycle.
The student makes inferences about the water cycle.	[3] SA1.1	The student writes no inference about how water rises	The student writes one inference about how water rises.	The student writes two or more inferences about how water rises.
The student writes a story about how a drip of water travels through the water cycle.	[1] W1.2.1	The student does not write a story that explains how a drip of water rises.	The student writes a story that explains how a drip of water rises and fits into one part of the water cycle.	The student writes a story that explains how a drip of water rises and fits into two or more parts of the water cycle.

