

Overview:

The water cycle has many parts.

Objectives:

The student will:

- describe the water cycle;
- make an inference about why each part of the water cycle is important; and
- label and illustrate the four parts of the water cycle.

Targeted Alaska Grade Level Expectations:

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) - a changing of a gas or vapor to a liquid

rain/snow falls (precipitation) - the depositing of moisture in the form of rain, dew, snow, etc.

water collects (collection) - brought together; gathered together; accumulation

water rises (evaporation) - a changing of a liquid into vapor

NOTE: The words in brackets are for teacher reference only. Students should not be assessed on these words; they are assessed in 5th and 6th grade.

Materials:

- Glue
- Scissors
- White paper for diagram (one 11-inch x 17-inch piece per group)
- Science journal (one per student)
- Shoe boxes, or other boxes, for making shadow boxes (one per group)
- Collection of natural materials to make a landscape (e.g., moss, sand, leaves, rocks, small branches)
- Modeling clay, for land formations
- Cotton balls and/or batting, for clouds
- Kimball, J. (2006). *The Many Adventures of Drippy the Raindrop: To the Mountains and Back*. Kimball Media.
- POSTER: "The Water Cycle"

Activity Preparation:

1. Create a water cycle poster from water cycle example. (See graphic.)

Activity Procedure:

Gear Up

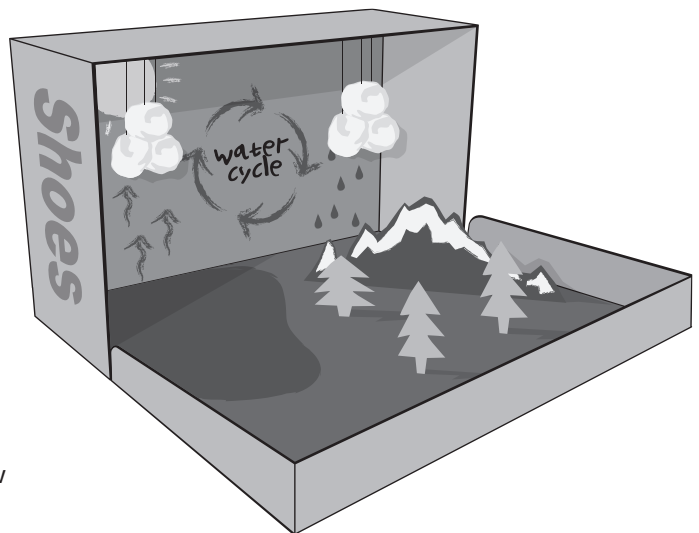
Process Skills: observing and communicating

1. Ask students what they know about the water cycle. Record student responses on the board.
2. Read *The Many Adventures of Drippy the Raindrop: To the Mountains and Back*
3. Ask students what changes Drippy went through in the story. Record student responses on the board.
4. Show POSTER: "The Water Cycle" and review parts of the water cycle. Leave poster displayed on the wall for student reference.

Explore

Process Skills: questioning, observing, communicating, and inferring

5. Divide students into pairs or small groups. Ask groups to discuss the four parts of the water cycle. Remind students they may use the water cycle chart on the wall if needed.
6. Instruct each group to draw a diagram with labels of their ideas about the water cycle in nature. Ask students to put arrows to show how water moves through the cycle.
7. When each group has completed their diagram, explain each group will be using a box and show them various materials to make a 3-D shadow box displaying their idea of the water cycle in nature.
8. Remind students that the completed 3-D box should show all four parts of the water cycle. Allow plenty of time to complete the group project



Generalize

Process Skills: communicating, inferring, and describing

9. Ask students the following questions and discuss as a class.
 - a. How is your 3-D water cycle model similar to the diagram that you drew on the water cycle poster? How is it different?
 - b. How are clouds and rain droplets related to each other?
 - c. How are parts of the water cycle related to each other?
 - d. What would happen if one of the parts of the water cycle were left out?

Apply

Process Skills: communicating, observing, and describing

10. Ask students to pretend they are going on a hike in the mountains with their family. They suddenly notice clouds are gathering and it is starting to rain. A younger family member asks where the raindrops are coming from. In your science journal, explain how you would describe the water cycle to him or her in pictures or words. Ask students to remember to keep their description short and simple so the younger family member will understand it.

RAIN, RAIN, GO AWAY!

INSTRUCTIONS

Assessment Task:

In your science journal, illustrate and label the four parts of the water cycle. Write at least two sentences that describe the water cycle. Write at least one inference about why each part of the water cycle is important.

Rubric:

Objectives	GLES	Below Proficient	Proficient	Above Proficient
The student describes the water cycle	[3] SD1.2	The student describes zero to three parts of the water cycle using one sentence or less.	The student describes four parts of the water cycle (water rises, clouds form, rain/snow falls, water collects) using two sentences.	The student describes four parts of the water cycle (water rises, clouds form, rain/snow falls, water collects) using three or more sentences.
The student makes an inference about why each part of the water cycle is important.	[3]SA1.1	The student does not make an inference about why each part of the water cycle is important.	The student makes at least one inference about why each part of the water cycle is important.	The student makes multiple inferences about why each part of the water cycle is important.
The student illustrates and labels the four parts of the water cycle in their science journal.	[1]W1.2.1	The student illustrates and labels three or fewer parts of the water cycle in their science journal.	The student illustrates and labels four parts of the water cycle in their science journal.	The student neatly illustrates and labels four parts of the water cycle in their science journal.

