

A RAINDROP ROADTRIP (1.5-2 Hours)

Addresses NGSS

Level of Difficulty: 2

Grade Range: 3-5

OVERVIEW

In this activity, students will “become” water droplets and travel among the different storages of water. Students will roll a die to determine which station in the classroom they will go to: the atmosphere, ocean, forest, or glaciers. They must answer a question correctly to roll the die again and continue to another storage in the water cycle. As students journey around the water cycle, they will keep track of their travels and also name the process that allows them to travel from one water storage to another.

Topic: Water Cycle

Real-World Science Topics

- Modeling of a major Earth system.
- An exploration of the storage and flows in the water cycle.

Objective

After completing this activity, students will be able to describe the storages and flows of the water cycle.

NGSS Three-Dimensions

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Developing and Using Models <ul style="list-style-type: none">• Modeling in 3-5 builds on K-2 models and progresses to building and revising simple models and using models to represent events and design solutions.	ESS2.A: Earth Materials and Systems <ul style="list-style-type: none">• Earth’s major systems are the geosphere (solid and molten rock, soil, and sediments), the hydrosphere (water and ice), the atmosphere (air), and the biosphere (living things, including humans). These systems interact in multiple ways to affect Earth’s surface materials and processes. The ocean supports a variety of ecosystems and organisms, shapes landforms, and influences climate. Winds and clouds in the atmosphere interact with the landforms to determine patterns of weather. (5-ESS2-1)	Systems and System Models <ul style="list-style-type: none">• A system can be described in terms of its components and their interactions.

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STUDENT HANDOUT

Name:

Date:

Roll the die to determine your first stop in the water cycle.
Your first stop is:

Choose a question.
Write a sentence, in the space below, to answer your question.

Name the process
that takes water
from your first stop
to your second stop:

Roll the die to determine your second stop in the water cycle.
Your second stop is:

Choose a question.
Write a sentence, in the space below, to answer your question.

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STUDENT HANDOUT

Roll the die to determine your third stop in the water cycle.
Your third stop is:

Choose a question.
Write a sentence, in the space below, to answer your question.

Name the process that takes water from your second stop to your third stop:

Name the process that takes water from your third stop to your fourth stop:

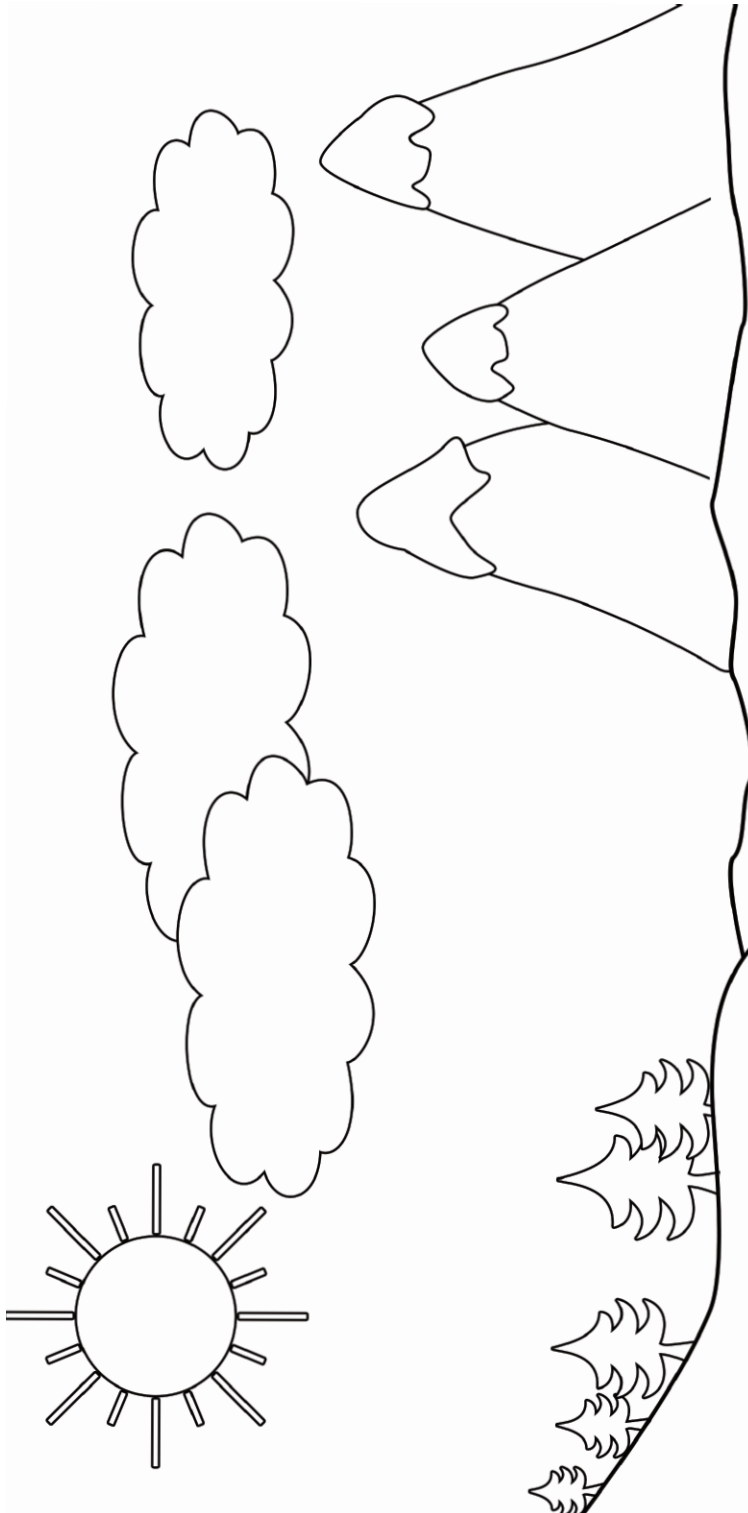
Roll the die to determine your fourth stop in the water cycle.
Your fourth stop is:

Choose a question.
Write a sentence, in the space below, to answer your question.

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STUDENT HANDOUT

On the diagram below, use arrows to show your journey in the water cycle. Label each arrow with the name of the process that is happening.



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APPENDIX A



Atmosphere

What are two types of precipitation?

What does it mean if air is humid?

Name a type of cloud.

What are clouds made of?

What do you call a cloud that is at ground level?



Rivers/lakes/oceans

Is water in the ocean fresh or salty?

Name a fish that lives in the ocean.

Name three oceans.

Heat can cause water in the ocean to evaporate and become water vapor in the atmosphere. Where does that heat come from?

Name an animal that lives in the ocean that is not a fish.

How many oceans are there?



Glaciers/ice

Name a place on Earth where you might find a glacier.

Heat can cause a glacier to melt and become run-off. Where does that heat come from?

At what temperature does water become ice?

What is it called when a liquid becomes a solid?

Does water usually remain in a glacier for a short or long amount of time?



Groundwater/soil

How do people get groundwater out of the ground?

When soil is heated, some of the water evaporates out of the soil.

Where does the heat come from?

Explain one way water is added to soil.

Name a type of land that is very dry.

If soil is completely full of water and can't hold any more, it is called _____.