

The Water Cycle Game

Skill: Science

Objectives:

- Students will understand the four steps in the water cycle.
- Students will experience the journey of a single drop of water through participating in the Water Cycle Game.

Time Frame: 20 minutes

Lesson Activity

What exactly is the water cycle?

The **water cycle** is the process of how water travels through our world. The water cycle starts with surface water like oceans, lakes or rivers.

What causes the water in the oceans, lakes and rivers to evaporate?

The Sun heats up the water until it evaporates. This **evaporation**, also called water vapor, rises into the sky! As the vapor goes up, it runs into tiny specks of dust, dirt and pollen. That water vapor begins to stick to the tiny dust particles. As it gets higher into our atmosphere, it gets much colder.

What happens when the water vapor begins to cool down?

That water vapor cools down and **condensation** starts to make our clouds.

How much water do you think is in a cloud?

There is a lot! Have you ever held a gallon of water or milk? Is it very heavy? Just one gallon only weighs 8 pounds but think what thousands and thousands of gallons feels like. Eventually,

Vocabulary

- Water Cycle
- Evaporation
- Condensation
- Precipitation
- Collection
- Surface Water

Materials

- 9 square boxes (6 " x 6" or smaller)
- Water dice pictures for each box and to post around room (see chart with the pictures at end of lesson)
- Tape
- Water Cycle Game Cards
- Pencils or Crayons



The Water Cycle Game, cont.

the cloud gets too heavy and the moisture falls back down as rain or **precipitation**.

Where does the rain go when it falls?

Collection happens, or it falls into oceans, lakes or rivers. It may also soak into the ground and collect in aquifers. This may also be referred to as **surface water**.

Let's re-cap the 4 steps of the water cycle one more time:

- The sun heats the water sources on earth and the water evaporates from oceans, rivers and ponds.
- The water vapor goes up and runs into tiny specks of dust, dirt and pollen. The water vapor cools and forms condensation which forms clouds.
- The clouds collect so much condensation that they become too heavy. This causes precipitation, or rain, which falls back to the ground.
- The rain gathers in different collection areas like the ocean, rivers, lakes, and into the ground which is also known as surface water.

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Activity: The Water Cycle Game

We are going to play a game called the Water Cycle Game. You are going to be a single drop of water. If you look around the room (or on one long wall), you will see pictures that represent different places where water normally exists — oceans, lakes, glaciers, clouds, rivers, groundwater,— and things that use water like animals and plants. (*Show them where the 9 signs are taped up and go tell them the name of each one.*)

Now I want you to pick a partner (If there is an odd number, you can have one group of three). Each team will get a card a



The Water Cycle Game, cont.

pencil/crayon. This card had pictures of the nine places where water exists, the same nine places we have taped up on the wall.

At each of the stations, you will see a big dice. These big dice has pictures on it that will tell you where to go. Let's say you start out at the clouds. You will pick up the dice, roll it and go where it tells you. If you roll the OCEAN, you will go to the ocean. If you roll the PLANTS, go to the PLANTS. You will use your pencil/crayon to make a tally mark on your card next to the location you roll. After you mark your card, move to the station that you rolled.

You may visit the same place many times. That's okay. Just make a tally mark each time you visit each station. If there is a line at the station, just wait in line until the people in front of you finish. If you roll the same picture as the station you are at, move to the back of the line if others are waiting so that everyone has a turn. Don't throw the dice into the air, because it can poke out someone's eye. Also try to roll the dice near that station so that you are not in the way of other stations.

Teams can divide up and choose the station where you want to start. Keep rolling the dice and moving to the stations until I tell you stop. On your mark, get set and go!

NOTE: Since this is a 20 minute lesson, allow them to play the game until you have about 5 minutes left.

Let's Clean Up and Review

- Which picture on your card did you have the most marks?
- Who got stuck at the ocean for the longest time? Why do think that is?
It is because the ocean is the biggest body of water. A single drop of water falls back down as rain. Since 70% of the earth is covered in oceans, there is a good chance you might fall back down in the ocean.
- Why do you think everyone kept going back to the clouds?
Water evaporates from everything; animals, lakes, plants, the ocean. That's why you spent a lot of time at the clouds station.
- What are the four main stages of the the water cycle?
Evaporation, Condensation, Precipitation, and Collection (surface water)



The Water Cycle Game, cont.

Oklahoma Aqua Times Related Lessons:

- Bottle Hydrology
- The Sunshine in Our Lives
Water-makers
Evaporation
- Wondrous Water-Cycle
- Transpiration-Aspiration
- Precipitation

Lesson adapted from:

4-H₂O For You: The Water Cycle Game, Texas A&M AgriLife Extension Service, Guadalupe County



The Water Cycle Game, cont.

Instructions for Dice

Make the number of copies noted below of the 10 signs. Use one set of signs (not including the STAY sign) to post on the wall around the room where each dice will be placed. Use the remaining signs to cover the 6 sides of the 9 boxes as outlined below.

Number of Copies of Each Sign:

- Animals — 4 copies
- Clouds — 14 copies
- Glacier — 2 copies
- Groundwater — 5 copies
- Lake — 5 copies
- Ocean — 5 copies
- Plants — 2 copies
- River — 4 copies
- Soils — 4 copies
- Stay — 18 copies

Ocean Dice

- 2 Clouds
- 4 Stay

River Dice

- 1 Animals
- 1 Clouds
- 1 Groundwater
- 1 Lake
- 1 Ocean
- 1 Stay

Lake Dice

- 1 Animal
- 1 Clouds
- 1 Groundwater
- 1 River
- 2 Stay

Glacier Dice

- 1 Clouds
- 1 Groundwater
- 1 Ocean
- 3 Stay

Groundwater Dice

- 2 Lake
- 1 River
- 3 Stay

Plants Dice

- 1 Animals
- 3 Clouds
- 2 Stay

Clouds Dice

- 1 Glacier
- 1 Lake
- 2 Ocean
- 1 Soils
- 1 Stay

Soils Dice

- 2 Clouds
- 1 Groundwater
- 1 Plants
- 1 River
- 1 Stay

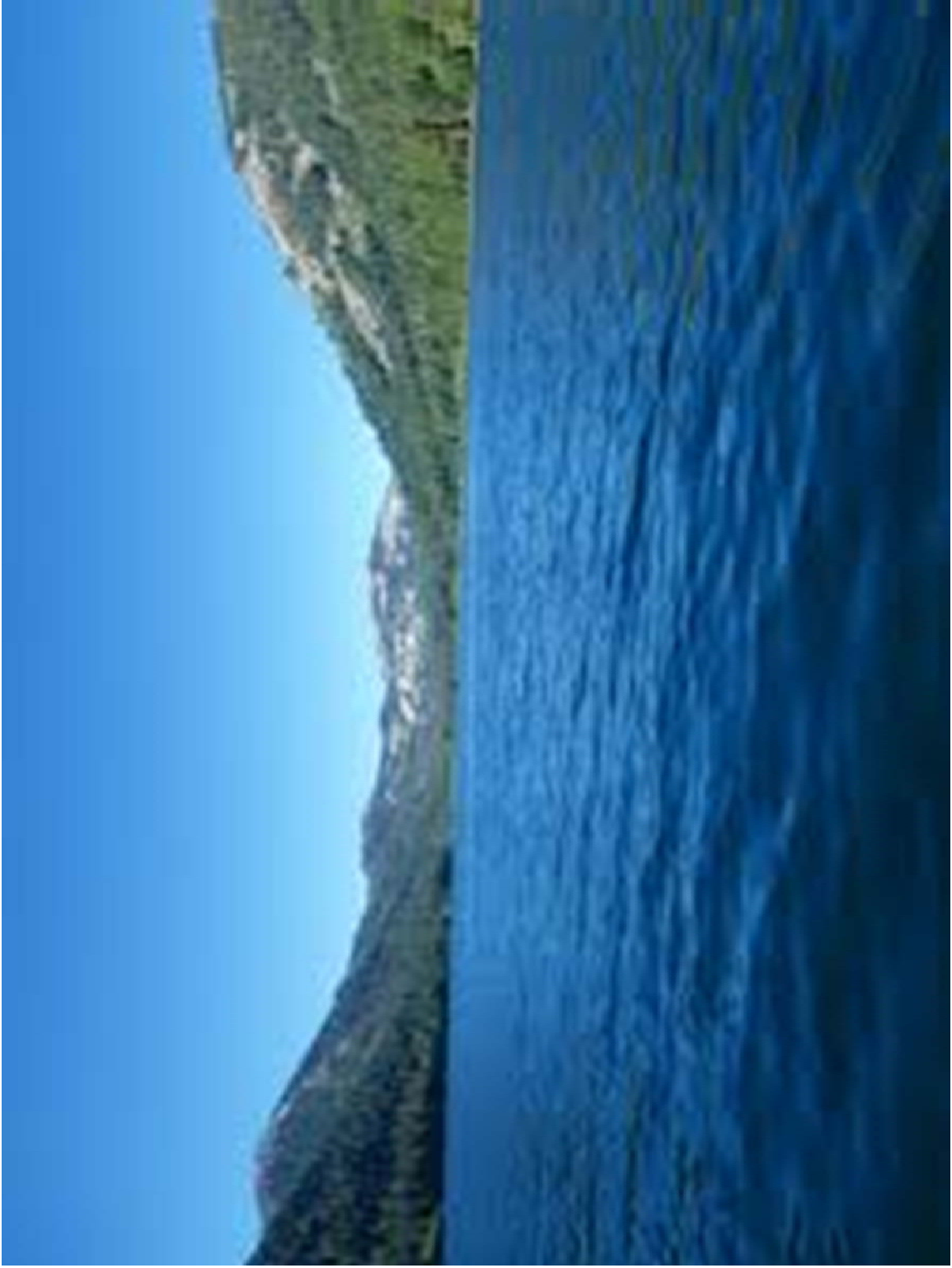
Animals Dice

- 3 Clouds
- 2 Soils
- 1 Stay





GLACIER



LAKE



CLOUDS



SOIL



PLANTS



GROUNDDWATER



OCEAN



RIVER



ANIMALS



STAY

Water Cycle Game

Draw a mark next to each picture each time you visit that station.



Glacier



Lake



Clouds



Soil



Plants



Groundwater



Ocean



River



Animals

Water Cycle Game

Draw a mark next to each picture each time you visit that station.



Glacier



Lake



Clouds



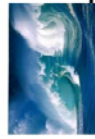
Soil



Plants



Groundwater



Ocean



River



Animals

Water Cycle Game

Draw a mark next to each picture each time you visit that station.



Glacier



Lake



Clouds



Soil



Plants



Groundwater



Ocean



River



Animals

Water Cycle Game

Draw a mark next to each picture each time you visit that station.



Glacier



Lake



Clouds



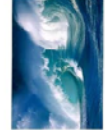
Soil



Plants



Groundwater



Ocean



River



Animals