

EXPLORING THE WATER CYCLE THROUGH CROSS-AGE TEACHING

GRADES 3-5

MATERIALS

Simple illustration of water cycle on posterboard or whiteboard (links to several outstanding illustrations provided under Additional Resources)

Water Cycle Vocabulary Worksheet (one per student)

BACKGROUND

Water is in a constant cycle. It evaporates from oceans, streams, and rivers up into the clouds, which are made of water vapor. It then falls from the clouds in the form of precipitation, soaking into the ground (infiltration), running across the land into bodies of water, or evaporating back into the air due to the heat of the sun. Some of the water that goes into the ground is taken up by the roots of plants and some of it moves through the ground, called groundwater.

In this activity, upper elementary students will teach their younger peers all about the water cycle and how it works. One of the best ways to understand and remember something is to help teach it to someone else!

INSTRUCTIONS

1. Discuss the water cycle with students (Grades 3-5), placing emphasis on:

- The water we have today is the same water that was here when dinosaurs walked the earth (water bonds are constantly breaking and reforming). There will never be any new water!
- Components of the water cycle: Water evaporates from oceans, rivers, lakes, and streams into the air and condenses to make clouds. It falls from the clouds (precipitation) in the form of rain, snow, sleet, and hail. Some of it soaks into the ground (infiltration), and some of it runs off of the land into bodies of water (runoff). Some of the water that soaks into the ground is taken up by the roots of plants. Some of it moves through the ground, called groundwater. Water evaporates from water bodies and is transpired through the leaves of plants back into the air, creating a never-ending cycle.
- Less than 3% of the water on the earth is freshwater, or water we can drink. And most of that water is frozen in glaciers. So a very small amount of the water on earth is available for us to use; it's a precious resource that needs to be taken good care of!

2. Distribute a Water Cycle Vocabulary Worksheet to each student. Ask students to demonstrate their knowledge of the water cycle by defining each term, drawing a picture, and using it in a sentence.
3. Ask the students to come up with their own examples of how to explain/teach the water cycle, using techniques such as:
 - Writing a story of their own
 - Developing a water cycle skit
 - Creating a sketch, diagram, or collage of the water cycle
 - Making water cycle mobiles
 - Developing a water cycle diorama display
 - Draw a comic strip
 - Create a bulletin board display in the hallway
 - Carry out “The Water Cycle” interactive movement activity found at <http://www.waterrocks.org/> (click on Dive In → Enhancement Activities-Sorted by Age → Grades K-2 → The Water Cycle)
4. Pair off with a younger classroom (Grades K-2) in your school. The older students (Grades 3-5) will work together to help teach the water cycle to their younger peers (cross-age teaching model).

Several options include:

- Older students lead younger students in singing and acting out the Itsy Bitsy Spider Rap (song available on free music player at www.waterrocks.org)
- Older students lead younger students in “The Water Cycle” interactive movement activity where younger students become water molecules and move their way through the different steps of the water cycle (free PDF download on www.waterrocks.org website - click on Dive In → Enhancement Activities - Sorted by Age → Grades K-2 → The Water Cycle)
- Divide the students into groups of 6, with 3 older students and 3 younger students in each group. Ask the older students to give a short presentation or lesson about the water cycle to the younger students in their group. Students are encouraged to use the hands-on activities and techniques discussed above in step 3.

ADDITIONAL RESOURCES

<http://ga.water.usgs.gov/edu/watercycle-kids-placemat.html> (USGS water cycle diagram)

http://whyfiles.org/wp-content/uploads/2010/04/hydrologic_cycle.jpg (NOAA water cycle diagram)

<http://www.youtube.com/watch?v=iPZs-1GFkVs> (Planet Patrol video on water usage, produced by Iowa DNR)

<http://video.nationalgeographic.com/video/environment/freshwater/env-freshwater-whycare/> (Short National Geographic video presenting overview of global water issues)

Name _____

WATER CYCLE VOCABULARY SHEET

Word	Define	Draw a Picture	Use in a Sentence
Glacier			
Precipitation			
Water Cycle			
Evaporation			

Freshwater			
Condensation			
Transpiration			
Runoff			
Infiltration			