

# Aquatic Words

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<b>Strand</b>	Earth's Patterns, Cycles, Changes
<b>Topic</b>	Water
<b>Primary SOL</b>	3.9 The student will investigate and understand the water cycle and its relationship to life on Earth. Key concepts include a) there are many sources of water on Earth; d) water is essential for living things.
<b>Related SOL</b>	3.1 The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which l) models are designed and built; m) current applications are used to reinforce science concepts.

## Background Information

Approximately 97% of the water is found in the oceans and the other 3%, which is fresh water, is found in glaciers, icecaps, rivers, lakes, underground, and in the atmosphere. Of this 3%, only 1% is suitable for drinking. Water continuously circulates between Earth's surface, the air, and underground. This circulation is driven by the sun's energy. As the sun warms the surface of oceans and other water sources, the movements of water molecules increase until some molecules change state from liquid water to gaseous water (water vapor). When energy is lost, the water vapor condenses, forming liquid water again. When the droplets get large enough, they fall back to Earth as precipitation. Major water sources for a community include rivers, reservoirs, and wells.

## Materials

- Writing materials
- Magazine photographs
- Construction paper in various shades of blue, aqua, gray, white, and green

## Vocabulary

*reservoir, water treatment plant, cycle*

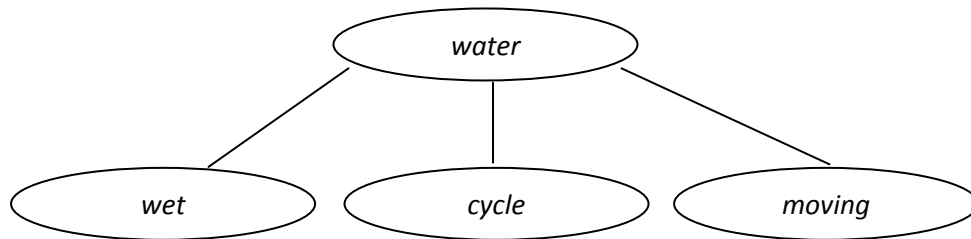
## Student/Teacher Actions (what students and teachers should be doing to facilitate learning)

### Introduction

1. Have students bring in photographs from magazines and other sources that show water habitats. Ask the students to look for pictures that show how organisms depend on water. Display photographs, and use them as a basis for a discussion about the dependence of living things on water.

*Procedure*

1. Ask the students to think about some of the ways they have used water today. Applicable pictures should be pointed out by students to prompt thinking. Emphasize that all organisms are ultimately connected to water.
2. Ask students to brainstorm words that have something to do with water, including how it is important to people and wildlife. List words on chart paper or the chalkboard. Lead students to stretch into new areas by suggesting examples and categories of ideas.
3. Using the list of words, ask the students to create word trees of water-related words. Begin with a simple word tree like:



4. Have students then create more complex word trees. Students may work in small groups or singly to create word trees.
5. When students have finished several word trees, have them use the trees to write one or two poetic definitions of water or water-related concepts.
6. Share the following example using the word tree composed of the words condensation, cloud, rain, and storm:  
“Water is gray clouds condensing into a loud summer rain storm.”
7. Alternatively, students could create sentences about water.

*Conclusion*

1. When the students have completed their poetic definitions/sentences, have the students cut pieces of construction paper in various shades of blue, aqua, gray, white, or green into shapes that will represent the poetry.
2. After cutting the paper to an appropriate shape, raindrop, river, etc., students will write their poems on the cut out shape.
3. Students will then share their statements with the class. As they share, lead a discussion with the class of how the water in each situation helps plants and animals.

**Assessment**

- **Questions**
  - How do people use water each day?
  - Why is water so important to our planet?

- **Journal/writing prompts**

- How would the world be different without water?
- Your world is about to run out of water. You and a team have been assigned the task of coming up with a plan to help. What do you do?

**Extensions and Connections (for all students)**

- Students will create a 3-D model of a habitat that is dependent on water and the animals that live in the habitat.

**Strategies for Differentiation**

- Provide pictures for students who may not bring any from home.
- On the tree web, students may draw pictures.
- Preteach texture or sensory words for use during “poetic sentences.”
- Use framed sentences for “poetic sentences,” giving blanks and the part of speech for that blank. (\_\_\_\_\_ is (adverb) (verb).)
- In lieu of the world on the writing prompt, students can focus on school, making the school their world, thus providing a more familiar environment.
- Have a forest ranger come in to discuss how water affects the habitat.
- Survey people in the community on water usage.
- Create a water cycle song with gestures.
- Have students write and illustrate a short story about the importance of water.