

Unit Summary

Cluster 1: Water Is a Resource (Lessons 1, 2, 9, and 10)

Overview	<p>Students experience water with “fresh” eyes (and other senses). They learn that water is a natural resource that is essential for life and explore ways that a variety of organisms use water. They compare their water uses with their water needs and gain an appreciation for their household and community water systems.</p>
Science Content	<ul style="list-style-type: none"> • A natural resource is something we get from our environment to meet our wants and needs. • Water is a natural resource that is essential for life. • Living things use and need water in different ways. • Humans have devised methods to access and clean water. • Most people in the United States use more water than they need to survive.
Science Center	<ul style="list-style-type: none"> • Peruse water pictures, photographs of students visiting a watery environment or the field trip site, fiction and non-fiction books, and brochures from your water department. • Experiment using a water exploration tub. • Study the community water system diagram. • Respond to questions about how much water students use for different tasks.
Family Links	<ul style="list-style-type: none"> • Keep track of and record all the ways they use water in a day. • Talk with family members to learn about their household water system.
Further Science Explorations	<ul style="list-style-type: none"> • Study how water is involved in the cooling mechanism of humans and other animals. • Create a model of the community water system. • Test the water quality at their home or school. • Research beneficial and detrimental changes in their local environment caused by supplying water to their community.
Cross-Curricular Extensions	<p>Mathematics: Create graphs of home and school water quality data.</p> <p>Language Arts: Write water stories about themselves, other organisms, and a time when they really missed water. Read water poems and proverbs. Read and discuss the book <i>A Cool Drink of Water</i>.</p> <p>Social Studies: Research a specific body of water and locate it on a map. Compare water use in the United States to that of other countries.</p> <p>Arts: Create paintings to illustrate personal water experiences.</p>

Cluster 2: Water Follows a Cycle (Lessons 3–8)	Cluster 3: Taking Care of Water Resources (Lessons 11–15)	
<p>Students explore what might happen to a drop of rain after it falls to Earth. They learn that most of Earth’s water is located in surface water, underground, in glaciers and polar ice caps, and in the air, and that water circulates through these locations via the water cycle. They create a model of the water cycle to observe some of its basic mechanisms in action.</p>	<p>Students learn how wise choices can help them conserve water and keep it clean. They take a “Pollution Walk” on school grounds, discuss ways to prevent pollutants from entering the water supply, and investigate ways to clean polluted water. They read, discuss, and compare real-life case studies related to conservation and pollution. They take part in a culminating project in which they choose an issue pertaining to protecting water resources, investigate the issue, and then take action to positively impact that issue.</p>	<p>Overview</p>
<ul style="list-style-type: none"> • Water covers about two-thirds of Earth’s surface. • Nearly all of the world’s water is contained in the salty oceans. • Most of Earth’s fresh water is stored underground and in glaciers and polar ice caps; a tiny fraction is in the air. • A small fraction of Earth’s fresh water is accessible by humans. • Earth’s water circulates around the water cycle through these processes: evaporation, condensation, precipitation, and percolation. 	<ul style="list-style-type: none"> • Since there is a limited supply of water on Earth, we should conserve and protect it. • We can conserve water by using less of it and by using it more efficiently. • We can protect water by preventing pollutants from entering the water cycle, and by cleaning water that has been polluted. • Pollutants are often difficult to remove from water. • Water pollution can harm living organisms and their habitats. 	<p>Science Content</p>
<ul style="list-style-type: none"> • Investigate water drops on various surfaces. • Study the Earth’s Water model, as well as clippings, photos, and maps depicting surface water. • Create and experiment with groundwater models using different earth layer materials. • Design and conduct additional evaporation and condensation experiments. • Continue to experiment with water cycle models by altering them slightly or setting them up in different locations. 	<ul style="list-style-type: none"> • Contribute to lists of ways to save water around the home and to promote water conservation in the community. • Assess the risk of non-toxic pollutants collected on the pollution walk. • Conduct further filtration investigations. • Read stories and look at photographs from the local media about conserving and protecting water or other water-related issues. 	<p>Science Center</p>
<ul style="list-style-type: none"> • Talk with family members to learn about their household water system. Observe rainfall at home: where water lands, flows, and collects. • Interview someone whose tap water comes from a well. 	<ul style="list-style-type: none"> • Calculate how much water they use to brush their teeth. • Calculate the rate of water flow for various household plumbing fixtures. • Define and think about water pollution. • Take a neighborhood pollution walk. 	<p>Family Links</p>
<ul style="list-style-type: none"> • Search their neighborhoods for various types of surface water. • Make a model to show how groundwater is drawn from an aquifer. • Learn about transpiration and present findings to the class. • Make a model to demonstrate how pollutants enter groundwater. • Design additional models of the water cycle with salt water or colored water. 	<ul style="list-style-type: none"> • Investigate agricultural and industrial sources of pollution to determine their impact on the water supply. • Learn more about the causes of floods and their impact. • Science Talk: If we live in an area of abundant water, should we still try to use less? Why or why not? 	<p>Further Science Explorations</p>
<p>Mathematics: Research the water make-up of humans, other animals, plants, fruits, and vegetables. Compare various tables, charts, and graphs depicting Earth’s water distribution and use the data to solve problems.</p> <p>Social Studies: Investigate topics related to the Earth’s polar regions.</p> <p>Language Arts: Read and write poems about clouds and precipitation. Read books about the water cycle.</p> <p>Art: Make papier-mâché models of Earth’s water and land. Illustrate cloud and precipitation poetry. Draw or make a collage to illustrate Earth’s water cycle.</p>	<p>Mathematics: Identify the median and mode for the class “Brushing Teeth” data. Calculate flow rate for their home’s fixtures and compare these to the values in the student reference book. Using water use estimates, determine how much water they use in a week. Tally various types of pollution on the pollution walk.</p> <p>Social Studies: Discuss how people in different parts of the world use different amounts of water. Conduct research about one of the case studies or a similar case study and present findings to the class.</p>	<p>Cross-Curricular Extensions</p>