

Use Water Wisely Module Standard Correlations: Grades 3-7

Next Generation Science Standards

Italics indicate connections between NGSS and Use Water Wisely Module.

Performance Expectation	Disciplinary Core Idea	Science and Engineering Practice	Crosscutting Concept
<p>5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.</p>	<p>ESS3.C: Human Impacts on Earth Systems</p> <ul style="list-style-type: none"> Human activities in agriculture, industry, and everyday life have had major effects on the land, vegetation, streams, ocean, air, and even outer space. But individuals and communities are doing things to help protect Earth's resources and environments. <p><i>Online Activity: Through the Use Water Wisely Activity students learn to identify practices that humans do that are harmful to the environment and resources and those that are less harmful.</i></p>	<p>Obtaining, Evaluating, and Communicating Information</p> <ul style="list-style-type: none"> Obtain and combine information from books and/or other reliable media to explain phenomena or solutions to a design problem. <p><i>Online Activity: Students use DiscoverWater.org as a source of information about human best management practices related to water use.</i></p>	<p>Systems and System Models</p> <ul style="list-style-type: none"> A system can be described in terms of its components and their interactions. <p><i>Online Activity: Students observe interactions between humans and their resources and environments.</i></p> <p>Connections to Nature of Science Science Addresses Questions About the Natural and Material World.</p> <ul style="list-style-type: none"> Science findings are limited to questions that can be answered with empirical evidence. <p><i>N/A</i></p>
<p>MS-ESS3-3. Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.*</p>	<p>ESS3.C: Human Impacts on Earth Systems</p> <ul style="list-style-type: none"> Human activities have significantly altered the biosphere, sometimes damaging or destroying natural habitats and causing the extinction of other species. But changes to Earth's environments can have different impacts (negative and positive) for different living things. 	<p>Constructing Explanations and Designing Solutions</p> <ul style="list-style-type: none"> Apply scientific principles to design an object, tool, process or system. <p><i>N/A</i></p>	<p>Cause and Effect</p> <ul style="list-style-type: none"> Relationships can be classified as causal or correlational, and correlation does not necessarily imply causation. <p><i>Online Activity: Students identify human activities (cause) which can impact the environment (effect) to a lesser or greater extent.</i></p>

	<p><i>Online Activity: Through the Use Water Wisely Activity students learn that human actions may help or harm the environment.</i></p> <ul style="list-style-type: none"> • Typically as human populations and per-capita consumption of natural resources increase, so do the negative impacts on Earth unless the activities and technologies involved are engineered otherwise. <p><i>Online text and video: Students learn that as Earth's population more humans, plants and animals share the same finite amount of water.</i></p>		<p>Connections to Engineering, Technology, and Applications of Science</p> <p>Influence of Science, Engineering, and Technology on Society and the Natural World</p> <ul style="list-style-type: none"> • The uses of technologies and any limitations on their use are driven by individual or societal needs, desires, and values; by the findings of scientific research; and by differences in such factors as climate, natural resources, and economic conditions. Thus technology use varies from region to region and over time. <p><i>N/A</i></p>
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Common Core ELA Standards

NONE

Ocean Literacy Standards

<p>(1) The Earth has one big ocean with many features</p>	<p>(f) The ocean is an integral part of the water cycle and is connected to all of the earth's water reservoirs via evaporation and precipitation processes.</p> <p>(g) The ocean is connected to major lakes, watersheds and waterways because all major watersheds on Earth drain to the ocean. Rivers and streams transport nutrients, salts, sediments and pollutants from watersheds to estuaries and to the ocean.</p> <p>(h) Although the ocean is large, it is finite and resources are limited.</p>
<p>(2) The ocean and life in the ocean shape the features of the Earth.</p>	<p>(c) Erosion – the wearing away of rock, soil and other biotic and abiotic earth materials – occurs in coastal areas as wind, waves, and currents in rivers and the ocean move sediments.</p> <p>(d) Sand consists of tiny bits of animals, plants, rocks and minerals. Most beach sand is eroded from land sources and carried to the coast by rivers, but sand is also eroded from coastal sources by surf. Sand is redistributed by waves and coastal currents seasonally.</p>
<p>(3) The ocean is a major influence on weather and climate.</p>	<p>(d) Most rain that falls on land originally evaporated from the tropical ocean.</p>
<p>(6) The ocean and humans are inextricably interconnected.</p>	<p>(a) The ocean affects every human life. It supplies freshwater (most rain comes from the ocean) and nearly all Earth's oxygen. It moderates the Earth's climate, influences our weather, and affects human health.</p> <p>(e) Humans affect the ocean in a variety of ways. Laws, regulations and resource management affect what is taken out and put into the ocean. Human development and activity leads to pollution (point source, non-point source, and noise pollution) and physical modifications (changes to beaches, shores and rivers). In addition, humans have removed most of the large vertebrates from the ocean.</p>

	(g) Everyone is responsible for caring for the ocean. The ocean sustains life on Earth and humans must live in ways that sustain the ocean. Individual and collective actions are needed to effectively manage ocean resources for all.
(7) The ocean is largely unexplored.	(c) Over the last 40 years, use of ocean resources has increased significantly, therefore the future sustainability of ocean resources depends on our understanding of those resources and their potential and limitations

Source: National Oceanic and Atmospheric Administration, et al. 2006. *Ocean Literacy: The Essential Principles of Ocean Sciences, K-12*. Washington, DC: NOAA.