

RCSD Environmental Science * Quick Reference Pacing Guide * 2024-2025

Environmental Science is a ½ credit course

This document serves as a suggested sequence for one semester of instruction/assessment for all Environmental Science standards.

For a complete description of the course, standards, and detailed performance objectives, see the [MS College and Career Readiness Standards for Science](#)

<u>1st Nine Weeks of the Semester</u>	<u>Second Nine Weeks of the Semester</u>
<p><i>Classroom Expectations</i> <i>Lab Safety; Tools of Science</i> <i>Science and Engineering Practices</i></p> <p><u>Biosphere and Biodiversity</u> <u>How do ecosystems work and how can understanding help us protect them?</u></p> <p>ENV.1 Students will investigate the interdependence of diverse organisms and their interactions with the components of the biosphere. <i>ENV.1.1 - Abiotic and biotic factors in major biomes.</i> <i>ENV.1.2 - Biological and physical changes that affect the populations and communities in biomes; how this may alter an ecosystem over time</i> <i>ENV.1.3 - Model the flow of energy through an ecosystem</i> <i>ENV.1.4 - Symbiotic relationships and co-evolutionary relationships</i> <i>ENV.1.5 - Model the flow of nitrogen, carbon, and phosphorus through the environment</i> <i>ENV.1.6 - Population density-dependent and density-independent limiting factors; compare a variety of population growth curves</i> <i>ENV.1.7 - Carrying capacity</i> <i>ENV.1.8 - Changes in a population caused by environmental factors such as weather patterns and natural disasters</i> <i>ENV.1.9 - Impacts of human activity on biodiversity and genetic variation of organisms</i></p> <p><u>Natural Resource Use and Conservation</u> <u>How can we balance human demand for natural resources and conservation of resources?</u></p> <p>ENV.2 Students will relate the impact of human activities on the environment, conservation activities, and efforts to maintain and restore ecosystems. <i>ENV.2.1 - Renewable and nonrenewable resources;</i> <i>ENV.2.2 - Pros and cons of traditional sources and alternative sources of energy.</i> <i>ENV.2.3 - Biodegradable and nonbiodegradable wastes and their significance in landfills</i> <i>ENV.2.5 - Research various resources related to water quality and pollution</i></p>	<p><i>ENV.2.4 - Examine solutions for developing, conserving, managing, recycling, and reusing energy and mineral resources to minimize impacts on natural systems</i></p> <p><u>Human Activities and Climate Change</u> <u>Why is recycling carbon important and how can we help reduce the negative impacts on the climate?</u></p> <p>ENV.3 Students will discuss the direct and indirect impacts of certain types of human activities on the Earth's climate. <i>ENV.3.1 - Model the cycling of carbon and how increases in carbon dioxide in the atmosphere can impact climate change.</i> <i>ENV.3.2 - Data and climate models to predict how global and regional climate change can affect Earth's systems</i> <i>ENV.3.3 - Satellite imagery and other resources to analyze changes in biomes over time; propose strategies to reduce the impact of human activities leading to these issues</i> <i>ENV.3.4 - Determine your own individual impact on the environment (carbon footprint, water usage, landfill contribution) and develop a plan to reduce personal contribution.</i></p> <p><u>Human Sustainability</u> <u>How does the health of the environment impact my health?</u></p> <p>ENV.4 Students will demonstrate an understanding of the interdependence of human sustainability and the environment. <i>ENV.4.1 - Human impacts on the atmosphere (e.g. acid rain, air pollution, ozone layer, greenhouse gasses) and how those pollutants impact human health (e.g. asthma, COPD, emphysema, cancer).</i> <i>ENV.4.2 - How key natural resources (e.g. water, soil, minerals, fossil fuels), natural hazards, and climate changes influence human activity (e.g. human migration, human health)</i> <i>ENV.4.3 - Case studies related to how environmental changes impact human health</i> <i>ENV.4.5 - Solutions for reducing or preventing human impact on a natural resource</i></p>

