

# Science: Environmental Science

UNIT/Weeks	Timeline/Topics	Essential Questions
4	<p><b><u>Introduction to Environmental Science</u></b></p> <ul style="list-style-type: none"> <li>• Science and the Environment</li> <li>• Tools of Environmental Science</li> <li>• The Dynamic Earth</li> <li>• Scientific Methods</li> <li>• Statistics and Models</li> <li>• Making Informed Decisions</li> <li>• The Geosphere</li> <li>• The Atmosphere</li> <li>• The Hydrosphere and Biosphere</li> </ul>	<ul style="list-style-type: none"> <li>• Do the benefits of the agriculture and industrial revolution outweigh the negative impact they have had on the environment?</li> <li>• Is sustainability an achievable reality?</li> <li>• How do scientists determine decisions regarding our environment?</li> <li>• What role do models and statistics play in environmental science?</li> <li>• What impacts our environment the most: politics, economics or technology?</li> <li>• What impact do Earth's natural processes have on our environment?</li> <li>• How do Earth's natural processes and human involvement interact to produce global warming?</li> <li>• How does the hydrosphere interact with the biosphere?</li> </ul>
6	<p><b><u>Ecology</u></b></p> <ul style="list-style-type: none"> <li>• The Organization of Life</li> <li>• How Ecosystems Work</li> <li>• Biomes</li> <li>• Aquatic Ecosystems</li> <li>• Energy Flow in Ecosystems</li> <li>• The Cycling of Materials</li> <li>• How Ecosystems Flow</li> <li>• What Is a Biome?</li> <li>• Forest Biomes</li> <li>• Grassland, Desert and Tundra Biomes</li> <li>• Freshwater Ecosystems</li> <li>• Marine Ecosystems</li> </ul>	<ul style="list-style-type: none"> <li>• How do the living and nonliving parts of an ecosystem interact?</li> <li>• How and why do organisms need to adapt?</li> <li>• Why is it important that organisms hold different niches within the environment?</li> <li>• How is energy cycled through the biosphere?</li> <li>• How do key nutrients cycle through the biosphere and what role do they play in it?</li> <li>• How do ecosystems change over time?</li> <li>• What determines where an organism can live?</li> <li>• What determines where an organism can live?</li> <li>• Could any life on Earth exist without oceans and estuaries?</li> </ul>
4	<p><b><u>Populations</u></b></p> <ul style="list-style-type: none"> <li>• Understanding Populations</li> <li>• The Human Population</li> <li>• Biodiversity</li> <li>• Studying Human Populations</li> <li>• Changing Population Trends</li> <li>• What Is Biodiversity?</li> <li>• Biodiversity at Work</li> <li>• The Future of Biodiversity</li> </ul>	<ul style="list-style-type: none"> <li>• Why do scientists study population growth?</li> <li>• How does an organism's habitat determine its niche?</li> <li>• How do organisms interact in their environment?</li> <li>• How do scientists study population growth?</li> <li>• How are population growth and sustainability related?</li> </ul>

		<ul style="list-style-type: none"> <li>• What role should humans play in limiting population growth?</li> <li>• What affects population growth?</li> <li>• What roles should humans play in maintaining biodiversity?</li> <li>• What causes threats on biodiversity and what can be done to prevent conserve it?</li> <li>• What role should society play in conserving biodiversity?</li> </ul>
10	<p><b><u>Water, Air, and Land</u></b></p> <ul style="list-style-type: none"> <li>• Water</li> <li>• Air</li> <li>• Atmospheres and Climate Change</li> <li>• Land</li> <li>• Food and Agriculture</li> <li>• What causes air pollution?</li> <li>• Air, Noise and Light Pollution</li> <li>• Acid Precipitation</li> <li>• Climate and Climate Change</li> <li>• The Ozone Shield</li> <li>• Global Warming</li> <li>• How We Use Land</li> <li>• Urban Land Use</li> <li>• Land Management and Conservation</li> <li>• Feeding The World</li> <li>• Crops and Soil</li> <li>• Animals and Agriculture</li> </ul>	<ul style="list-style-type: none"> <li>• How do humans rely on natural water resources for survival?</li> <li>• How do humans manipulate natural water resources to our advantage?</li> <li>• How is water pollution classified?</li> <li>• How can humans reduce our impact on water pollution?</li> <li>• How are the different types of air pollution created?</li> <li>• How are the different types of air pollution affecting the Earth?</li> <li>• How has the production of acid rain caused changes within the environment?</li> <li>• What determines weather and climatic regions of the world?</li> <li>• Why is the ozone so important to living organisms?</li> <li>• What is the cause in the changing climate?</li> <li>• Why is a temperature or climatic change important?</li> <li>• How Are Different Types of Land Used?</li> <li>• How Is Society Dealing with Land Usage?</li> <li>• Why Is It Important to Understand How Land Is Used?</li> </ul>
8	<p><b><u>Mining and Energy</u></b></p>	<ul style="list-style-type: none"> <li>• How are specific types of minerals formed?</li> </ul>

	<ul style="list-style-type: none"> <li>• Mining and Mineral Resources</li> <li>• Nonrenewable Energy Resources</li> <li>• Renewable Energy Resources</li> <li>• Waste</li> <li>• Energy Resources and Fossil Fuels</li> <li>• Nuclear Energy</li> <li>• Renewable Energy Today</li> <li>• Alternate Energy and Conservation</li> <li>• Solid Waste</li> <li>• Reducing Solid Waste</li> <li>• Hazardous Waste</li> </ul>	<ul style="list-style-type: none"> <li>• What are the many ways in which minerals are recovered from the Earth?</li> <li>• How has mining regulations created by the government helped in conserving the environment?</li> <li>• How are fuels created, used and consumed within the United States?</li> <li>• What is nuclear energy?</li> <li>• How does the use of nuclear energy compare to the use of fossil fuels?</li> <li>• What are the several forms of renewable energy?</li> <li>• How does renewable energy work within different types of nations?</li> <li>• How can alternative energy resources be used?</li> <li>• How has the original purpose of a landfill created environmental problems now?</li> <li>• How can one as a person help in reducing waste products?</li> <li>• What has recycling and composting done to waste production?</li> <li>• Why is so important to identify hazardous waste and ensure its disposal?</li> </ul>
<p style="text-align: center;">6</p>	<p><b><u>Health and Environment</u></b></p> <ul style="list-style-type: none"> <li>• The Environment and Human Health</li> <li>• Economics, Policy and Future</li> <li>• Pollution and Human Health</li> <li>• Biological Hazards</li> <li>• Economics and International Cooperation</li> <li>• Environmental Policies in the United States</li> <li>• The Importance of the Individual</li> </ul>	<ul style="list-style-type: none"> <li>• How has medical technology helped in the areas of pollution and human health?</li> <li>• How have biological hazards caused a spread in old and new diseases?</li> <li>• How has international cooperation on the environment impacted economics?</li> <li>• How has the past contributed to the different forms of government dealing with the environment?</li> <li>• How can individual and media presence affect governmental policies.</li> <li>• Who are some of the people who influenced environmental history?</li> <li>• How can we learn to better ourselves to produce a better environment?</li> </ul>