



**Environmental Science
Year at a Glance (YAG)
2023-2024**



| First Semester | | Second Semester | |
|---|---|--|---|
| 1 st Nine Weeks | | 3 rd Nine Weeks | |
| <p>TEKS E.1A , E.2K , E.3B , E.3D , E.3E , E.3F , E.4A , E.4B , E.5E , E.9E</p> <p>E.1A , E.1B , E.2A E.2B , E.2E , E.2F , E.2G , E.2H , E.2I , E.2K , E.3B , E.4C , E.4D , E.5E , E.6A , E.6C , E.6D , E.6E</p> | <p>Unit 01: Ecosystem Dynamics</p> <p>Students understand the nature of environmental science and begin investigating the role of native plants and animals within both local ecosystems and across a variety of biomes.</p> <p>Unit 02: Modeling Earth's Systems</p> <p>Students study the interrelationship between abiotic cycles and interactions among Earth's systems. Students diagram abiotic cycles (including the rock, hydrologic, carbon, and nitrogen cycles). Furthermore, students explain the flow of energy in an ecosystem (including conduction, convection, and radiation) as well as investigate and explain the effects of energy transformations.</p> | <p>TEKS E.1A , E.1B , E.2A , E.2B , E.2C E.2D , E.2F , E.2G E.2J , E.2K , E.3A E.3B , E.3D , E.4F E.4G , E.4H , E.7A , E.7B , E.7C E.7D</p> <p>E.1A , E.1B , E.2G , E.2K , E.3A , E.3B , E.4E E.8A , E.8B , E.8C E.8D , E.8E , E.9A E.9B , E.9C , E.9D E.9H</p> | <p>Unit 04: Population Dynamics</p> <p>Students investigate factors impacting populations. Students research and explain the causes of species diversity and predict changes that may occur in an ecosystem if species and genetic diversity is increased or reduced. Additionally, students relate carrying capacity to population dynamics and calculate birth rates and exponential growth of populations.</p> <p>Unit 05: Environmental Impact</p> <p>Students examine how natural processes such as succession and feedback loops restore habitats and ecosystems and analyze and describe the effects on areas impacted by natural events such as tectonic movement, volcanic events, fires, tornadoes, hurricanes, flooding, tsunamis, and population growth. They describe how temperature inversions impact weather conditions, including El Niño and La Niña oscillations, and analyze the impact of temperature inversions on global warming, ice cap and glacial melting, and changes in ocean currents and surface temperatures. Additionally, students identify causes of air, soil, and water pollution, including point and nonpoint sources, and investigate the types of air, soil, and water pollution such as chlorofluorocarbons, carbon dioxide, pH, pesticide runoff, thermal variations, metallic ions, heavy metals, and nuclear waste. Students examine the concentrations of air, soil, and water pollutants using appropriate units; measure the concentration of solute, solvent, and solubility of dissolved substances such as dissolved oxygen, chlorides, and nitrates; and describe their impact on an ecosystem.</p> |
| 2 nd Nine Weeks | | 4 th Nine Weeks | |
| <p>TEKS E.1A , E.1B , E.2F , E.2G , E.2H , E.2I , E.2K , E.3C , E.5A , E.5B , E.5C , E.5D , E.5E , E.5F , E.6B , E.9E , E.9F , E.9I</p> <p>E.1A , E.1B , E.2A E.2B , E.2C , E.2D , E.2F , E.2G , E.2J , E.2K , E.3A , E.3B , E.3D , E.4F , E.4G , E.4H , E.7A , E.7B , E.7C , E.7D</p> | <p>Unit 03: Managing Resources</p> <p>Students focus on land use and management. Students identify source, use, quality, management, and conservation of water; document the use and conservation of both renewable and non-renewable resources as they pertain to sustainability; and identify renewable and non-renewable resources that must come from outside an ecosystem. Students also evaluate the impact of waste management methods such as reduction, reuse, recycling, and composting on resource availability.</p> <p>Unit 04: Population Dynamics</p> <p>Students investigate factors impacting populations. Students research and explain the causes of species diversity and predict changes that may occur in an ecosystem if species and genetic diversity is increased or reduced. Additionally, students relate carrying capacity to population dynamics and calculate birth rates and exponential growth of populations.</p> | <p>TEKS E.1A , E.1B , E.2G , E.2K , E.3A , E.3B , E.4E E.8A , E.8B , E.8C E.8D , E.8E , E.9A E.9B , E.9C , E.9D E.9H</p> <p>E.2A , E.2B , E.2C E.2G , E.2H , E.2K , E.3A , E.3B , E.3C , E.3D E.3E , E.3F , E.9G E.9I , E.9J , E.9K , E.9L</p> | <p>Unit 05: Environmental Impact (Cont.)</p> <p>Students examine the concentrations of air, soil, and water pollutants using appropriate units; measure the concentration of solute, solvent, and solubility of dissolved substances such as dissolved oxygen, chlorides, and nitrates; and describe their impact on an ecosystem. Furthermore, students analyze and evaluate different views on the existence of global warming and describe the effect of pollution on global warming, glacial and ice cap melting, greenhouse effect, ozone layer, and aquatic viability. They explain how regional changes in the environment may have a global effect.</p> <p>Unit 06: Environmental Ethics, Research, and Law</p> <p>Students gain an understanding of processes in place to address or respond to environmental issues. Students are challenged to use information from this course to evaluate opposing views and analyze advantages and disadvantages of past and current solutions to environmental problems.</p> |