

Course Overview	The AP Environmental Science course is designed to engage students with the scientific principles, concepts, and methodologies required to understand the interrelationships within the natural world. The course requires that students identify and analyze natural and human-made environmental problems, evaluate the relative risks associated with these problems, and examine alternative solutions for resolving or preventing them. Environmental science is interdisciplinary, embracing topics from geology, biology, environmental studies, environmental science, chemistry, and geography.
Course Standards	AP Environmental Science Course and Exam Description (CED) (Pages 20-23)
Instructional Materials	<p>The district AP Environmental Science curriculum follows the CED sequencing except for a few significant changes:</p> <ul style="list-style-type: none"> Standards related to sustainability from Unit 05 are moved to Unit 01 so that students view the entire course through the lens of sustainability Standard from Unit 03 related to species of flora and fauna are included in IDEA Unit 02 because there are many connections between species populations and biodiversity Standards from CED Unit 05 related to food production are combined with standards from CED Unit 03 related to human populations to examine the connections between human populations and agriculture <p>College Board AP Classroom is embedded in the core curriculum as a resource for practice questions and video explanations. Educational technology such as PhET simulations are included as an alternatives to hands-on lab activities. Classroom set of approved textbooks are encouraged as a supplemental resource, Environmental Science for the AP® Course, 4th Edition</p>

Scope & Sequence

Units & Instructional Days	Assessments & Scanning Deadlines	Standards
Unit 01: Ecosystems 16 days	TX_SCI_APEnvironmental_Science_F26_UE1 Scanning Deadline: September 24, 2026	1.1 Introduction to Ecosystems ERT-1.A Explain how the availability of resources influences species interactions. 1.2 Terrestrial Biomes ERT-1.B Describe the global distribution and principal environmental aspects of terrestrial biomes. 1.3 Aquatic Biomes ERT-1.C Describe the global distribution and principal environmental aspects of aquatic biomes. 1.4 The Carbon Cycle ERT-1.D Explain the steps and reservoir interactions in the carbon cycle. 1.5 The Nitrogen Cycle ERT-1.E Explain the steps and reservoir interactions in the nitrogen cycle. 1.6 The Phosphorus Cycle ERT-1.F Explain the steps and reservoir interactions in the phosphorus cycle. 1.7 The Water (Hydrologic) Cycle ERT-1.G Explain the steps and reservoir interactions in the hydrologic cycle. 1.8 Primary Productivity ENG-1.A Explain how solar energy is acquired and transferred by living organisms.

		<p>1.9 Trophic Levels ENG-1.B Explain how energy flows and matter cycles through trophic levels</p> <p>1.10 Energy Flow and the 10% Rule ENG-1.C Determine how the energy decreases as it flows through ecosystems.</p> <p>1.11 Food Chains and Food Webs ENG-1.D Describe food chains and food webs, and their constituent members by trophic level.</p> <p>5.1 Tragedy of the Commons EIN-2.A Explain the concept of the tragedy of the commons.</p> <p>5.11 Ecological Footprints</p> <p>5.12 Introduction to Sustainability STB-1.A Explain the concept of sustainability.</p>
<p>Unit 02: Biodiversity 16 Days</p>	<p>TX_SCI_APEnvironmental_Science_F26_UE2</p> <p>Scanning Deadline: October 15, 2026</p>	<p>2.1 Introduction to Biodiversity ERT-2.A Explain levels of biodiversity and their importance to ecosystems.</p> <p>2.2 Ecosystem Services ERT-2.B Describe ecosystem services. ERT-2.C Describe the results of human disruptions to ecosystem services</p> <p>2.3 Island Biogeography ERT-2.D Describe island biogeography. ERT-2.E Describe the role of island biogeography in evolution.</p> <p>2.4 Ecological Tolerance ERT-2.F Describe ecological tolerance.</p> <p>2.5 Natural Disruptions to Ecosystems ERT-2.G Explain how natural disruptions, both short and long-term, impact an ecosystem.</p> <p>2.6 Adaptations ERT-2.H Explain how populations respond to changes in their environment.</p> <p>2.7 Ecological Succession ERT-2.I Describe ecological succession. ERT-2.J Describe the effect of ecological succession on ecosystems.</p> <p>3.1 Generalist and Specialist Species ERT-3.A Identify differences between generalist and specialist species.</p> <p>3.2 K-Selected and r-Selected Species ERT-3.B Identify differences between K- and r-selected species</p> <p>3.3 Survivorship Curves ERT-3.C Explain survivorship curves</p> <p>3.4 Carrying Capacity ERT-3.D Describe carrying capacity. ERT-3.E Describe the impact of carrying capacity on ecosystems.</p> <p>3.5 Population Growth and Resource Availability ERT-3.F Explain how resource availability affects population growth.</p>
<p>Unit 04: Earth Systems & Resources 12 Days</p>	<p>TX_SCI_APEnvironmental_Science_F26_UE4</p> <p>Scanning Deadline: November 05, 2026</p>	<p>4.1 Plate Tectonics ERT-4.A Describe the geological changes and events that occur at convergent, divergent, and transform plate boundaries.</p> <p>4.2 Soil Formation and Erosion ERT-4.B Describe the characteristics and formation of soil.</p> <p>4.3 Soil Composition and Properties ERT-4.C Describe similarities and differences between properties of different soil types.</p> <p>4.4 Earth's Atmosphere ERT-4.D Describe the structure and composition of the Earth's atmosphere.</p> <p>4.5 Global Wind Patterns ERT-4.E Explain how environmental factors can result in atmospheric circulation.</p>

		<p>4.6 Watersheds ERT-4.F Describe the characteristics of a watershed.</p> <p>4.7 Solar Radiation and Earth's Seasons ENG-2.A Explain how the sun's energy affects the Earth's surface</p> <p>4.8 Earth's Geography and Climate ENG-2.B Describe how the Earth's geography affects weather and climate.</p> <p>4.9 El Niño and La Niña ENG-2.C Describe the environmental changes and effects that result from El Niño or La Niña events (El Niño–Southern Oscillation).</p>
<p>Unit 03: Human Populations & Agriculture 15-16 Days</p>	<p>TX_SCI_APEnvironmental_Science_F26_UE3</p> <p>Scanning Deadline: November 19, 2026</p>	<p>3.6 Age Structure Diagrams EIN-1.A Explain age structure diagrams.</p> <p>3.7 Total Fertility Rate EIN-1.B Explain factors that affect total fertility rate in human populations.</p> <p>3.8 Human Population Dynamics EIN-1.C Explain how human populations experience growth and decline.</p> <p>3.9 Demographic Transition EIN-1.D Define the demographic transition.</p> <p>5.3 Green Revolution EIN-2.C Describe changes in agricultural practices.</p> <p>5.4 Impact of Agricultural Practices EIN-2.D Describe agricultural practices that cause environmental damage.</p> <p>5.5 Irrigation Methods EIN-2.E Describe the different methods of irrigation. EIN-2.F Describe the benefits and drawbacks of different methods of irrigation.</p> <p>5.6 Pest Control Methods EIN-2.G Describe the benefits and drawbacks of different methods of pest control.</p> <p>5.7 Meat Production Methods EIN-2.H Identify different methods of meat production. EIN-2.I Describe the benefits and drawbacks of different methods of meat production.</p> <p>5.8 Impacts of Overfishing EIN-2.J Describe causes of and problems related to overfishing.</p> <p>5.12 Introduction to Sustainability STB-1.A Explain the concept of sustainability.</p> <p>5.14 Integrated Pest Management STB-1.C Describe integrated pest management. STB-1.D Describe the benefits and drawbacks of integrated pest management (IPM).</p> <p>5.15 Sustainable Agriculture STB-1.E Describe sustainable agricultural and food production practices.</p> <p>5.16 Aquaculture STB-1.F Describe the benefits and drawbacks of aquaculture</p>
<p>Unit 05: Land & Water Use 6 Days</p>	<p>No Exam</p>	<p>5.2 Clearcutting EIN-2.B Describe the effect of clearcutting on forests.</p> <p>5.9 Impacts of Mining EIN-2.K Describe natural resource extraction through mining. EIN-2.L Describe ecological and economic impacts of natural resource extraction through mining.</p> <p>5.10 Impacts of Urbanization EIN-2.M Describe the effects of urbanization on the environment.</p> <p>5.13 Methods to Reduce Urban Runoff STB-1.B Describe methods for mitigating problems related to urban runoff.</p> <p>5.17 Sustainable Forestry</p>

		STB-1.G Describe methods for mitigating human impact on forests.
Semester Exam Window: December 07 - 28, 2026 Scanning Deadline: January 08, 2027		
Unit 06: Energy Resources 15 Days This unit should be started before the Winter Break & Semester Exam to provide more time for Success Days in the Spring Semester.	TX_SCI_APEnvironmental_Science_S27_UE6 Scanning Deadline: January 28, 2027	6.1 Renewable and Nonrenewable Resources ENG-3.A Identify differences between nonrenewable and renewable energy sources. 6.2 Global Energy Consumption ENG-3.B Describe trends in energy consumption. 6.3 Fuel Types and Uses ENG-3.C Identify types of fuels and their uses. 6.4 Distribution of Natural Energy Resources ENG-3.D Identify where natural energy resources occur. 6.5 Fossil Fuels ENG-3.E Describe the use and methods of fossil fuels in power generation. ENG-3.F Describe the effects of fossil fuels on the environment. 6.6 Nuclear Power ENG-3.G Describe the use of nuclear energy in power generation. ENG-3.H Describe the effects of the use of nuclear energy on the environment. 6.7 Energy from Biomass ENG-3.I Describe the effects of the use of biomass in power generation on the environment. 6.8 Solar Energy ENG-3.J Describe the use of solar energy in power generation. ENG-3.K Describe the effects of the use of solar energy in power generation on the environment. 6.9 Hydroelectric Power ENG-3.L Describe the use of hydroelectricity in power generation. ENG-3.M Describe the effects of the use of hydroelectricity in power generation on the environment. 6.10 Geothermal Energy ENG-3.N Describe the use of geothermal energy in power generation. ENG-3.O Describe the effects of the use of geothermal energy in power generation on the environment. 6.11 Hydrogen Fuel Cell ENG-3.P Describe the use of hydrogen fuel cells in power generation. ENG-3.Q Describe the effects of the use of hydrogen fuel cells in power generation on the environment. 6.12 Wind Energy ENG-3.R Describe the use of wind energy in power generation. ENG-3.S Describe the effects of the use of wind energy in power generation on the environment. 6.13 Energy Conservation ENG-3.T Describe methods for conserving energy.
Unit 07: Atmospheric Pollution 13 Days	TX_SCI_APEnvironmental_Science_S27_UE7 Scanning Deadline: February 11, 2027	7.1 Introduction to Air Pollution STB-2.A Identify the sources and effects of air pollutants. 7.2 Photochemical Smog STB-2.B Explain the causes and effects of photochemical smog and methods to reduce it. 7.3 Thermal Inversion STB-2.C Describe thermal inversion and its relationship with pollution. 7.4 Atmospheric CO2 and Particulates STB-2.D Describe natural sources of CO2 and particulates. 7.5 Indoor Air Pollutants STB-2.E Identify indoor air pollutants. STB-2.F Describe the effects of indoor air pollutants. 7.6 Reduction of Air Pollutants

		<p>STB-2.G Explain how air pollutants can be reduced at the source.</p> <p>7.7 Acid Precipitation STB-2.H Describe acid deposition. STB-2.I Describe the effects of acid deposition on the environment.</p> <p>7.8 Noise Pollution STB-2.J Describe human activities that result in noise pollution and its effects.</p>
<p>Unit 08: Terrestrial & Aquatic Pollution 21 Days</p>	<p>TX_SCI_APEnvironmental_S27_UE8</p> <p>Scanning Deadline: March 25, 2027</p>	<p>8.1 Sources of Pollution STB-3.A Identify differences between point and nonpoint sources of pollution.</p> <p>8.2 Human Impacts on Ecosystems STB-3.B Describe the impacts of human activities on aquatic ecosystems.</p> <p>8.3 Endocrine Disruptors STB-3.C Describe endocrine disruptors. STB-3.D Describe the effects of endocrine disruptors on ecosystems.</p> <p>8.4 Human Impacts on Wetlands and Mangroves STB-3.E Describe the impacts of human activity on wetlands and mangroves.</p> <p>8.5 Eutrophication STB-3.F Explain the environmental effects of excessive use of fertilizers and detergents on aquatic ecosystems.</p> <p>8.6 Thermal Pollution STB-3.G Describe the effects of thermal pollution on aquatic ecosystems</p> <p>8.7 Persistent Organic Pollutants (POPs) STB-3.H Describe the effect of persistent organic pollutants (POPs) on ecosystems.</p> <p>8.8 Bioaccumulation and Biomagnification STB-3.I Describe bioaccumulation and biomagnification. STB-3.J Describe the effects of bioaccumulation and biomagnification.</p> <p>8.9 Solid Waste Disposal STB-3.K Describe solid waste disposal methods. STB-3.L Describe the effects of solid waste disposal methods.</p> <p>8.10 Waste Reduction Methods STB-3.M Describe changes to current practices that could reduce the amount of generated waste and their associated benefits and drawbacks.</p> <p>8.11 Sewage Treatment STB-3.N Describe best practices in sewage treatment.</p> <p>8.12 Lethal Dose 50% (LD50) EIN-3.A Define lethal dose 50% (LD50).</p> <p>8.13 Dose Response Curve EIN-3.B Evaluate dose response curves.</p> <p>8.14 Pollution and Human Health EIN-3.C Identify sources of human health issues that are linked to pollution.</p> <p>8.15 Pathogens and Infectious Diseases EIN-3.D Explain human pathogens and their cycling through the environment.</p>
<p>Mock Exam Window: March 22- April 02, 2027 Scanning Deadline: April 08, 2027</p>		
<p>Unit 09: Global Change 16 Days</p>	<p>TX_SCI_APEnvironmental_S27_UE9</p> <p>Scanning Deadline: April 22, 2027</p>	<p>9.1 Stratospheric Ozone STB- 4.A Explain the importance of stratospheric ozone to life on Earth.</p> <p>9.2 Reducing Ozone Depletion STB-4.B Describe chemicals used to substitute for chlorofluorocarbons (CFCs).</p> <p>9.3 The Greenhouse Effect STB-4.C Identify the greenhouse gases.</p>

		<p>STB-4.D Identify the sources and potency of the greenhouse gases.</p> <p>9.4 Increases in the Greenhouse Gases STB-4.E Identify the threats to human health and the environment posed by an increase in greenhouse gases.</p> <p>9.5 Global Climate Change STB-4.F Explain how changes in climate, both short- and long-term, impact ecosystems.</p> <p>9.6 Ocean Warming STB-4.G Explain the causes and effects of ocean warming.</p> <p>9.7 Ocean Acidification STB-4.H Explain the causes and effects of ocean acidification.</p> <p>9.8 Invasive Species EIN-4.A Explain the environmental problems associated with invasive species and strategies to control them.</p> <p>9.9 Endangered Species EIN-4.B Explain how species become endangered and strategies to combat the problem.</p> <p>9.10 Human Impacts on Biodiversity EIN-4.C Explain how human activities affect biodiversity and strategies to combat the problem.</p>
Success Unit: AP Exam Review 5-10 days	N/A	
AP Environmental Science Exam: May TBD, 2027		
Extra enrichment activities 5-10 Days	N/A	

College Board AP Alignment

Instruction in this course is aligned to the Texas Essential Knowledge and Skills (TEKS) as adopted by the State Board of Education and implemented in accordance with Texas Education Code Chapter 28.

Instructional Materials

Optional Primary Text – [Environmental Science for the AP Course, Friedland & Relyea](#)

Supplemental instructional materials may be used to support instruction. Supplemental materials do not replace board-approved core instructional materials.

Additional information regarding instructional programs, assessments, and parent access to instructional materials is available on the district website.

Instructional Expectations

Instruction is delivered using board-approved instructional materials and aligned to the scope and sequence outlined above. Teachers are expected to ensure all required standards are taught within the course timeframe.

Assessment Overview

Student learning is monitored through formative and summative assessments aligned to course standards. Assessment results are used to inform instruction and student supports. Students participate in required College Board testing in May 2027 as applicable.