

Course at a Glance

Plan

The Course at a Glance provides a useful visual organization of the AP Environmental Science curricular components, including:

- Sequence of units, along with approximate weighting and suggested pacing. Please note, pacing is based on 45-minute class periods, meeting five days each week for a full academic year.
- Progression of topics within each unit.
- Spiraling of the big ideas and science practices across units.

Teach

SCIENCE PRACTICES

Science practices spiral throughout the course.

1 Concept Explanation	5 Data Analysis
2 Visual Representations	6 Mathematical Routines
3 Text Analysis	7 Environmental Solutions
4 Scientific Experiments	

BIG IDEAS

Big ideas spiral across topics and units.

ENG Energy Transfer	EIN Interactions Between Different Species and the Environment
ERT Interactions Between Earth Systems	
	STB Sustainability

Assess

Assign the Personal Progress Checks—either as homework or in class—for each unit. Each Personal Progress Check contains formative multiple-choice and free-response questions. The feedback from the Personal Progress Checks shows students the areas where they need to focus.

UNIT
1

The Living World: Ecosystems

~14-15 Class Periods

6-8% AP Exam Weighting

ERT	1.1	Introduction to Ecosystems
1		
ERT	1.2	Terrestrial Biomes
1		
ERT	1.3	Aquatic Biomes
1		
ERT	1.4	The Carbon Cycle
2		
ERT	1.5	The Nitrogen Cycle
2		
ERT	1.6	The Phosphorus Cycle
2		
ERT	1.7	The Hydrologic (Water) Cycle
2		
ENG	1.8	Primary Productivity
1		
ENG	1.9	Trophic Levels
1		
ENG	1.10	Energy Flow and the 10% Rule
6		
ENG	1.11	Food Chains and Food Webs
2		

Personal Progress Check 1

- Multiple-choice: ~30 questions
- Free-response: 1 question (partial)
 - ◆ Analyze an environmental problem and propose a solution

UNIT
2

The Living World: Biodiversity

~11-12 Class Periods

6-8% AP Exam Weighting

ERT	2.1	Introduction to Biodiversity
1		
ERT	2.2	Ecosystem Services
1		
ERT	2.3	Island Biogeography
1		
ERT	2.4	Ecological Tolerance
3		
ERT	2.5	Natural Disruptions to Ecosystems
5		
ERT	2.6	Adaptations
5		
ERT	2.7	Ecological Succession
5		

Personal Progress Check 2

- Multiple-choice: ~20 questions
- Free-response: 1 question (partial)
 - ◆ Design an investigation

Note: Partial versions of the free-response questions are provided to prepare students for more complex, full questions that they will encounter on the AP Exam.

UNIT 3

Populations

~12-13 Class Periods 10-15% AP Exam Weighting

ERT 1	3.1 Generalist and Specialist Species
ERT 5	3.2 K-Selected r-Selected Species
ERT 5	3.3 Survivorship Curves
ERT 5	3.4 Carrying Capacity
ERT 6	3.5 Population Growth and Resource Availability
EIN 5	3.6 Age Structure Diagrams
EIN 5	3.7 Total Fertility Rate
EIN 7	3.8 Human Population Dynamics
EIN 1	3.9 Demographic Transition

Personal Progress Check 3

- Multiple-choice: ~20 questions
- Free-response: 1 question (partial)
 - ◆ Analyze an environmental problem and propose a solution doing calculations

UNIT 4

Earth Systems and Resources

~11-12 Class Periods 10-15% AP Exam Weighting

ERT 2	4.1 Plate Tectonics
ERT 4	4.2 Soil Formation and Erosion
ERT 4	4.3 Soil Composition and Properties
ERT 2	4.4 Earth's Atmosphere
ERT 2	4.5 Global Wind Patterns
ERT 1	4.6 Watersheds
ENG 2	4.7 Solar Radiation and Earth's Seasons
ENG 2	4.8 Earth's Geography and Climate
ENG 7	4.9 El Niño and La Niña

Personal Progress Check 4

- Multiple-choice: ~25 questions
- Free-response: 1 question
 - ◆ Design an investigation

UNIT 5

Land and Water Use

~18-19 Class Periods 10-15% AP Exam Weighting

EIN 1	5.1 The Tragedy of the Commons
EIN 1	5.2 Clearcutting
EIN 3	5.3 The Green Revolution
EIN 1	5.4 Impacts of Agricultural Practices
EIN 7	5.5 Irrigation Methods
EIN 7	5.6 Pest Control Methods
EIN 5	5.7 Meat Production Methods
EIN 7	5.8 Impacts of Overfishing
EIN 7	5.9 Impacts of Mining
EIN 7	5.10 Impacts of Urbanization
EIN 5	5.11 Ecological Footprints
STB 5	5.12 Introduction to Sustainability
STB 4	5.13 Methods to Reduce Urban Runoff
STB 7	5.14 Integrated Pest Management
STB 7	5.15 Sustainable Agriculture
STB 7	5.16 Aquaculture
STB 7	5.17 Sustainable Forestry

Personal Progress Check 5

- Multiple-choice: ~35 questions
- Free-response: 1 question
 - ◆ Analyze an environmental problem and propose a solution

UNIT 6

Energy Resources and Consumption

~16-17 Class Periods | 10-15% AP Exam Weighting

ENG 1	6.1 Renewable and Nonrenewable Resources
ENG 6	6.2 Global Energy Consumption
ENG 1	6.3 Fuel Types and Uses
ENG 2	6.4 Distribution of Natural Energy Resources
ENG 7	6.5 Fossil Fuels
ENG 2	6.6 Nuclear Power
ENG 7	6.7 Energy from Biomass
ENG 5	6.8 Solar Energy
ENG 7	6.9 Hydroelectric Power
ENG 1	6.10 Geothermal Energy
ENG 1	6.11 Hydrogen Fuel Cell
ENG 7	6.12 Wind Energy
ENG 6	6.13 Energy Conservation

Personal Progress Check 6

- Multiple-choice: ~35 questions
- Free-response: 1 question
 - Analyze an environmental problem and propose a solution doing calculations

UNIT 7

Atmospheric Pollution

~11-12 Class Periods | 7-10% AP Exam Weighting

STB 4	7.1 Introduction to Air Pollution
STB 5	7.2 Photochemical Smog
STB 2	7.3 Thermal Inversion
STB 4	7.4 Atmospheric CO ₂ and Particulates
STB 5	7.5 Indoor Air Pollutants
STB 7	7.6 Reduction of Air Pollutants
STB 4	7.7 Acid Rain
STB 3	7.8 Noise Pollution

Personal Progress Check 7

- Multiple-choice: ~20 questions
- Free-response: 1 question
 - Design an investigation

UNIT 8

Aquatic and Terrestrial Pollution

~19-20 Class Periods | 7-10% AP Exam Weighting

STB 1	8.1 Sources of Pollution
STB 6	8.2 Human Impacts on Ecosystems
STB 1	8.3 Endocrine Disruptors
STB 7	8.4 Human Impacts on Wetlands and Mangroves
STB 2	8.5 Eutrophication
STB 1	8.6 Thermal Pollution
STB 1	8.7 Persistent Organic Pollutants (POPs)
STB 4	8.8 Bioaccumulation and Biomagnification
STB 7	8.9 Solid Waste Disposal
STB 6	8.10 Waste Reduction Methods
STB 2	8.11 Sewage Treatment
EIN 6	8.12 Lethal Dose 50% (LD ₅₀)
EIN 5	8.13 Dose Response Curve
EIN 4	8.14 Pollution and Human Health
EIN 2	8.15 Pathogens and Infectious Diseases

Personal Progress Check 8

- Multiple-choice: ~35 questions
- Free-response: 1 question
 - Analyze an environmental problem and propose a solution doing calculations

UNIT
9**Global Change****~19–20** Class
Periods**15–20%** AP Exam
Weighting

STB 1	9.1 Stratospheric Ozone Depletion
STB 7	9.2 Reducing Ozone Depletion
STB 1	9.3 The Greenhouse Effect
STB 2	9.4 Increases in the Greenhouse Gases
STB 5	9.5 Global Climate Change
STB 7	9.6 Ocean Warming
STB 1	9.7 Ocean Acidification
EIN 7	9.8 Invasive Species
EIN 7	9.9 Endangered Species
EIN 7	9.10 Human Impacts on Biodiversity

Personal Progress Check 9

- **Multiple-choice:** ~25 questions
- **Free-response:** 1 question
 - ♦ Analyze an environmental problem and propose a solution