

## Pacing Guide for AP Environmental Science Spring 2025

**Online/Home Assignments: AP College Board-videos and questions/be prepared for pop quizzes**

### **Week 1.** 1/6/25-1/10/25 Unit 1. Introduction to Ecosystems

1/6/25: 1.1 Predator -Prey Relationships/Practice final exam in-class test

1/7/25: 1.2, 1.3 Terrestrial and Aquatic Biomes

1/8/25: 1.4-1.7 Biogeochemical Cycles (C, N, P, and Hydrological)

1/9/25: 1.8 Primary Productivity and in-class lab

1/10/25: 1.9 Trophic Levels

### **Week 2.** 1/13-17/25 Unit 1 and Unit 2: The Living World-Biodiversity

1/13/25: 1.10 Energy Flow and 1% Rule; 1.11 Food chains and food webs-turn in productivity lab

1/14/25: Review unit 1 vocabulary, concepts, and skills; Progress check 1

1/15/25: **Unit 1 TEST**; Unit 2 2.1 Introduction to Biodiversity

1/16/25: 2.2 Ecosystem Services

1/17/25: 2.3 Island Biogeography; 2.4 Ecological tolerance

### **Week 3.** 1/20-24/25 Unit 2 continued

1/20 MLK holiday - no school

1/21/25: 2.5 Natural disruptions to ecosystems (lab) climate change through geologic time

1/22/25: 2.6 Adaptations; 2.7 Ecological Succession

1/23/25: Review Unit 2; Progress Check 2

1/24/25: **Unit 2 TEST**; Unit 3 Population 3.1 Generalist and Specialists; 3.2 K and r selected species

### **Week 4: 1/27-31/25**

1/27/25: 3.3 Survivorship Curve; 3.4 Carrying capacity; in-class lab

1/28/25: 3.5 Population Growth and resource availability

1/29/25: 3.6 Age structure diagrams

1/30/25: 3.7 Total Fertility Rates

1/31/24: 3.8-3.9 Human Population Dynamics; Demographic Transition in-class lab

### **Week 5: 2/3-2/7/25**

2/3/25: 3.8-3.9 complete lab

2/4/25: Review Unit 3/Progress Check 3

2/5/25: **Unit 3 TEST**; Unit 4 Earth's Systems and Resources 4.1 Plate Tectonics lab

2/6/25: 4.2 Soil Formation and Erosion; 4.3 Soil composition and properties labs

2/7/25: 4.4 Earth's Atmosphere; 4.5 Global wind patterns

### **Week 6: 2/10-14/25**

2/10/25: 4.6 Watersheds lab (fieldtrip?)

2/11/25: 4.7 Solar Radiation and Earth's Seasons; 4.8 Earth's Geography and climate change lab

2/12/25: 4.9 El Nino; La Nina/ Review Unit 4 Progress Check 4

2/13/25: **Unit 4 TEST**; Unit 5 Land and Water Use - 5.1 Tragedy of the Commons

2/14/25: Lab: Tragedy of the Commons

**Week 7: 2/17-21/25**

2/17/25: 5.2 Clear-cutting

2/18/25 5.3 The Green Revolution

2/19/25: 5.4 Human Impact of Agricultural Practices; 5.5 Irrigation Methods

2/20/25: 5.6 Pest control Methods

2/21/25: 5.7 Meat Production Methods

**Week 8: 2/24-28/25**

2/24/25: 5.8 Impacts of Overfishing

2/25/25: 5.9 Impacts of Mining / field trip

2/26/25: 5.10 Impacts of Urbanization/ 5.11 Ecological footprint

2/27/25: 5.12 Introduction to Sustainability

2/28/25: 5.13 Methods to reduce urban runoff

**Week 9: 3/3-7/25**

3/3/25 5.14 Integrated Pest Management

3/4/25: 5.15 Aquaculture; 5.16 Sustainable forestry (cradle of forestry) field trip

3/5/25: Review/Progress check 5/ Practice Session 1

3/6/25: **Midterm Units 1-5**; Unit 6 Energy Resources and Consumption

3/7/25: 6.1 Renewable and Nonrenewable energy resources

**Week 10: 3/10-14/25**

3/10/25: 6.2 Global energy Consumption

3/11/25: 6.3 Fuel types; 6.4 Distribution

3/12/25: 6.5 Fossil Fuels

3/13/25: 6.6 Nuclear Power

3/14/25: 6.7–12 Alternative Energy Investigations: 6.7- Biomass; 6.8 Solar; 6.9 Hydropower;  
6.10 Geothermal, 6.11 Hydrogen Fuel Cell, 6.12 Wind

**Week 11: 3/17-21/25**

3/17-20/25: Alternative Energy Investigations; 3/21/25: Presentations

**Week 12: 3/24-28/25**

3/24/25: 6.13 Energy conservation

3/25/25: 6.14 Unit 6 Review/Progress Check 6

3/26/25: **UNIT 6 TEST**; Unit 7 Atmosphere - 7.1 Introduction to Pollution

3/27/25: 7.2 Photochemical Smog (Lab Analysis)

3/28/25: 7.3 Thermal Inversion

**Week 13: 3/31-4/4/25**

3/31/25: 7.4 Atmospheric Carbon Dioxide and Particulates

4/1/25: 7.5 Indoor Air Pollutants (in class lab)

4/2/25: 7.6 Reduction of Air Pollution; 7.7 Acid Rain

4/3/25: 7.8 Noise Pollution/ Review/Progress Check 7

4/4/25: **UNIT 7 TEST**/ Unit 8- Aquatic & Terrestrial Air Pollution 8.1 Sources of Pollution;  
8.2 Human Impacts on Ecosystem

**Week 14: 4/7-10/25 Unit 8 continued**

4/7/25: 8.3 Endocrine disruptors

4/8/25: 8.4 Human impacts on wetlands and mangroves; 8.5 Eutrophication (Lab)

4/9/25: 8.6 Thermal Pollution

4/10/25: Complete Lab

**4/11/25-Spring Break**

**Week 15: 4/14-18/25 Spring Break-No classes (Optional Practice Session 2,3,4)**

**Week 16: 4/21-25/25**

4/21/25: 8.7 Persistent Organic Pollutants (POPS)

4/22/25: 8.8 Bioaccumulation; 8.9 Biomagnification Lab

4/23/25: Review Unit 8/ Progress Check 7

4/24/25: **TEST Unit 8**; Unit 9 Global change - 9.1 Stratospheric Ozone Depletion

4/25/25: 9.2 Reducing Ozone depletion

**Week 17: 4/28-5/2/25**

4/28/25: 9.3 Greenhouse Effect

4/29/25: 9.4 Increasing Greenhouse Gases (GHG)

4/30/25: 9.5 Global Climate Change

5/1/25: 9.6 Ocean Warming; 9.7 Ocean Acidification (lab)

5/2/25 9.8 Invasive Species; 9.9 Endangered Species

**Week 18: 5/5-9/25**

5/5/25: 9.10 Human impacts on Biodiversity

5/6/25: Review Unit 9/Progress Check 9/ Practice Session 5

5/7/25: **Midterm TEST Units 6-9**

5/8/25: Review/Practice Session 6,7

5/9/25: **Practice Final Exam**

**Week 19: 5/12-16/25**

5/12/25: Review for Final Exam Practice session 8

**5/13/25: AP environmental science exam; 12:00 Location: TBD**

5/14-16/25: Research Project

**Week 20: 5/19-23/25 Research Project and Presentation**

**Note:** Except for the 1st test, all exams will be cumulative with at least 10 questions from prior exams (those questions which were most often missed). You may make test corrections for two weeks after they have been scored and returned. You must make arrangements to make corrections.

## Possible Labs/Activities

### Unit 1. Introduction to Ecosystems

Primary Productivity Lab (about 4 days)  
Biological/chemical Evolution-graphing activity

### Unit 2. The Living World-Biodiversity

Biodiversity of Ponds Species Richness and Species Evenness  
Galapagos Island Beak Activity  
Tragedy of the Commons (fishing)

### Unit 3. Populations

Determining the Size of a Population (Catch and Release)  
Determining Growth Rate  
Graphing Population Pyramids

### Unit 4. Earth Systems and Resources

Soils Labs: 7.Texture/Chemical -nutrient, NPK Analysis  
6.Microbial Activity  
8.Soil Compaction

### Unit 5. Land and Water Use

Field trips- Water Treatment Plant/Wastewater Plant; Water Quality Analysis; Test Your Tap water,  
Groundwater Pollution Activity, Field trip: river water quality studies-macroinvertebrates

### Unit 6. Energy Resources and Consumption

Lab 11. Geothermal Lab  
Field trip: Origin of Food Scavenger Hunt

### Unit 7. Atmospheric Pollution

Lab 13. Variation of NO<sub>x</sub>/SO<sub>x</sub> -photochemical smog lab  
Ocean Acidification

### Unit 8. Aquatic and Terrestrial Pollution

Lab 16. Salt Toxicity  
Activity LD50/LC 50  
Lab 17. Decomposition of Municipal Waste  
Home Toxicity Survey  
Epidemic Simulation Activity  
Field trip: Caddisfly collection for microplastics

### Unit 9. Global Change

Research-Sustainable (Net zero) cities  
Field trip (?) Purchase Knob-Lichen studies/Phenology studies/Salamander studies  
(?) Cradle of Forestry