

Syllabus: AP Environmental Science
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Text: Living in the Environment, 13th Edition, by G. Tyler Miller, Jr.

Course Goal: The goal of the AP Environmental Science course is to provide students with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems both natural and human-made, to evaluate the relative risks associated with these problems, and to examine alternate solutions for resolving and/or preventing them (College Board, Advanced Placement Program).

Unit	Chapters	Time	Topics	Activities/Labs	Time	Student Centered	Hands On	Math	Virtual/Computer
1	1, 2, 3, 4	3 weeks	Environmental Issues Environmental History Basic Chemistry Biogeochemical Cycles	Activity: Lorax vs. Truax	1.5 hr	X			X
				Activity: Analytical Reading (3Es)		x			
				Observational & Inquiry Skills		X	X		
				Project: Important Environmentalists	2 hr	X			
				Lab: Ecological Footprint	1 hr	X	X	X	X
				Lab: Parts per Million	1 hr	X	X	X	
				Lab: Acid/Base Testing	1 hr	X	X		
				Video: National Geographic Ecological Footprint					
				Service Learning/PSA: Environmental Wordle					
				Test Unit 1					
2	6, 17, 18	4 weeks	Composition of the Atmosphere Climate & Weather Biomes Air Pollution Climate Change Ozone Depletion	Activity: Trees as Natural Regulators	1 hr	X	X	x	
				Activity: Sea Level Rise		x	x		
				Activity: Climatograms	1 hr	X	x		
				Lab: % Oxygen in the Atmosphere	1 hr.	X	X	X	
				Lab: Measuring Albedo	1 hr	X	X		
				Lab: Testing Ground Level Ozone	1 wk	X	X	X	X
				Lab: Acid Rain	2 hr	X	X		
				Lab: Suspended Particulate Matter	1 wk	X	x		
				Lab: Modeling the Greenhouse Effect	1 hr	X	X		
				Video: El Nino					
				Video: An Inconvenient Truth					
				Video: Impacts of Climate Change 1-6 degrees					
				Service Learning/PSA: 6 Word Slogan					
				Test Unit 2					
3	7, 14, 19	4 weeks	Aquatic Ecology Water Resources Water Pollution	Activity: Water Loss Drop by Drop	1 hr	X		x	
				Activity: Water Diversion Analysis	1 hr	X	X		x
				Activity: Pinpointing Pollution	1 hr	X	x		
				Lab: Effects of Salinization on Seeds	1 wk	X	X	X	

				Lab: Thermal Pollution	1 hr	X	X	X	
				Lab: Chemically Testing Water Quality	2 days	X	X		
				Video: Planet Earth Deep Ocean					
				Video: Planet Earth Fresh Water					
				Video: Expedition Blue Planet					
				Service Learning/PSA: Water Use Survey					
				Service Learning/PSA: Meaningful Quote					
				Test Unit 3					
4	10, 15	3 weeks	The Lithosphere Soil & Soil Formation Geology Mining	Activity: Soil Formation	1 hr	X	X		
				Activity: Case Study The Dust Bowl		X			X
				Activity: Case Study Mt. St. Helen's		X			x
				Lab: Soil Testing	2 days	X	X		
				Lab: Cookie Mining	1.5 hr	X	X	X	
				Lab: Snack Tectonics	1 hr	X	x		
				Lab: Plate Tectonics Stations	1 hr	X	X		x
				Video: Expeditions to the Edge					
				Service Learning/PSA: 3 pics 1 word					
				Test Unit 4					
5	13, 21, 23, 25	4 weeks	Forestry Rangelands Agriculture & Food Pesticide Use Urbanization	Activity: Land Use Planning	2 days	X	X		x
				Activity: Hunger Banquet	1 hr	X	x		
				Activity: Pest Proliferation PBL	1 hr	X	X		x
				Lab: Calorimetry	1.5 hr	X	X	X	
				Service Learning/PSA: Wordle, Food Drive & Fill the Backpack Campaign					
				Video: Food Inc.					
				Test Unit 5					
6	4,5,8,22, 23	5-6 weeks	Ecology Energy Flow/Food Webs Evolution Biodiversity Species Interactions Sustaining Wild Species	Activity: Eating at a Lower Trophic Level	1 hr	X		x	
				Activity: Biodiversity & Global Warming	1 hr	X			
				Activity: Energy Allocation Crisis	1 hr	X			x
				Activity: Food Webbing	2 days	X	X		x
				Lab: Natural Selection	1.5 hr.	X	X	x	
				Lab: Island Biogeography	1.5 hr.	X	X	X	
				Lab: Owl Pellet Dissection	1 hr.	X	X		x
				Video: Peppered Moths					
				Video: Cane Toads					
Video: Alien Speiceis									
				Video: The Last of Their Kind					

				Service Learning/PSA: "Save the Species" Brochure					X
				Test Unit 6					
7	9. 11. 12	4 weeks	Population Biology Human Population Tragedy of the Commons Human Health & Toxicity	Activity: Be the Demographer	1 hr	X			x
				Activity: Risk Perception/Reality	1 hr	X			
				Activity: Life Expectancy	1 hr	X		x	
				Lab: Let's Go Fishing	2 hr	X	X	X	
				Lab: Fruitvale Story	2 hr	X	X		
				Lab: Lessons of Kaibab	1 hr	X	X	X	
				Lab: Isle Royal Population Analysis	1 hr	X	X	X	
				Video: Love Canal					
				Video: World in the Balance					
				Service Learning/PSA: 6 Word Slogan					
				Test Unit 7					
8	16, 21	3 weeks	Energy Consumption Nonrenewable Sources Renewable Sources Solid Waste Management	Activity: Half Life		X		x	
				Activity: Energy & Recycling		X		X	
				Activity: Tires & the Environment		X		X	
				Activity: Municipal Solid Waste		X			X
				Lab: Disposal of Nuclear Waste	3 days	X	X		X
				Lab: Garbage Disposal	1.5 hr	X	X	X	
				Service Learning: Carbon Dioxide Home Audit					
Video: Modern Marvels Renewable Energy									
				Test Unit 8					

Bibliography

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