



AP Environmental Science: Investigating Environmental Science through Inquiry

Experiments in the book, *Investigating Environmental Science through Inquiry*, meet the following AP* Environmental Science objectives:

Vernier Experiment		AP Environmental Science Topic Outline Correlation
1	Seasons and Angle of Insolation	I. Earth Systems and Resources, A. Earth Science Concepts (Seasons; solar intensity and latitude) V. Energy Resources and Concepts, G. Renewable Energy (Solar energy)
2	A Local Weather Study	I. Earth Systems and Resources, B. The Atmosphere (Weather and climate)
3	Investigating Dissolved Oxygen	II. The Living World, B. Energy Flow (Photosynthesis and cellular respiration) VI. Pollution, A. Pollution Types, 3. Water Pollution (Types; sources, causes and effects; cultural eutrophication; maintaining water quality; sewage treatment; septic systems)
4	Water Quality	I. Earth Systems and Resources, C. Global Water Resources and Use (Freshwater/saltwater; agricultural, industrial, and domestic use; surface and groundwater issues) VI. Pollution, A. Pollution Types, 3. Water pollution (Types; sources, causes, and effects; cultural eutrophication; maintaining water quality; water purification; Clean Water Act and other relevant laws)
5	Long Term Water Monitoring	I. Earth Systems and Resources, C. Global Water Resources and Use (Freshwater/saltwater; agricultural, industrial, and domestic use; surface and groundwater issues) VI. Pollution, A. Pollution Types, 3. Water pollution (Types; sources, causes, and effects; cultural eutrophication; maintaining water quality; water purification; Clean Water Act and other relevant laws)
6	Water Treatment	I. Earth Systems and Resources, C. Global Water Resources and Use (Freshwater/saltwater; agricultural, industrial, and domestic use; surface and groundwater issues) VI. Pollution, A. Pollution Types, 3. Water pollution (Types; sources, causes, and effects; cultural eutrophication; maintaining water quality; water purification; Clean Water Act and other relevant laws)
7	Investigating Salinity	I. Earth Systems and Resources, C. Global Water Resources and Use (Freshwater/saltwater)

8	Soil Temperature	I. Earth Systems and Resources, D. Soil and Soil Dynamics (Formation; composition; physical and chemical properties; main soil types; erosion and other soil problems)
9	Soil Salinity	I. Earth Systems and Resources, D. Soil and Soil Dynamics (Formation; composition; physical and chemical properties; main soil types; erosion and other soil problems)
10	Soil pH	I. Earth Systems and Resources, D. Soil and Soil Dynamics (Formation; composition; physical and chemical properties; erosion and other soil problems)
11	Soil Moisture	I. Earth Systems and Resources, D. Soil and Soil Dynamics (Formation; composition; physical and chemical properties; main soil types; erosion and other soil problems)
12	Soil and Acid Precipitation	I. Earth Systems and Resources, D. Soil and Soil Dynamics (Formation; composition; physical and chemical properties; erosion and other soil problems) VI. Pollution, A. Pollution Types 1. Air pollution (Acid deposition-causes and effects)
13	Managing Garden Soil Moisture	I. Earth Systems and Resources, C. Global Water Resources and Use (Agricultural, industrial, and domestic use; global problems; conservation) I. Earth Systems and Resources, D. Soil and Soil Dynamics (Physical and chemical properties; erosion and other soil problems; soil conservation)
14	Cell Respiration	II. The Living World, B. Energy Flow (Photosynthesis and cellular respiration)
15	Biodiversity in Ecosystems	II. The Living World, A. Ecosystem Structure II. The Living World, A. Ecosystem Diversity
16	Biochemical Oxygen Demand	VI. Pollution, A. Pollution Types, 3. Water Pollution (Types; sources, causes, and effects; cultural eutrophication; maintaining water quality; sewage treatment/septic systems; Clean Water Act and other relevant laws)
17	Water Cycle Column Investigation	I. Earth Systems and Resources, C. Global Water Resources and Use I. Earth Systems and Resources, D., Soil and Soil Dynamics II. The Living World, E. Natural Biogeochemical Cycles VI. Pollution, A. Pollution Types, 3. Water pollution
18	Decomposition Column Investigations	I. Earth Systems and Resources, D. Soil and Soil Dynamics II. The Living World, B. Energy Flow
19	Ecocolumn	I. Earth Systems and Resources, B. The Atmosphere

	Investigations	I. Earth Systems and Resources, C. Global Water Resources and Use I. Earth Systems and Resources, D. Soil and Soil Dynamics II. The Living World, B. Energy Flow VI. Pollution, A. Pollution Types, 3. Water Pollution
20	Global Warming	VII. Global Change, B. Global Warming (Greenhouse gases and the greenhouse effect; impacts and consequences of global warming; reducing climate change; relevant laws and treaties)
21	UV Investigations	VII. Global Change, A. Stratospheric Ozone (Formation of stratospheric ozone; ultraviolet radiation; causes of ozone depletion; strategies for reducing ozone depletion; relevant laws and treaties)
22	Sunscreen Comparison	VII. Global Change, A. Stratospheric Ozone (Formation of stratospheric ozone; ultraviolet radiation;
23	Primary Productivity	II. The Living World, B. Energy Flow (Photosynthesis and cellular respiration; food webs and trophic levels; ecological pyramids)
24	Modeling Population Growth	II. The Living World, A. Ecosystem Structure (Biological populations and communities; ecological niches; interactions among species; species diversity and edge effects)
25	Insulation Study	V. Energy Resources and Consumption, F. Energy Conservation, (Energy efficiency)
26	Fossil Fuel Energy	V. Energy Resources and Consumption, A. Energy Concepts (Energy forms; power; units; conversions; Laws of Thermodynamics) V. Energy Resources and Consumption, C. Fossil Fuel Resources and Use V. Energy Resources and Consumption. F. Energy Conservation (Energy efficiency)
27	Energy Conversions	V. Energy Resources and Consumption, A. Energy Concepts (Energy forms, units, conversions, Law of Thermodynamics)
28	Wind Energy	V. Energy Resources and Consumption, A. Energy Concepts (Energy forms; power; units; conversions) V. Energy Resources and Consumption, G. Renewable Energy (Wind energy)
29	Solar Energy: Photovoltaic Cells	V. Energy Resources and Consumption, A. Energy Concepts (Energy forms; power; units; conversions) V. Energy Resources and Consumption, G. Renewable Energy (Solar energy; solar electricity)
30	An	V. Energy Resources and Consumption, G. Renewable Energy (Solar energy)

	Investigation of Passive Solar Heating	
31	The Effect of Acid Deposition on Aquatic Ecosystems	I. Earth Systems and Resources, C. Global Water Resources and Use (surface and groundwater issues; global problems) VI. Pollution, A Pollution Types, 1. Air pollution (acid deposition-causes and effects)
32	Measuring Particulates	VI. Pollution, A. Pollution Types, 1. Air pollution (Sources-primary and secondary; major air pollutants; smog; heat islands and temperature inversions; indoor air pollution; remediation and reduction strategies; Clean Air Act and other relevant laws)
33	Investigating Indoor Carbon Dioxide Concentrations	II. The Living World, B. Energy Flow (Photosynthesis and cellular respiration) VI. Pollution, A. Pollution Types, 1. Air pollution (indoor air pollution)
34	A Pollution Study	VI. Pollution, A. Pollution Types, 1. Air pollution (Acid deposition-causes and effects; heat islands and temperature inversions; indoor air pollution) VI. Pollution, A Pollution Types, 3. Water pollution (Types; sources, causes, and effects; cultural eutrophication; maintaining water quality; water purification)

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