

ENVIRONMENTAL SCIENCE HONORS (LAB SCIENCE)

Grade level: 9,10,11,12

Credit: 0.5 or 1.0

Prerequisite: None

Environmental Science provides an overview of basic environmental issues, including climate change, sustainability, pollution, depletion of natural resources, renewable energy, loss of biodiversity, deforestation, soil fertility and erosion, and waste disposal. It also explores the history of the environmental movement, the politics and ethics involved in environmental issues, and the regulations that help limit environmental damage. Students are expected to explore their own impact on the environment and ways to mitigate that impact. The four projects are designed to help students assess the environmental damage in their own ecosystems and determine their own environmental footprint. The five labs are designed to give students hands on experience in observing and assessing natural systems and how they function. The topics include the recycling of wastes, soil erosion, stream health, invasive species, backyard ecology, energy audits, and acid rain.

Environmental Science Honors Lessons

Teacher Message

Lesson 1: What is Environmental Science?

Project 1 Environmental Journal

Lesson 2: Ecology

Lab 1 Backyard Ecology

Lesson 3: Air Quality and Pollution

Project 2 Local air Pollution Sources

Lesson 4: Climate Disruption

Lesson 5: Forestry Management and Deforestation



Lesson 6: Animal Population and Endangered Species

Lab 2 Invasive Species Early Detection Surveys

Lesson 7: Biodiversity

Lesson 8: Human Population Demographics

Project 3: Ecological Footprints and Carrying Capacity

Lesson 9: Sustainability

Lesson 10: Political Influences and Activism

Lesson 11: Review

Lesson 12: Energy

Lab 3: Energy Audit and Energy Source Investigation

Lesson 13: Soil Quality

Lab 4: Soil Composition and Soil Erosion

Lesson 14: Solid Wastes and Recycling

Lab 5: Waste Stream Analysis

Lab 6: Composting in a Bottle

Lesson 15: Pesticides

Lesson 16: Toxicology

Lab 7: Bioassays (lettuce seeds)

Lesson 17: Water Quality and Pollution

Lab 8: Acid Rain

Lab 9: Benthic Macroinvertebrate

Lesson 18: Watersheds and Management

Project 4: Float to the Sea: Knowing Your Watersheds



Lesson 19: Environmental Ethics and Law

Lesson 20: Environmental Technologies

Lesson 21: Review

Final Project – A Local Case Study

