

MANHATTAN COMPREHENSIVE NIGHT AND DAY HIGH SCHOOL
ENVIRONMENTAL SCIENCE
Curriculum Outline

Course Description: Environmental Science is a comprehensive, two-semester, science course that includes both hands-on, in class laboratory activities, and off-site lab field trips.

Current Textbook: Environmental Science
Karen Arms
Holt, Rinehart and Winston. 2004.

Grading: Tests and/or quizzes will be given on an almost weekly basis. Grades will be based on a student's test/quiz average, successful completion of major in-class and fieldtrip lab activities, and active participation in class. Report card grades will be issued at the end of each Cycle.

Environmental Science 1 (first semester of a two-semester course)

Cycle 1/3

Week One Topic – Science and the Environment

- Understanding Our Environment
- The Environment and Society

Week Two Topic – Tools of Environmental Science

- Scientific Methods
- Statistics and Models
- Making Informed Decisions

Week Three Topic – The Dynamic Earth

- The Geosphere
- The Atmosphere
- The Hydrosphere and Biosphere

Week Four Topic – Field Trip Lab/ The Organization of Life

- The Diversity of Living Things

Week Five Topic – How Ecosystems Work

- Energy Flow in Ecosystems
- The Cycling of Materials
- How Ecosystems Change

Week Six Topic – Cycle 1/3 Final Exam

Cycle 2/4

Week One Topic – Biomes

- What is a Biome?
- Forest Grassland, Desert, and Tundra Biomes
- Freshwater and Marine Ecosystems

Week Two Topic – Understanding Populations

- How Populations Change in Size
- How Species Interact with Each Other

Week Three Topic – The Human Population

- Studying Human Populations
- Changing Population Trends

Week Four Topic – Biodiversity

- What is Biodiversity?
- Biodiversity at Risk
- The Future of Biodiversity

Week Five Topic – Water, Air

- Water Resources, Use, and Management
- What Causes Air Pollution?
- Acid Precipitation

Week Six Topic – Environmental Science 1 Final Exam

Environmental Science 2 (second semester of a two-semester course)

Cycle 1/3

Week One Topic – Atmosphere and Climate Change

- Climate and Climate Change
- The Ozone Shield
- Global Warming

Week Two Topic – Land

- How We Use Land
- Urban Land Use
- Land Management and Conservation

Week Three Topic – Food and Agriculture

- Feeding the World
- Crops and Soil

- Animals and Agriculture

Week Four Topic – Field Trip Lab

Week Five Topic – Mining and Mineral Resources

- Mineral Exploration and Mining
- Mining Regulations and Mine Reclamation

Week Six Topic – Cycle 1/3 Final Exam

Cycle 2/4

Week One Topic – Nonrenewable Energy

- Energy Resources and Fossil Fuels
- Nuclear Energy

Week Two Topic – Renewable Energy

- Renewable Energy Today
- Alternative Energy and Conservation

Week Three Topic – Waste

- Solid Waste
- Reducing Solid Waste
- Hazardous Waste

Week Four Topic – The Environment and Human Health

- Pollution and Human Health
- Biological Hazards

Week Five Topic - Economics, Policy, and The Future

- Economics and International Cooperation
- Environmental Policies in the United States
- The Importance of the Individual

Week Six Topic – Environmental Science 2 Final Exam