

FRAMEWORK FOR ENVIRONMENTAL LITERACY

In 1999 the North American Association for Environmental Education (NAAEE) developed a set of **COMMON** guidelines for what students in 4th, 8th and 12th grades should know to be environmentally literate. 12th Grade outcomes are below.

1) Questioning, Analysis and Interpretation Skills

- A. Questioning – develop, modify, clarify, and explain ? that guide env investigations, factors that influence ?
- B. Designing Investigations – develop approaches for investigating env ?, even unfamiliar ones
- C. Collecting Information –locate, collect reliable info, using technology to access, gather, store, display data
- D. Evaluating Accuracy, Reliability – use basic logic, reasoning to evaluate completeness and reliability of info
- E. Organizing Information – organize and display info in ways appropriate to purpose
- F. Working With Models and Simulations – create, use, evaluate models for understanding
- G. Drawing Conclusions and Developing Explanations – use evidence, logic to develop explanations

2) Knowledge of Environmental Processes and Systems

2.1 The Earth as a Physical System

- A. Processes that Shape Earth - major physical processes that shape the earth, relations to earth characteristics
- B. Changes in Matter - application of chemical reactions to environmental characteristics, everyday phenomena
- C. Energy –application of energy and matter concepts to phenomena in the world

2.2 The Living Environment

- A. Organisms, Populations and Communities - basic population dynamics, importance of diversity
- B. Heredity and Evolution - basic ideas and genetic mechanisms behind biological evolution
- C. Systems and Connections - – living environment is comprised of interrelated, dynamic systems
- D. Flow of Matter, Energy - accounting for env characteristics based on interaction of matter and energy

2.3 Humans and Their Societies

- A. Individuals, Groups – influence of individual, group actions on environment, how groups can work to promote and balance interests
- B. Culture – cultural perspectives and dynamics, apply these in context
- C. Political and Economic Systems – how different P and E systems account for, manage, affect environment
- D. Global Connections – analyze global, social , cultural, political, economic, environmental linkages
- E. Change and Conflict – functions of public processes for promoting, managing change, conflict, effects on env

2.4 Environment and Society

- A. Human/Environment Interaction – humans alter environment to meet needs, limits to environment
- B. Places – humans endow “places” with meaning through their interactions with its environment
- C. Resources – importance, use of resources changes over time and with different econ systems and tech
- D. Technology – social, environmental impacts of technology
- E. Environmental Issues – range of env issues at scales local to global, linkages of issue and scale

3) Skills for Understanding and Addressing Environmental Issues

3.1 Skills for Analyzing and Investigating Environmental Issues

- A. Identifying and Investigating Issues – local to global
- B. Sorting Out Consequences of Issues – evaluate consequences of env change, conditions for humans, env
- C. Identifying and Evaluating Alternative Solutions, Courses of Action
- D. Working With Flexibility, Creativity, Openness – engage in peer review in spirit of open inquiry

3.2 Decision Making and Citizenship Skills

- A. Forming, Evaluating Personal Views – communicate, evaluate, justify own views on env issues, solutions
- B. Evaluating Need for Citizen Action – is citizen action needed, should they be involved
- C. Planning and Taking Action – planning for action based on research, analysis, within scope of their rights, consistent with abilities and responsibilities as citizens
- D. Evaluating Results of Actions

4) Personal and Civic Responsibility

- A. Understanding Societal Values, Principles – analyze influence of shared and conflicting societal values
- B. Recognizing Citizens’ Rights and Responsibilities – importance of exercising citizen rights and responsibilities
- C. Recognizing Efficacy – realistic self-confidence in their effectiveness as citizens
- D. Accepting Personal Responsibility – recognition, acceptance that actions can have broad consequences, changing actions when necessary

To download a free set of the complete guidelines, visit <http://eelinked.naaee.net/n/guidelines/topics/Excellence-in-EE-Guidelines-for-Learning-K-12> (scroll down to the middle of the page). Bound copies available for a small fee.