

Indiana High School Standards: Science – Earth and Space Science 1 *Denotes standards that would be covered in a project pertaining to environmental issues		STEPS									
		1	2	3	4	5	6	7	8	9	10
Standard 1: Principles of Earth and Space Science	Students investigate, through laboratory and fieldwork, the universe, Earth, and the processes that shape Earth. They understand that Earth operates as a collection of interconnected systems that may be changing or may be in equilibrium. Students connect the concepts of energy, matter, conservation, and gravitation to Earth, the solar system, and the universe. Students utilize knowledge of the materials and processes of Earth, planets, and stars in the context of the scales of time and size.										
ES 1.10*	Recognize and describe that earth sciences address planet-wide interacting systems, including the oceans, the air, the solid earth, and life on Earth, as well as interactions with the Solar System.			•	•	•	•	•	•		
ES 1.11*	Examine the structure, composition, and function of Earth’s atmosphere. Include the role of living organisms in the cycling of atmospheric gases.			•	•	•					
ES 1.12*	Describe the role of photosynthetic plants in changing Earth’s atmosphere.			•	•	•					
ES 1.13*	Explain the importance of heat transfer between and within the atmosphere, land masses, and oceans.			•	•	•					
ES 1.17*	Describe the development and dynamics of climatic changes over time, such as the cycles of glaciation.			•	•	•					
ES 1.19*	Demonstrate the possible effects of atmospheric changes brought on by things such as acid rain, smoke, volcanic dust, greenhouse gases, and ozone depletion			•	•	•	•	•	•		
ES 1.21*	Identify the various processes that are involved in the water cycle			•	•	•					
ES 1.26*	Differentiate among the processes of weathering, erosion, transportation of materials, deposition, and soil formation.			•	•	•					
Indiana High School Standards: Science – Biology 1 *Denotes standards that would be covered in a project pertaining to environmental issues		Steps									
		1	2	3	4	5	6	7	8	9	10
Standard 1: Principles of Biology	Students work with the concepts, principles, and theories that enable them to understand the living environment. They recognize that living organisms are made of cells or cell products that consist of the same components as all other matter, involve the same kinds of transformations of energy, and move using the same kinds of basic forces. Students investigate, through laboratories and fieldwork, how living things function and how they interact with one another and their environment.										
B 1.37*	Explain that the amount of life any environment can support is limited by the available energy, water, oxygen, and minerals, and by the ability of ecosystems to recycle the residue of dead organic materials. Recognize, therefore, that				•	•	•	•	•		

	human activities and technology can change the flow and reduce the fertility of the land.										
B 1.40*	Understand and explain that like many complex systems, ecosystems tend to have cyclic fluctuations around a state of rough equilibrium. However, also understand that ecosystems can always change with climate changes or when one or more new species appear as a result of migration or local evolution.				•	•	•	•	•		
Indiana High School Standards: Science – Biology 1		STEPS									
*Denotes standards that would be covered in a project pertaining to environmental issues		1	2	3	4	5	6	7	8	9	10
B 1.41*	Recognize that and describe how human beings are part of Earth’s ecosystems. Note that human activities can, deliberately or inadvertently, alter the equilibrium in ecosystems.				•	•	•	•	•		
B 1.42*	Realize and explain that at times, the environmental conditions are such that plants and marine organisms grow faster than decomposers can recycle them back to the environment. Understand that layers of energy-rich organic material thus laid down have been gradually turned into great coal beds and oil pools by the pressure of the overlying earth. Further understand that by burning these fossil fuels, people are passing most of the stored energy back into the environment as heat and releasing large amounts of carbon dioxide.				•	•	•	•	•		
B 1.43*	Understand that and describe how organisms are influenced by a particular combination of living and nonliving components of the environment.				•	•	•	•	•		
B 1.45*	Recognize that and describe how the physical or chemical environment may influence the rate, extent, and nature of the way organisms develop within ecosystems.				•	•	•	•	•		
Indiana High School Standards: Science – Environmental Science. Advanced		STEPS									
*Denotes standards that would be covered in a project pertaining to environmental issues		1	2	3	4	5	6	7	8	9	10
Standard 1: Principles of Environmental Science	Students investigate, through laboratory and fieldwork, the concepts of environmental systems, populations, natural resources, and environmental hazards										
Env 1.4*	Understand and explain that human beings are part of Earth’s ecosystems and give examples of how human activities can, deliberately or inadvertently, alter ecosystems			•	•	•	•	•	•		
Env 1.5*	Explain how the size and rate of growth of the human population in any location is affected by economic, political, religious, technological, and environmental				•				•		

	disposal problems are political and economic as well as technical												
Env 1.34*	Differentiate between natural pollution and pollution caused by humans and give examples of each				•					•			
Env 1.35*	Compare and contrast the beneficial and harmful effects of an environmental stressor, such as herbicides and pesticides, on plants and animals. Give examples of secondary effects on other environmental components				•				•	•			