Environmental Science

I. Enduring Understanding:

The earth is an integration of natural and Social Systems (1, 2, 3, 6, 7, 8)

Essential Questions:

How does a system work?
What are some components and interactions of the atmosphere?
What are some components and interactions of the hydrosphere?
What are some components and interactions of the lithosphere?
What is essential for the survival of an organism?
What systems have humans constructed to organize the world?

Student Outcomes: Students will:

A. Understand the systems approach to looking at earth processes.
   1. *Describe the components of a system including inputs, outputs, and feedback.*
   2. Describe the difference between different classifications of systems.

B. Understand some of the interactions between the four earth systems: atmosphere, hydrosphere, lithosphere, and biosphere.
   1. *Use different models of earth system processes to evaluate, predict, or describe novel environmental situations, both human caused and natural.*

C. Understand the changes that happen in a natural ecosystem during the year.
   1. Describe the changes that happen on a small plot of land during a trimester

II. Enduring Understanding:

Human Actions directly affect natural systems on the earth, both positively and negatively. (1, 3, 4, 6, 7, 9)

Essential Questions:

Do humans use available resources in the best possible manner?
Are there better ways to dispose of wastes than our current methods?
What are humans doing to improve environmental conditions?
How can you make the world around you a better place in which to live?

*Information in italics is from the Minnesota Academic Standards in Science

Student Outcomes: Students will:

A. Understand that human beings can impact and influence ecosystems.
   1. *Describe human influences in different environmental issues such as global climate change, land use, speciation, among others.*
   2. Design a project that positively impacts the environment.

III. Enduring Understanding:

Science helps society make informed decisions about actions regarding the environment. (1, 3, 4, 5, 8, 9)

Essential Questions:

What factors do people take into account when they make a decision?
What makes one piece of information better or worse than another?

Student Outcomes: Students will:

A. Understand the process humans use when making quality decisions.
   1. *Make a decision about an environmental issue/problem using the science/ethics/praxis philosophy.*
   2. *Describe the ways that critical thinking skills are used to determine the quality of scientific information.*

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