# Environmental Science Power Standards by Quarter (Draft 7/10/07)

| | Quarter 1 | Quarter 2 | Quarter 3 | Quarter 4 |
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| Goal 1 Inquiry | Interpret, display, analyze and draw conclusions from the results of a scientific investigation.<br><br>Emphasis on:<br>1. Laboratory skills<br>2. Formulating hypotheses<br>3. Collecting and organizing data | Interpret, display, analyze and draw conclusions from the results of a scientific investigation.<br><br>Emphasis on:<br>1. Laboratory skills<br>2. Identifying variables<br>3. Demonstrating graphing skills<br><br>4. Identify an environmental science related problem and establish criteria for determining the success of the solution. | Interpret, display, analyze and draw conclusions from the results of a scientific investigation.<br><br>Emphasis on:<br>1. Laboratory skills<br>2. Interpreting data from a graph<br>3. Interpreting data from a table<br>4. Formulating conclusions<br><br>5. Identify a problem related to Earth's resources and propose and implement a project related to a solution. | Interpret, display, analyze and draw conclusions from the results of a scientific investigation.<br><br>Emphasis:<br>1. Laboratory skills<br>2. Writing a formal lab report<br><br>3. Design, test and evaluate a solution for an environmental science related problem based on given criteria. |
| Goal 2 Content | **Introduction to Environmental Science**<br>4. Define environmental science, list the major fields of study that contribute to it and describe human impact on environmental change.<br>5. Describe the composition and structure of the Earth.<br>6. Identify the composition of the Earth's atmosphere, describe how heat is transferred and how it is related to the Greenhouse effect.<br>7. Name and describe the major processes of the water cycle.<br>8. Participate in and analyze the results of an environmental project. | **Fundamental Ecological Principles**<br>5. Trace the flow of energy and the cycling of matter between living systems and the physical environment.<br>6. Explore the major biomes of the Earth and the biodiversity associated with these biomes.<br>7. Illustrate that the abundance and distribution of living organisms are limited by available energy and certain forms of matter.<br><br>**Population Dynamics**<br>8. Explain causes of population growth and the impact they have on the planet.<br>9. Analyze and interpret graphs showing population trends. | **Water, Air and Land Resources**<br>6. Describe the hydrologic cycle and the distribution of the Earth's water resources.<br>7. Identify methods of water conservation and ways to prevent its pollution.<br>8. Analyze factors that contribute to air pollution.<br>9. Describe ways to protect air resources.<br>10. Describe ways humans use the land and how that has changed historically.<br>11. Describe ways to conserve and protect land resources. | **Mineral and Energy Resources**<br>4. Evaluate the use and status of major renewable and nonrenewable resources.<br>5. Evaluate conservation methods for natural resources.<br><br>**Human Interaction with the Environment**<br>6. Explain how pollution can come from both natural sources and human activities.<br>7. Give examples of how citizens can affect the environment and environmental policy.<br>8. Research and report on a project related to alternative energy resources. |
| Goal 3 Connections | 9. Demonstrate lab safety procedures and accepted practices of science. | 10.Describe the contributions of environmental scientists and how community members have effected the environment. | 12. Describe occupations related to environmental science. | 9. Examine environmental issues in light of scientific and industrial knowledge and relate them to ethical issues. |