

CURRICULUM MAP

Earth Science

Weeks 1-3	Weeks 4-6	Weeks 7-9	Weeks 10-12	Weeks 13-15	Weeks 16-18
<p><u>Brief Review</u> <u>Earth Systems</u> <u>Grade 10 Indicators 4,5,6.</u> <u>Historical Perspectives /</u> <u>Scientific Revolutions</u> <u>Grade 10 Indicator 7</u></p> <p>Earth Systems 12-6. Describe how scientists estimate how much of a given resource is available on Earth. 11-11. Analyze how materials from human societies (e.g., radioactive waste and air pollution) affect both physical and chemical cycles of Earth. 11-12. Explain ways in which humans have had a major effect on other species (e.g., the influence of humans on other organisms occurs through land use, which decreases space available to other species and pollution, which changes the chemical composition of air, soil and water). 11-13. Explain how human behavior affects the basic processes of natural ecosystems and the quality of the atmosphere, hydrosphere and lithosphere. 11-14. Conclude that Earth has finite resources and explain that humans deplete some resources faster than they can be renewed.</p> <p>Prerequisites Physical Science Biology Credit 1.0 Double-Blocked Semester Course</p>	<p><u>Brief Review</u> <u>Earth Systems</u> <u>Grade 9 Indicator 4</u></p> <p>Earth Systems 11-6. Explain how interactions among Earth's lithosphere, hydrosphere, and biosphere have resulted in ongoing changes of Earth's system. 11-8. Describe the normal adjustments of Earth which may be hazardous for humans. Recognize that humans live at the interface between the atmosphere driven by solar energy and the upper mantle where convection creates changes in Earth's solid crust. Realize that as societies have grown, become stable and come to value aspects of the environment, vulnerability to natural processes of change has increased.</p>	<p><u>Brief Review</u> <u>Processes that Shape the</u> <u>Earth</u> <u>Grade 9 Indicators 5-7</u></p> <p>Earth Systems 11-7. Describe the effects of particulates and gases in the atmosphere including those originating from volcanic activity.</p> <p>Historical Perspectives / Scientific Revolutions 11-15. Use historical examples to explain how new ideas are limited by the context in which they are conceived; are often initially rejected by the scientific establishment; sometimes spring from unexpected findings; and usually grow slowly through contributions from many different investigators (e.g., heliocentric theory and plate tectonics theory).</p>	<p><u>Brief Review</u> <u>The Universe</u> <u>Grade 9 Indicator 2</u> <u>Earth Systems</u> <u>Grade 10 Indicator 3</u></p> <p>Historical Perspectives/ Scientific Revolutions 11-15. Use historical examples to show how new ideas are limited by the context in which they are conceived; are often rejected by the social establishment; sometimes spring from unexpected findings; and usually grow slowly through contributions from many different investigators (e.g., global warming, Heliocentric Theory and Theory of Continental Drift). 11-16. Describe advances in Earth and space science that have important long-lasting effects on science and society (e.g. global warming, Heliocentric Theory and Plate Tectonics Theory).</p>	<p><u>Brief Review</u> <u>Earth Systems</u> <u>Grade 10 Indicators 1-2</u></p> <p>Earth Systems 11-4. Explain the impact of oceanic and atmospheric currents on weather and climate. 11-5. Use appropriate data to analyze and predict upcoming trends in global weather patterns (e.g., el Nino and la Nina, melting glaciers and icecaps and changes in ocean surface temperatures). 11-10. Interpret weather maps and their symbols to predict changing weather conditions worldwide (e.g., monsoons, hurricanes and cyclones). 12-5. Investigate how thermal energy transfers in the world's oceans impact physical features (e.g., icecaps, oceanic and atmospheric currents) and weather patterns. 11-9. Explain the effects of biomass and human activity on climate (e.g., climatic change and global warming). 11-3. Explain heat and energy transfers in and out of the atmosphere and its involvement in weather and climate (radiation, conduction, convection and advection).</p>	<p><u>Brief Review</u> <u>The Universe</u> <u>Grade 9 Indicator 3</u> <u>Earth Systems</u> <u>Grade 9 Indicator 1</u></p> <p>The Universe 11-1. Describe how the early Earth was different from the planet we live on today, and explain the formation of the sun, Earth and the rest of the solar system from a nebular cloud of dust and gas approximately 4.5 billion years ago. 12-1. Explain how scientists obtain information about the universe by using technology to detect electromagnetic radiation that is emitted, reflected or absorbed by stars and other objects. 12-2. Explain how the large-scale motion of objects in the universe is governed by gravitational forces and detected by observing electromagnetic radiation. 12-3. Explain how information about the universe is inferred by understanding that stars and other objects in space emit, reflect or absorb electromagnetic radiation, which we then detect. 12-4. Explain how astronomers infer that the whole universe is expanding by understanding how light seen from distant galaxies has longer apparent wavelengths than comparable light sources close to Earth.</p> <p>Earth Systems 11-2. Analyze how the regular and predictable motions of Earth, sun and moon explain phenomena on Earth (e.g., seasons, tides, eclipses and phases of the moon).</p> <p style="text-align: right;">10/24/05</p>