

Missouri High School Science  
Curriculum Standards

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| Earth Science  | Boardworks High School Earth Science Presentations  |
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| <b>V. Universe</b>   |   |
| <b>A. Characteristics of the Universe</b>  |   |
| 1. The current model of the universe was developed from evidence about its content and theoretical assumptions based upon mathematical and computer-simulated models.                                    | Doppler Effect<br>Observing the Universe<br>Structure of the Universe   |
| 2. Stars appear to go through a cycle of birth, development, and death.  | The Life Cycle of Stars   |
| 3. Because of the vast distances between objects in the universe, light may take billions of years to reach Earth.   | Astronomical Distances  |
| <b>B. Motions of the Universe</b>  |   |
| 1. <i>Newton's conception of the universe established the idea that the laws which apply to processes that occur on the Earth also apply to the universe.</i>  |   |
| 2. Gravitational laws explain planetary motion and tides.  | Gravity and Orbits  |
| <b>C. Tools of Space Exploration</b>   |   |
| 1. <i>Space exploration has expanded our knowledge of the universe and advanced the technological sophistication of our society</i>  |   |
| <b>VI. Earth Systems</b>   |   |
| <b>A. Physical Systems</b>   |   |
| 1. Variations in the physical conditions and chemical composition of soil area result of the type of rock from which it came, climate, the process by which it was deposited, and biological activities. | Soil  |
| 2. Changes in the atmosphere can be caused by natural or human activities.   | The Atmosphere<br>Human Impact on the Environment<br>Air Pollution<br>Greenhouse Gases<br>Climate Change<br>The Impact of Using CFCs<br>Evidence for Climate Change |

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| <p>3. Variations in composition of the atmosphere and hydrosphere caused by natural activities affect all life on Earth.</p>   | <p>The Atmosphere<br/> Recycling Nutrients<br/> Climate Change<br/> The Carbon Cycle<br/> The Nitrogen Cycle<br/> The Water Cycle</p>  |
| <p><b>B. Processes of Systems</b></p>  |  |
| <p>1. Elements cycle through the atmosphere, hydrosphere, lithosphere, and biosphere. The movement of matter through the spheres is driven by Earth's internal and external sources of energy.</p> | <p>Recycling Nutrients<br/> Heat Transfer and Global Interaction<br/> The Water Cycle<br/> The Rock Cycle<br/> The Carbon Cycle<br/> The Nitrogen Cycle<br/> Earth's Structure</p> |
| <p>2. Crustal plate movement affects Earth's topography and provides evidence of a geologic time scale.</p>  | <p>Earth's Structure<br/> Earthquake Causes<br/> Plate Tectonics<br/> Volcanoes</p>  |
| <p>3. Circulation of air and water around Earth, driven by radiation energy from the sun, causes weather phenomena and regional climate.</p>   | <p>Heat Transfer and Global Interactions<br/> Weather and Climate<br/> ENSO<br/> Conduction and Convection<br/> Tropical Cyclones</p>  |
| <p>4. Science technology has enhanced our ability to detect atmospheric changes resulting from interactions of Earth's systems.</p>  | <p>Predicting Climate Change<br/> The Impact of Using CFCs</p>   |