



Alignment Document
State of Hawaii and Aventa Learning Earth Science

Earth Science
2005-2007 Benchmark Blueprint

Strand	Standard	Topic	Benchmark	Unit Name	Course Topic Description
The Scientific Process	ES.1 Discover, invent, and investigate using the skills necessary to engage in the scientific process	Scientific Inquiry	ES.1.1 Describe how a testable hypothesis may need to be revised to guide a scientific investigation	Planet Earth	Think Like an Earth Scientist
			ES.1.2 Design and safely implement an experiment, including the appropriate use of tools and techniques to organize, analyze, and validate data		
			ES.1.3 Defend and support conclusions, explanations, and arguments based on logic, scientific knowledge, and evidence from data	Discussion Boards	All
			ES.1.4 Determine the connection(s) among hypotheses, scientific evidence, and conclusions	Planet Earth	Think Like an Earth Scientist
			ES.1.5 Communicate the components of a scientific investigation, using appropriate techniques		
			ES.1.6 Engage in and explain the importance of peer review in science	Discussion Boards	All
			ES.1.7 Revise, as needed, conclusions and		

			<p>explanations based on new evidence</p> <p>ES.1.8 Describe the importance of ethics and integrity in scientific investigation</p> <p>ES.1.9 Explain how scientific explanations must meet a set of established criteria to be considered valid</p>	<p>Planet Earth</p> <p>Planet Earth</p>	<p>Think Like an Earth Scientist</p> <p>Think Like an Earth Scientist</p>
The Scientific Process	ES.2 Understand that science, technology, and society are interrelated	Science, Technology, and Society	<p>ES.2.1 Explain how scientific advancements and emerging technology have influenced society</p> <p>ES.2.2 Compare the risks and benefits of potential solutions to technological issues</p>	<p>Plate Tectonics, Earthquakes, and Volcanoes</p> <p>Plate Tectonics, Earthquakes, and Volcanoes</p> <p>Plate Tectonics, Earthquakes, and Volcanoes</p> <p>Plate Tectonics, Earthquakes, and Volcanoes</p> <p>Astronomy</p> <p>Astronomy</p> <p>Astronomy</p> <p>Astronomy</p> <p>Atmosphere and Climate</p>	<p>In Search of a Theory</p> <p>Ocean Floor Mapping</p> <p>Recording Earthquakes</p> <p>Richter and Modified Mecalli Scales</p> <p>Space Exploration</p> <p>Manned Space Flight</p> <p>Looking Into Space</p> <p>Space Exploration Projects Discussion Board</p> <p>Gulf Steam and the Green House Effect Discussion Board</p>

			ES.2.3 Explain the impact of humans on the Earth system	Atmosphere and Climate	Heating the Atmosphere
			ES.2.4 Describe technologies used to collect information about the universe	Astronomy	Looking into Space
Life and Environmental Sciences	ES.3 Understand the unity, diversity, and interrelationships of organisms, including their relationship to cycles of matter and energy in the environment		No benchmark for Earth Space Science		
Life and Environmental Sciences	ES.4 Understand the structures and functions of living organisms and how organisms can be compared scientifically		No benchmark for Earth Space Science		
Life and Environmental Sciences	ES.5 Understand genetics and biological evolution and their impact on the unity and diversity of organisms		No benchmark for Earth Space Science		
Physical, Earth, and Space Sciences	ES.6 Understand the nature of matter and energy, forms of energy (including waves) and energy transformations, and their significance in understanding the structure of the universe		No benchmark for Earth Space Science		
Physical, Earth, and Space Sciences	ES.7 Understand the relationship between force, mass, and motion of objects; and know the major natural forces: gravitational, electric, and magnetic		No benchmark for Earth Space Science		



Physical, Earth, and Space Sciences	ES.8 Understand the Earth and its processes, the solar system, and the universe and its contents	Forces that Shape the Earth	<p>ES.8.1 Describe how elements and water move through solid Earth, the oceans, atmosphere, and living things as part of geochemical cycles</p> <p>ES.8.2 Describe how to estimate geologic time</p> <p>ES.8.3 Explain the possible origins and evolution of the solar system</p> <p>ES.8.4 Describe how heat and energy transfer into and out of the atmosphere and their involvement in global climate</p> <p>ES.8.5 Explain the effects of movements of crustal plates</p>	<p>Planet Earth</p> <p>Atmosphere and Climate</p> <p>Geologic Time</p> <p>Geologic Time</p> <p>Geologic Time</p> <p>Astronomy</p> <p>Astronomy</p> <p>Astronomy</p> <p>Atmosphere and Climate</p> <p>World of Weather</p> <p>World of Weather</p> <p>World of Weather</p> <p>Plate Tectonics, Volcanoes, and Earthquakes</p> <p>Plate Tectonics, Volcanoes, and Earthquakes</p> <p>Plate Tectonics, Volcanoes, and Earthquakes</p>	<p>Earth as a Complex System</p> <p>Structure of the Atmosphere</p> <p>Geologic Time Scale</p> <p>Relative Time Scale</p> <p>Numeric Time Scale</p> <p>Birth of a Star</p> <p>The Solar System</p> <p>The Universe</p> <p>Heat and the Atmosphere</p> <p>Wind</p> <p>Moisture</p> <p>Weather and Forecasting</p> <p>In Search of a Theory</p> <p>Ocean Floor Mapping</p> <p>Magnetic Striping and Polar Reversals</p>
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				Plate Tectonics, Volcanoes, and Earthquakes	Sea Floor Spreading
				Plate Tectonics, Volcanoes, and Earthquakes	Earthquake Activity
				Plate Tectonics, Volcanoes, and Earthquakes	Divergent Boundaries
				Plate Tectonics, Volcanoes, and Earthquakes	Convergent Boundaries
				Plate Tectonics, Volcanoes, and Earthquakes	Transverse Boundaries
			ES.8.6 Describe how winds and ocean currents are produced on the Earth's surface	World of Weather	Wind
				Atmosphere and Climate	Heating the Atmosphere
				Astronomy	The Earth, Sun, and Moon
			ES.8.7 Describe climate and weather patterns associated with certain geographic locations and features	World of Weather	Covered throughout the unit
			ES.8.8 Describe the major internal and external sources of energy on Earth	Atmosphere and Climate	Heating the Atmosphere
			ES.8.9 Describe the physical and nuclear dynamics involved in the life cycle of a star	Astronomy	Birth of a Star
				Astronomy	Astronomical Distances



AVENTA LEARNING

			ES.8.10 Compare different theories concerning the formation of the universe	Astronomy	The Universe
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