

**PHYSICAL SCIENCE DAYBOOK**

**LIFE SCIENCE DAYBOOK**

**EARTH SCIENCE DAYBOOK**

correlated to

**Hawaii**

**Content and Performance**

**Standards III**

**Grades 6-8**

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[Bruce\\_Forbes@hmco.com](mailto:Bruce_Forbes@hmco.com)



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correlated to

**Hawaii Content and Performance Standards III  
Grade 6**

Hawaii HCPSIII Grade 6	Great Source <i>Physical Science Daybook</i> ©2003
<b>Strand: The Scientific Process</b>	
<b>Standard 1: The Scientific Process: SCIENTIFIC INVESTIGATION: Discover, invent, and investigate using the skills necessary to engage in the scientific process</b>	
Topic: Scientific Inquiry	
SC.6.1.1 Formulate a testable hypothesis that can be answered through a controlled experiment	SE: 18, 150
SC.6.1.2 Use appropriate tools, equipment, and techniques safely to collect, display, and analyze data	SE: 18, 29, 81, 107, 148-149, 150-151, 156-157, 184-185, 190-191
<b>Standard 2: The Scientific Process: NATURE OF SCIENCE: Understand that science, technology, and society are interrelated</b>	
Topic: Science, Technology, and Society	
SC.6.2.1 Explain how technology has an impact on society and science	SE: 36-37, 68, 69, 88, 159
SC.6.2.2 Explain how the needs of society have influenced the development and use of technologies	SE: 159, 208-209
<b>Strand: Life and Environmental Sciences</b>	
<b>Standard 3: Life and Environmental Sciences: ORGANISMS AND THE ENVIRONMENT: Understand the unity, diversity, and interrelationships of organisms, including their relationship to cycles of matter and energy in the environment</b>	
Topic: Cycles of Matter and Energy	
SC.6.3.1 Describe how matter and energy are transferred within and among living systems and their physical environment	The opportunity to address this objective is available. See the following:  SE: 14, 15, 152, 153
<b>Standard 4: Life and Environmental Sciences: STRUCTURE AND FUNCTION IN ORGANISMS: Understand the structures and functions of living organisms and how organisms can be compared scientifically</b>	
There are no benchmarks for this standard for this Grade/Course.	

<b>Hawaii HCPSIII Grade 6</b>	<b>Great Source <i>Physical Science Daybook</i> ©2003</b>
<b>Standard 5: Life and Environmental Sciences: DIVERSITY, GENETICS, AND EVOLUTION: Understand genetics and biological evolution and their impact on the unity and diversity of organisms</b>	
There are no benchmarks for this standard for this Grade/Course.	
<b>Strand: Physical, Earth, and Space Sciences</b>	
<b>Standard 6: Physical, Earth, and Space Sciences: NATURE OF MATTER AND ENERGY: 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</b>	
Topic: Energy and its Transformation	
SC.6.6.1 Compare how heat energy can be transferred through conduction, convection, and radiation	SE: 70, 87, 98, 128
SC.6.6.2 Describe the different types of energy transformations	The opportunity to address this objective is available. See the following: SE: 14, 15, 16, 17, 18, 19, 22, 24, 25, 26, 28, 29
SC.6.6.3 Explain how energy can change forms and is conserved	The opportunity to address this objective is available. See the following: SE: 14, 15, 16, 17, 18, 19, 22, 24, 25, 26, 28, 29
SC.6.6.4 Describe and give examples of different types of energy waves	SE: 94, 97, 98, 100, 102
Topic: Nature of Matter	
SC.6.6.5 Explain how matter can change physical or chemical forms, but the total amount of matter remains constant	SE: 24, 25, 26, 153
SC.6.6.6 Describe and compare the physical and chemical properties of different substances	SE: 172, 173, 174, 175
SC.6.6.7 Describe the organization of the periodic table	SE: 174
SC.6.6.8 Recognize changes that indicate that a chemical reaction has taken place	SE: 188, 190, 191, 192, 194, 202, 206, 207
SC.6.6.9 Describe matter using the atomic model	SE: 136-137, 138, 139, 140

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Topic: Waves	
SC.6.6.10 Explain how vibrations in materials set up wavelike disturbances that spread away from the source	SE: 97, 100, 104, 105, 109, 110
<b>Standard 7: Physical, Earth, and Space Sciences: FORCE AND MOTION: Understand the relationship between force, mass, and motion of objects; and know the major natural forces: gravitational, electric, and magnetic</b>	
Topic: Force and Motion	
SC.6.7.1 Describe examples of how forces affect an object's motion	SE: 11, 12, 13, 15, 20, 21, 22, 23
Topic: Forces of the Universe	
SC.6.7.2 Explain that electric currents can produce magnetic effects and that magnets can cause electric currents	SE: 79, 80, 81
<b>Standard 8: Physical, Earth, and Space Sciences: EARTH AND SPACE SCIENCE: Understand the Earth and its processes, the solar system, and the universe and its contents</b>	
There are no benchmarks for this standard for this Grade/Course.	



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**Hawaii Content and Performance Standards III**  
**Grade 7**

Hawaii HCPSIII Grade 7	Great Source <i>Life Science Daybook</i> ©2002
<b>Strand: The Scientific Process</b>	
<b>Standard 1: The Scientific Process: SCIENTIFIC INVESTIGATION: Discover, invent, and investigate using the skills necessary to engage in the scientific process</b>	
Topic: Scientific Inquiry	
SC.7.1.1 Design and safely conduct a scientific investigation to answer a question or test a hypothesis	SE: 12, 132-133, 141, 144, 148
SC.7.1.2 Explain the importance of replicable trials	The opportunity to address this objective is available. See the following: SE: 167, 168
Topic: Scientific Knowledge	
SC.7.1.3 Explain the need to revise conclusions and explanations based on new scientific evidence	The opportunity to address this objective is available. See the following: SE: 56
<b>Standard 2: The Scientific Process: NATURE OF SCIENCE: Understand that science, technology, and society are interrelated</b>	
Topic: Science, Technology, and Society	
SC.7.2.1 Explain the use of reliable print and electronic sources to provide scientific information and evidence	This objective falls outside the scope of Great Source <i>Life Science Daybook</i> .
<b>Strand: Life and Environmental Sciences</b>	
<b>Standard 3: Life and Environmental Sciences: ORGANISMS AND THE ENVIRONMENT: Understand the unity, diversity, and interrelationships of organisms, including their relationship to cycles of matter and energy in the environment</b>	
Topic: Cycles of Matter and Energy	
SC.7.3.1 Explain how energy moves through food webs, including the roles of photosynthesis and cellular respiration	SE: 24-25, 28, 196

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Topic: Interdependence		
SC.7.3.2	Explain the interaction and dependence of organisms on one another	SE: 124, 126, 132, 188, 189, 202, 203, 204
SC.7.3.3	Explain how biotic and abiotic factors affect the carrying capacity and sustainability of an ecosystem	SE: 178, 179, 182, 183, 186, 192, 193, 199
<b>Standard 4: Life and Environmental Sciences: STRUCTURE AND FUNCTION IN ORGANISMS: Understand the structures and functions of living organisms and how organisms can be compared scientifically</b>		
Topic: Cells, Tissues, Organs, and Organ Systems		
SC.7.4.1	Describe the cell theory	SE: 8
SC.7.4.2	Describe the basic structure and function of various types of cells	SE: 14, 15, 16, 18
SC.7.4.3	Describe the levels of organization in organisms	The opportunity to address this objective is available. See the following: SE: 154, 155, 156, 157
Topic: Classification		
SC.7.4.4	Classify organisms according to their degree of relatedness	SE: 84, 87, 90
<b>Standard 5: Life and Environmental Sciences: DIVERSITY, GENETICS, AND EVOLUTION: Understand genetics and biological evolution and their impact on the unity and diversity of organisms</b>		
Topic: Heredity		
SC.7.5.1	Differentiate between sexual and asexual reproduction	This objective falls outside the scope of Great Source <i>Life Science Daybook</i> .
SC.7.5.2	Describe how an inherited trait can be determined by one or more genes which are found on chromosomes	SE: 62
SC.7.5.3	Explain that small differences between parents and offspring could produce descendants that look very different from their ancestors	SE: 62, 64, 65

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Topic: Unity and Diversity	
SC.7.5.4 Analyze how organisms' body structures contribute to their ability to survive and reproduce	SE: 72, 73, 74, 108, 109, 112
Topic: Biological Evolution	
SC.7.5.5 Explain how fossils provide evidence that life and environmental conditions have changed over time	The opportunity to address this objective is available. See the following: SE: 208, 209, 210
Topic: Unity and Diversity	
SC.7.5.6 Explain why variation(s) in a species' gene pool contributes to its survival in a constantly changing environment	The opportunity to address this objective is available. See the following: SE: 61, 70, 72, 73, 74, 80
<b>Strand: Physical, Earth, and Space Sciences</b>	
<b>Standard 6: Physical, Earth, and Space Science: NATURE OF MATTER AND ENERGY: 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</b>	
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<b>Standard 7: Physical, Earth, and Space Sciences: FORCE AND MOTION: Understand the relationship between force, mass, and motion of objects; and know the major natural forces: gravitational, electric, and magnetic</b>	
There are no benchmarks for this standard for this Grade/Course.	
<b>Standard 8: Physical, Earth, and Space Sciences: EARTH AND SPACE SCIENCE: Understand the Earth and its processes, the solar system, and the universe and its contents</b>	
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**Hawaii Content and Performance Standards III**  
**Grade 8**

Hawaii HCPSIII Grade 8	Great Source <i>Earth Science Daybook</i> © 2002
<b>Strand: The Scientific Process</b>	
<b>Standard 1: The Scientific Process: SCIENTIFIC INVESTIGATION: Discover, invent, and investigate using the skills necessary to engage in the scientific process</b>	
Topic: Scientific Inquiry	
SC.8.1.1 Determine the link(s) between evidence and the conclusion(s) of an investigation	SE: 24
SC.8.1.2 Communicate the significant components of the experimental design and results of a scientific investigation	SE: 29, 95, 103
<b>Standard 2: The Scientific Process: NATURE OF SCIENCE: Understand that science, technology, and society are interrelated</b>	
Topic: Science, Technology, and Society	
SC.8.2.1 Describe significant relationships among society, science, and technology and how one impacts the other	SE: 60, 61, 76-81
Topic: Unifying Concepts and Themes	
SC.8.2.2 Describe how scale and mathematical models can be used to support and explain scientific data	SE: 11, 54, 103, 126, 144, 148, 152, 155, 158
<b>Strand: Life and Environmental Sciences</b>	
<b>Standard 3: Life and Environmental Sciences: ORGANISMS AND THE ENVIRONMENT: Understand the unity, diversity, and interrelationships of organisms, including their relationship to cycles of matter and energy in the environment</b>	
There are no benchmarks for this standard for this Grade/Course.	
<b>Standard 4: Life and Environmental Sciences: STRUCTURE AND FUNCTION IN ORGANISMS: Understand the structures and functions of living organisms and how organisms can be compared scientifically</b>	
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<b>Standard 5: Life and Environmental Sciences: DIVERSITY, GENETICS, AND EVOLUTION: Understand genetics and biological evolution and their impact on the unity and diversity of organisms</b>			
Topic: Biological Evolution			
SC.8.5.1	Describe how changes in the physical environment affect the survival of organisms	SE: 56, 57, 63, 86, 87, 115, 116, 154, 155, 170	
<b>Strand: Physical, Earth, and Space Sciences</b>			
<b>Standard 6: Physical, Earth, and Space Science: NATURE OF MATTER AND ENERGY: 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</b>			
Topic: Waves			
SC.8.6.1	Explain the relationship between the color of light and wavelength within the electromagnetic spectrum	The opportunity to address this objective is available. See the following: SE: 206	
SC.8.6.2	Explain how seismic waves provide scientists with information about the structure of Earth's interior	The opportunity to address this objective is available. See the following: SE: 89	
SC.8.6.3	Identify the characteristics and properties of mechanical and electromagnetic waves	SE: 38-39, 206	
<b>Standard 7: Physical, Earth, and Space Sciences: FORCE AND MOTION: Understand the relationship between force, mass, and motion of objects; and know the major natural forces: gravitational, electric, and magnetic</b>			
Topic: Forces of the Universe			
SC.8.7.1	Explain that every object has mass and therefore exerts a gravitational force on other objects	The opportunity to address this objective is available. See the following: SE: 185, 186	

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<b>Standard 8: Physical, Earth, and Space Sciences: EARTH AND SPACE SCIENCE: Understand the Earth and its processes, the solar system, and the universe and its contents</b>	
Topic: Earth Materials	
SC.8.8.1 Compare the characteristics of the three main types of rocks	The opportunity to address this objective is available. See the following: SE: 20, 21
SC.8.8.2 Illustrate the rock cycle and explain how igneous, metamorphic, and sedimentary rocks are formed	SE: 20, 21, 22
Topic: Earth in the Solar System	
SC.8.8.3 Describe how the Earth's motions and tilt on its axis affect the seasons and weather patterns	This objective falls outside the scope of Great Source <i>Earth Science Daybook</i> .
Topic: Forces that Shape the Earth	
SC.8.8.4 Explain how the sun is the major source of energy influencing climate and weather on Earth	The opportunity to address this objective is available. See the following: SE: 172, 173
SC.8.8.5 Explain the concepts of continental drift and plate tectonics	SE: 72, 73, 74, 75, 76, 77, 78, 79, 80
SC.8.8.6 Explain the relationship between density and convection currents in the ocean and atmosphere	SE: 142, 143, 144, 145
SC.8.8.7 Describe the physical characteristics of oceans	SE: 78-79
Topic: The Universe	
SC.8.8.8 Describe the composition of objects in the galaxy	SE: 178, 179, 180, 182-183, 184, 185, 190, 192, 193, 194, 198, 199
SC.8.8.9 Explain the predictable motions of the Earth and moon	This objective falls outside the scope of Great Source <i>Earth Science Daybook</i> .
SC.8.8.10 Compare the characteristics and movement patterns of the planets in our solar system	SE: 188, 189, 190, 192, 193

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SC.8.8.11 Describe the major components of the universe	SE: 178, 179, 180, 182-183, 184, 185, 188, 190, 192, 196
SC.8.8.12 Describe the role of gravitational force in the motions of planetary systems	SE: 182-183, 184, 185



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