

Fifth Grade Science Content Standards and Objectives

Standard 1:	Nature of Science	
SC.S.5.1	Students will <ul style="list-style-type: none"> • demonstrate an understanding of the history of science and the evolution of scientific knowledge. • demonstrate an understanding of science as a human endeavor encompassing the contributions of diverse cultures and scientists. • demonstrate an understanding of the characteristics of a scientist. demonstrate skills of scientific inquiry.	
Objectives	Students will	PLT Activity and Page
SC.O.5.1.01	realize that scientists formulate and test their explanations of nature using observation and experiments.	#1 The Shape of Things p. 17 #2 Get in Touch with Trees p. 20 #3 Peppermint Beetle p. 23 #4 Sounds Around p. 26 #21 Adopt A Tree p. 97 #48 Field, Forest, and Stream p.203 #61 The Closer You Look p.263 #70 Soil Stories p.297 #76 Tree Cookies p.327 #77 Trees in Trouble p.332
SC.O.5.1.02	recognize scientific knowledge is subject to modification as new scientific information challenges current explanations.	
SC.O.5.1.03	examine the careers and contributions of men and women of diverse cultures to the development of science.	
SC.O.5.1.04	compare and contrast the historical significance of scientific discoveries.	#82 Resource-Go-Round p.355 #85 In the Driver's Seat p.370 #92 A Look at Lifestyles p.401

<p>SC.O.5.1.05</p>	<p>cooperate and collaborate to ask questions, design and conduct investigations to find answers and solve problems.</p>	<p>#3 Peppermint Beetle p. 23 #4 Sounds Around p. 26 #14 Renewable or Not? p. 69 #21 Adopt A Tree p. 97 #22 Trees as Habitats p.102 #37 Reduce, Reuse, Recycle p.159 #47 Are Vacant Lots Vacant? p.200 #48 Field, Forest, and Stream p.203 #70 Soil Stories p.297 #76 Tree Cookies p.327 #77 Trees in Trouble p.332 #78 Signs of Fall p.337 #80 Nothing Succeeds Like Succession p.345 #83 A Peek at Packaging p.360 #85 In the Driver's Seat p.370 #88 Life on the Edge p.382</p>
--------------------	--	--

<p>SC.O.5.1.06</p>	<p>formulate conclusions through close observations, logical reasoning, objectivity, perseverance and integrity in data collection.</p>	<p>#1 The Shape of Things p. 17 #2 Get in Touch with Trees p. 20 #3 Peppermint Beetle p. 23 #6 Picture This! p. 34 #14 Renewable or Not? p. 69 #21 Adopt A Tree p. 97 #23 The Fallen Log p.105 #37 Reduce, Reuse, Recycle p.159 #43 Have Seeds, Will Travel p.185 #46 Schoolyard Safari p.197 #47 Are Vacant Lots Vacant? p.200 #48 Field, Forest, and Stream p.203 #61 The Closer You Look p.263 #65 Bursting Buds p.277 #68 Name That Tree p.288 #70 Soil Stories p.297 #76 Tree Cookies p.327 #77 Trees in Trouble p.332 #78 Signs of Fall p.337 #83 A Peek at Packaging p.360 #85 In the Driver's Seat p.370 #88 Life on the Edge p.382 #89 Trees for Many Reasons p.387 #92 A Look at Lifestyles p.401</p>
<p>SC.O.5.1.07</p>	<p>apply skepticism, careful methods, logical reasoning and creativity in investigating the observable universe.</p>	<p>#12 Invasive Species p. 59 #20 Environmental Exchange Box p. 92 #43 Have Seeds, Will Travel p.185 #48 Field, Forest, and Stream p.203 #61 The Closer You Look p.263 #67 How Big is Your Tree? p.284 #70 Soil Stories p.297</p>

SC.O.5.1.08	use a variety of technologies and scientific instruments to conduct explorations, investigations and experiments of the natural world.	#43 Have Seeds, Will Travel p.185 #64 Looking at Leaves p.273 #76 Tree Cookies p.327 #80 Nothing Succeeds Like Succession p.345 #81 Living with Fire p.350
SC.O.5.1.09	demonstrate safe techniques for handling, manipulating and caring for science materials, equipment, natural specimens and living organisms.	#2 Get in Touch with Trees p. 20
SC.O.5.1.10	utilize experimentation to demonstrate scientific processes and thinking skills (e.g., formulating questions, predicting, forming hypotheses, quantifying, or identifying dependent and independent variables).	#2 Get in Touch with Trees p. 20 #3 Peppermint Beetle p. 23 #70 Soil Stories p.297 #76 Tree Cookies p.327 #78 Signs of Fall p.337 #80 Nothing Succeeds Like Succession p.345 #81 Living with Fire p.350 #83 A Peek at Packaging p.360
SC.O.5.1.11	construct and use charts, graphs and tables to organize, display, interpret, analyze and explain data.	#4 Sounds Around p. 26 #22 Trees as Habitats p.102 #23 The Fallen Log p.105 #37 Reduce, Reuse, Recycle p.159 #70 Soil Stories p.297 #77 Trees in Trouble p.332 #88 Life on the Edge p.382 #92 A Look at Lifestyles p.401
SC.O.5.1.12	use inferential reasoning to make logical conclusions from collected data.	#70 Soil Stories p.297 #76 Tree Cookies p.327 #77 Trees in Trouble p.332 #78 Signs of Fall p.337 #81 Living with Fire p.350 #85 In the Driver's Seat p.370 #88 Life on the Edge p.382

Standard 2:	Content of Science	
SC.S.5.2	Students will <ul style="list-style-type: none"> • demonstrate knowledge, understanding and applications of scientific facts, concepts, principles, theories and models as delineated in the objectives. • demonstrate an understanding of the interrelationships among physics, chemistry, biology and the earth and space sciences. • apply knowledge, understanding and skills of science subject matter/concepts to daily life experiences. 	
Objectives	Students will	PLT Activity and Page
SC.O.5.2.01	demonstrate an understanding of the interconnections of biological, earth and space, and physical science concepts.	#8 The Forest Of S.T. Shrew p. 40 #9 Planet Diversity p. 45 #11 Can It Be Real? p. 54 #17 People Of The Forest p. 82 #20 Environmental Exchange Box p. 92 #31 Plant a Tree p.132 #36 Pollution Search p.153 #45 Web of Life p.194 #47 Are Vacant Lots Vacant? p.200 #48 Field, Forest, and Stream p.203 #70 Soil Stories p.297 #86 Our Changing World p.375 #88 Life on the Edge p.382 #90 Native Ways p.389
SC.O.5.2.02	identify and explain common energy conversions in cycles of matter including photosynthesis and the carbon dioxide cycle.	#28 Air Plants p.120 #42 Sunlight and Shades of Green p.182 #44 Water Wonders p.188 #48 Field, Forest, and Stream p.203

SC.O.5.2.03	identify the structures of living organisms and explain their function.	#6 Picture This! p. 34 #7 Habitat Pen Pals p. 37 #28 Air Plants p.120 #32 A Forest of Many Uses p.135 #42 Sunlight and Shades of Green p.182 #49 Tropical Treehouse p.207 #61 The Closer You Look p.263 #63 Tree Factory p.269 #65 Bursting Buds p.277 #88 Life on the Edge p.382
SC.O.5.2.04	observe and identify cells of organisms using a microscope.	
SC.O.5.2.05	compare variations of plant growth and reproduction.	#17 People Of The Forest p. 82 #26 Dynamic Duos p.113 #27 Every Tree for Itself p.117 #32 A Forest of Many Uses p.135 #41 How Plants Grow p.179 #42 Sunlight and Shades of Green p.182 #43 Have Seeds, Will Travel p.185 #48 Field, Forest, and Stream p.203 #49 Tropical Treehouse p.207 #63 Tree Factory p.269 #64 Looking at Leaves p.273 #69 Forest for the Trees p.291 #77 Trees in Trouble p.332 #79 Tree Lifecycle p.341

SC.O.5.2.06	compare and contrast how the different characteristics of plants and animals help them to survive in different niches and environments including adaptations, natural selection, and extinction.	#3 Peppermint Beetle p. 23 #4 Sounds Around p. 26 #6 Picture This! p. 34 #7 Habitat Pen Pals p. 37 #8 The Forest Of S.T. Shrew p. 40 #9 Planet Diversity p. 45 #10 Charting Diversity p. 50 #11 Can It Be Real? p. 54 #22 Trees as Habitats p.102 #24 Nature's Recyclers p.108 #25 Birds and Worms p.111 #26 Dynamic Duos p.113 #27 Every Tree for Itself p.117 #31 Plant a Tree p.132 #36 Pollution Search p.153 #41 How Plants Grow p.179 #46 Schoolyard Safari p.197 #47 Are Vacant Lots Vacant? p.200 #48 Field, Forest, and Stream p.203 #49 Tropical Treehouse p.207 #66 Germinating Giants p.279 #70 Soil Stories p.297 #79 Tree Lifecycle p.341 #80 Nothing Succeeds Like Succession p.345 #88 Life on the Edge p.382
SC.O.5.2.07	through the use of research and technology, explore the extinction of a species due to environmental conditions.	#36 Pollution Search p.153 #49 Tropical Treehouse p.207 #88 Life on the Edge p.382
SC.O.5.2.08	trace and describe the pathways of the sun's energy through producers, consumers and decomposers using food webs and pyramids.	#23 The Fallen Log p.105 #24 Nature's Recyclers p.108 #82 Resource-Go-Round p.355

SC.O.5.2.09	explain that the mass of a material is conserved whether it is together, in parts, or in a different state.	#32 A Forest of Many Uses p.135 #51 Make Your Own Paper p.224 #52 A Look at Aluminum p.228 #82 Resource-Go-Round p.355
SC.O.5.2.10	recognize that elements are composed of only one type of matter.	#52 A Look at Aluminum p.228
SC.O.5.2.11	using the periodic table, identify common elements according to their symbols.	
SC.O.5.2.12	through experimentation, identify substances by their relative densities (mass/volume=density).	
SC.O.5.2.13	analyze diagrams of electrical circuits.	
SC.O.5.2.14	measure electricity using voltage and wattage.	#73 Waste Watchers p.314
SC.O.5.2.15	investigate the properties of an electromagnet by selecting appropriate materials, designing and testing an electromagnet, and evaluating differences in design.	
SC.O.5.2.16	describe how the variables of gravity and friction affect the motion of objects.	
SC.O.5.2.17	compare and contrast the change in length, tension, or thickness of a vibrating object on the frequency of vibration.	
SC.O.5.2.18	describe the layers of the earth and their various features.	
SC.O.5.2.19	identify and describe natural landforms and explain how they change and impact weather and climate.	
SC.O.5.2.20	use a variety of instruments and sources to collect and display weather data to describe weather patterns.	
SC.O.5.2.21	compare and explain the different rates of weathering, erosion and deposition on various materials.	#20 Environmental Exchange Box p. 92 #44 Water Wonders p.188 #70 Soil Stories p.297
SC.O.5.2.22	analyze a topographical map to make inferences related to elevation and land features.	#20 Environmental Exchange Box p. 92 #70 Soil Stories p.297

SC.O.5.2.23	identify resources as being renewable or non-renewable.	#13 We All Need Trees p. 65 #14 Renewable or Not? p. 69 #15 A Few Of My Favorite Things p. 75 #17 People Of The Forest p. 82 #32 A Forest of Many Uses p.135 #37 Reduce, Reuse, Recycle p.159 #38 Every Drop Counts p.163 #39 Energy Sleuths p.167 #49 Tropical Treehouse p.207 #51 Make Your Own Paper p.224 #52 A Look at Aluminum p.228 #69 Forest for the Trees p.291 #82 Resource-Go-Round p.355 #83 A Peek at Packaging p.360 #85 In the Driver's Seat p.370 #88 Life on the Edge p.382 #89 Trees for Many Reasons p.387 #90 Native Ways p.389
SC.O.5.2.24	explore and explain how fossils and geologic features can be used to determine the relative age of rocks and rock layers.	#88 Life on the Edge p.382
SC.O.5.2.25	recognize that the Earth is made of plates (plate tectonics).	
Standard 3:	Application of Science	
SC.S.5.3	Students will <ul style="list-style-type: none"> • explore the relationship between the parts and the whole system; construct a variety of useful models; examine changes that occur in an object or system. • demonstrate an understanding of the interdependence between science and technology. • demonstrate the ability to utilize technology to gather data and communicate designs, results and conclusions. • demonstrate the ability to evaluate the impact of different points of view on health, population, resource and environmental practices. 	
Objectives	Students will	PLT Activity and Page

SC.O.5.3.01	explore the relationship between the parts of a system to the whole system.	#16 Pass The Plants, Please p. 77 #17 People Of The Forest p. 82 #18 Tale of the Sun p. 86 #20 Environmental Exchange Box p. 92 #21 Adopt A Tree p. 97 #22 Trees as Habitats p.102 #32 A Forest of Many Uses p.135 #45 Web of Life p.194 #49 Tropical Treehouse p.207 #54 I'd Like to Visit a Place Where... p.236 #69 Forest for the Trees p.291 #70 Soil Stories p.297 #76 Tree Cookies p.327 #79 Tree Lifecycle p.341 #88 Life on the Edge p.382 #90 Native Ways p.389
SC.O.5.3.02	construct a variety of useful models of an object, event, or process.	#53 On the Move p.232 #79 Tree Lifecycle p.341 #83 A Peek at Packaging p.360 #89 Trees for Many Reasons p.387

SC.O.5.3.03	compare and contrast changes that occur in an object or a system to its original state.	#5 Poet-Tree p. 31 #36 Pollution Search p.153 #40 Then and Now p.174 #42 Sunlight and Shades of Green p.182 #49 Tropical Treehouse p.207 #51 Make Your Own Paper p.224 #60 Publicize It! p.256 #76 Tree Cookies p.327 #77 Trees in Trouble p.332 #78 Signs of Fall p.337 #79 Tree Lifecycle p.341 #80 Nothing Succeeds Like Succession p.345 #90 Native Ways p.389
SC.O.5.3.04	compare and contrast the influence that a variation in scale will have on the way an object or system works. (e.g., cooling rates of different-sized containers of water, strength of different-sized constructions from the same material, or flight characteristics of different-sized model airplanes).	#53 On the Move p.232
SC.O.5.3.05	research everyday applications and interactions of science and technology.	#36 Pollution Search p.153 #37 Reduce, Reuse, Recycle p.159 #39 Energy Sleuths p.167 #52 A Look at Aluminum p.228 #70 Soil Stories p.297 #82 Resource-Go-Round p.355 #83 A Peek at Packaging p.360 #85 In the Driver's Seat p.370 #86 Our Changing World p.375
SC.O.5.3.06	evaluate and critically analyze mass media reports of scientific developments and events.	

<p>SC.O.5.3.07</p>	<p>explore the connections between science, technology, society and career opportunities.</p>	<p>#20 Environmental Exchange Box p. 92 #32 A Forest of Many Uses p.135 #34 Who Works in this Forest? p.144 #36 Pollution Search p.153 #39 Energy Sleuths p.167 #40 Then and Now p.174 #53 On the Move p.232 #73 Waste Watchers p.314 #82 Resource-Go-Round p.355 #83 A Peek at Packaging p.360 #85 In the Driver's Seat p.370 #86 Our Changing World p.375</p>
--------------------	---	---