

SCIENCE DAYBOOKS

correlated to

Alabama

Course of Study: Science Grades 4-8

GReAT **S**ouRce®

EDUCATION GROUP



A Houghton Mifflin Company

YOUR ALABAMA GREAT SOURCE REPRESENTATIVE

JOHN DOUGLASS

800-289-4490, option 4
John_Douglass@hmco.com



Science Daybook © 2004
correlated to
Alabama Course of Study: Science
Fourth Grade

Physical Science

Content Standards, Fourth Grade	Science Daybook, Grades 4 and 5
<p>Students will:</p> <p>1. Describe how electrical circuits can be used to produce light, heat, sound, and magnetic fields.</p>	<p>Grade 4 Student Book: 113, 117</p> <p>Grade 4 Teacher’s Guide: 113, 117</p> <p>Grade 5 Student Book: 121</p>
<ul style="list-style-type: none"> • Identifying ways to use and conserve electrical energy 	<p>Grade 4 Student Book: 113</p> <p>Grade 4 Teacher’s Guide: 113</p> <p>Grade 5 Student Book: 101, 103, 105</p> <p>Grade 5 Teacher’s Guide: 101, 103</p>
<ul style="list-style-type: none"> • Classifying materials as conductors, nonconductors, and insulators of electricity and heat 	<p>Grade 4 Student Book: 115</p> <p>Grade 4 Teacher’s Guide: 14, 115</p>
<ul style="list-style-type: none"> • Identifying relationships among charge, current, and potential energy 	<p>Grade 4 Student Book: 113, 115, 117</p> <p>Grade 4 Teacher’s Guide: 117</p> <p>Grade 5 Teacher’s Guide: 111</p>
<p>2. Compare different pitches of sound produced by changing the size, tension, amount, or type of vibrating material.</p>	<p>Grade 4 Student Book: 124</p> <p>Grade 4 Teacher’s Guide: 122, 123, 124</p>
<ul style="list-style-type: none"> • Describing the relationship between the structure of the ear and hearing 	<p>Grade 4 Student Book: 122</p>

Content Standards, Fourth Grade	Science Daybook, Grades 4 and 5
3. Recognize how light interacts with transparent, translucent, and opaque materials.	Grade 5 Student Book: 121 Grade 5 Teacher's Guide: 87b, 119, 121, 122, 123
<ul style="list-style-type: none"> Predicting the reflection or absorption of light by various objects 	Grade 5 Student Book: 121, 124 Grade 5 Teacher's Guide: 119, 120, 121, 122, 124
4. Describe effects of friction on moving objects.	Grade 4 Teacher's Guide: 53, 77 Grade 5 Student Book: 112 Grade 5 Teacher's Guide: 112

Life Science

Content Standards, Fourth Grade	Science Daybook, Grades 4 and 5
Students will: 5. Describe the interdependence of plants and animals.	Grade 4 Student Book: 14, 15, 16, 17, 37, 38, 39, 127, 128-129, 130, 131, 132 Grade 4 Teacher's Guide: 14, 15, 16, 17, 37, 38, 39, 127, 128-129, 130, 131, 132 Grade 5 Student Book: 25, 28 Grade 5 Teacher's Guide: 28
<ul style="list-style-type: none"> Describing behaviors and body structures that help animals survive in particular habitats 	Grade 4 Student Book: 14, 16, 140, 152, 154, 156, 157 Grade 4 Teacher's Guide: 14, 16, 18, 40, 49b, 140, 152, 154, 156, 157 Grade 5 Student Book: 36 Grade 5 Teacher's Guide: 22, 24, 36
<ul style="list-style-type: none"> Describing life cycles of various animals to include incomplete and complete metamorphosis 	Grade 4 Student Book: 17 Grade 4 Teacher's Guide: 17
<ul style="list-style-type: none"> Tracing the flow of energy through a food chain 	Grade 4 Teacher's Guide: 37, 38 Grade 5 Student Book: 131 Grade 5 Teacher's Guide: 27, 130-131, 132

Content Standards, Fourth Grade	Science Daybook, Grades 4 and 5
<ul style="list-style-type: none"> Identifying characteristics of organisms, including growth and development, reproduction, acquisition and use of energy, and response to the environment 	<p>Grade 4 Student Book: 14, 15, 16, 139, 143, 147</p> <p>Grade 4 Teacher's Guide: 14, 15, 16, 18, 40, 139, 143, 147</p> <p>Grade 5 Teacher's Guide: 25</p>
6. Classify animals as vertebrates or invertebrates and as endotherms or ectotherms.	<p>Grade 4 Teacher's Guide: 14, 19, 22, 24, 38</p> <p>Grade 5 Teacher's Guide: 13, 25</p>
<ul style="list-style-type: none"> Describing the organization of cells into tissues, organs, and organ systems 	Grade 4 Teacher's Guide: 19, 22, 24
<ul style="list-style-type: none"> Describing the grouping of organisms into populations, communities, and ecosystems 	Grade 5 Teacher's Guide: 13
<ul style="list-style-type: none"> Classifying common organisms into kingdoms, including Animalia, Plantae, Protista, Fungi, Archaeobacteria, and Eubacteria 	<p>Grade 4 Teacher's Guide: 14, 38</p> <p>Grade 5 Teacher's Guide: 25</p>

Earth and Space Science

Content Standards, Fourth Grade	Science Daybook, Grades 4 and 5
Students will:	Grade 4 Student Book: 70, 72, 75, 78-79
7. Describe geological features of Earth, including bodies of water, beaches, ocean ridges, continental shelves, plateaus, faults, canyons, sand dunes, and ice caps.	<p>Grade 4 Teacher's Guide: 70, 72, 73, 75, 78-79</p> <p>Grade 5 Student Book: 57, 58-59, 63, 64-65, 66, 67, 68</p> <p>Grade 5 Teacher's Guide: 57, 58, 59, 63, 64-65, 66, 67, 68</p>
8. Identify technological advances and other benefits of space exploration.	<p>Grade 4 Student Book: 79</p> <p>Grade 4 Teacher's Guide: 79</p>
<ul style="list-style-type: none"> Listing highlights of space exploration, including satellites, manned moon missions, the unmanned Mars mission, and an inhabited space station 	<p>Grade 4 Student Book: 79</p> <p>Grade 4 Teacher's Guide: 79</p>

Content Standards, Fourth Grade	Science Daybook, Grades 4 and 5
9. Describe the appearance and movement of Earth and its moon.	Grade 4 Teacher's Guide: 72, 77 Grade 5 Student Book: 84 Grade 5 Teacher's Guide: 83, 84
<ul style="list-style-type: none"> • Identifying waxing and waning of the moon in the night sky 	Grade 5 Teacher's Guide: 82
<ul style="list-style-type: none"> • Identifying lunar and solar eclipses 	Grade 5 Student Book: 81, 82, 83, 84, 85, 86 Grade 5 Teacher's Guide: 81, 82, 83, 84, 85, 86
10. Describe the components of our solar system.	Grade 4 Student Book: 81, 82-82, 84-85, 86 Grade 4 Teacher's Guide: 81, 82-82, 84-85, 86



Science Daybook © 2004
correlated to
Alabama Course of Study: Science
Fifth Grade

Physical Science

Content Standards, Fifth Grade	Science Daybook, Grades 4 and 5
<p>Students will:</p> <p>1. Identify evidence of chemical changes through color, gas formation, solid formation, and temperature change.</p>	<p>Grade 4 Student Book: 99</p> <p>Grade 4 Teacher’s Guide: 14, 15, 95, 99</p> <p>Grade 5 Student Book: 89, 96, 98, 99, 100</p> <p>Grade 5 Teacher’s Guide: 95, 96-97, 98, 100</p>
<p>2. Define mass, volume, and density.</p>	<p>Grade 4 Student Book: 60</p> <p>Grade 4 Teacher’s Guide: 60</p> <p>Grade 5 Student Book: 93</p> <p>Grade 5 Teacher’s Guide: 93</p>
<ul style="list-style-type: none"> • Identifying the atom as the basic building block of matter 	<p>Grade 4 Teacher’s Guide: 14</p>
<ul style="list-style-type: none"> • Relating temperature changes to particle motion 	<p>Grade 4 Teacher’s Guide: 95, 100</p>
<ul style="list-style-type: none"> • Relating density to the sinking or floating of an object in a liquid 	<p>Grade 4 Student Book: 60</p> <p>Grade 4 Teacher’s Guide: 60</p>
<p>4. Describe forms of energy, including chemical, light, and mechanical.</p>	<p>Grade 4 Student Book: 99, 100</p> <p>Grade 4 Teacher’s Guide: 14, 15, 99, 100, 122</p> <p>Grade 5 Student Book: 101, 103, 104, 105, 107, 108-109, 111</p> <p>Grade 5 Teacher’s Guide: 101, 103, 104, 105, 106, 107, 108-109, 111</p>

Content Standards, Fifth Grade	Science Daybook, Grades 4 and 5
<ul style="list-style-type: none"> Identifying types of potential and kinetic energy 	<p>Grade 5 Student Book: 111</p> <p>Grade 5 Teacher's Guide: 111</p>
<ul style="list-style-type: none"> Describing alternatives to the use of fossil fuels 	<p>Grade 4 Teacher's Guide: 137</p>
<ul style="list-style-type: none"> Identifying the transfer of energy by conduction, convection, and radiation 	<p>Grade 4 Student Book: 99</p> <p>Grade 4 Teacher's Guide: 99, 100</p>
<p>5. Contrast ways in which light rays are bent by concave and convex lenses.</p>	<p>Grade 5 Student Book: 121</p> <p>Grade 5 Teacher's Guide: 87b, 119, 121, 122, 123</p>
<ul style="list-style-type: none"> Explaining why different objects have different colors 	<p>Grade 5 Student Book: 121</p> <p>Grade 5 Teacher's Guide: 87b, 119, 121, 122, 123</p>
<ul style="list-style-type: none"> Describing how mirrors reflect light 	<p>Grade 5 Teacher's Guide: 119</p>
<ul style="list-style-type: none"> Describing the relationship between the structure of the eye and sight 	<p>Grade 5 Student Book: 121</p>
<p>6. Compare effects of gravitational force on Earth, on the moon, and within space.</p>	<p>Grade 4 Student Book: 93</p>

Life Science

Content Standards, Fifth Grade	Science Daybook, Grades 4 and 5
<p>Students will:</p> <p>8. Identify major body systems and their functions, including the circulatory system, respiratory system, excretory system, and reproductive system.</p>	<p>Grade 4 Student Book: 20, 21, 22, 23</p> <p>Grade 4 Teacher's Guide: 19, 21, 23</p>
<p>9. Describe the relationship of populations within a habitat to various communities and ecosystems.</p>	<p>Grade 4 Student Book: 37, 38, 39, 40, 41, 42</p> <p>Grade 4 Teacher's Guide: 37, 38, 39, 40, 41, 42</p>
<ul style="list-style-type: none"> • Describing the relationship between food chains and food webs 	<p>Grade 4 Student Book: 38</p> <p>Grade 4 Teacher's Guide: 37, 38</p>
<ul style="list-style-type: none"> • Describing symbiotic relationships 	<p>Grade 4 Teacher's Guide: 38</p>

Earth and Space Science

Content Standards, Fifth Grade	Science Daybook, Grades 4 and 5
<p>Students will:</p> <p>10. Identify spheres of Earth, including the geosphere, atmosphere, and hydrosphere.</p>	<p>Grade 4 Teacher's Guide: 43, 58, 75</p> <p>Grade 5 Teacher's Guide: 57</p>
<ul style="list-style-type: none"> • Describing technology used to investigate Earth 	<p>Grade 4 Teacher's Guide: 75</p>
<ul style="list-style-type: none"> • Describing the rock cycle 	<p>Grade 4 Teacher's Guide: 43, 58</p> <p>Grade 5 Teacher's Guide: 57</p>
<p>11. Compare distances from the sun to planets in our solar system.</p>	<p>Grade 4 Student Book: 83, 85, 86</p> <p>Grade 4 Teacher's Guide: 82, 83, 84, 86</p>
<ul style="list-style-type: none"> • Identifying technology used to study the planets 	<p>Grade 4 Teacher's Guide: 83, 84</p>



Earth Science Daybook © 2002
correlated to
Alabama Course of Study: Science
Sixth Grade
Earth and Space Science

Content Standards, Sixth Grade	Earth Science Daybook
<p>Students will:</p> <p>1. Identify global patterns of atmospheric movement, including El Niño, the Gulf Stream, the jet stream, the Coriolis effect, and global winds that influence local weather.</p>	<p>Student Book: 145</p> <p>Teacher's Guide: 146B, 144-145</p>
<ul style="list-style-type: none"> • Predicting local weather and weather patterns 	<p>Student Book: 146-149</p> <p>Teacher's Guide: 146, 149, 172</p>
<ul style="list-style-type: none"> • Describing the function of instruments and technology used to investigate Earth's weather, including barometers, thermometers, wind socks, weather vanes, satellites, radar, weather balloons, and rain gauges 	<p>Student Book: 75, 137, 147, 149, 153</p> <p>Teacher's Guide: 137, 149, 153</p>
<ul style="list-style-type: none"> • Interpreting weather data through observations collected over time 	<p>Student Book: 149</p> <p>Teacher's Guide: 149</p>
<p>2. Describe factors that cause changes to Earth's surface over time.</p>	<p>Student Book: 20-21, 23, 25, 26, 27, 50, 62, 63, 64, 70-71, 83, 86, 87</p> <p>Teacher's Guide: 20, 21-22, 23, 24, 25, 26, 27, 52B, 52, 53, 62B, 62, 63, 64, 66, 70, 71, 72B, 82B, 83, 86, 87</p>
<ul style="list-style-type: none"> • Comparing constructive and destructive natural processes and their effects on land formations 	<p>Student Book: 56, 60, 63, 70-71, 72, 83, 86</p> <p>Teacher's Guide: 23, 56, 57, 60, 61, 62B, 63, 69, 70, 71, 72, 82B, 83, 86</p>

Content Standards, Sixth Grade	Earth Science Daybook
<ul style="list-style-type: none"> Distinguishing rock strata by geologic composition 	Student Book: 21-22 Teacher's Guide: 21-22, 23
3. Describe water and carbon biogeochemical cycles and their effects on Earth.	Student Book: 94, 95 Teacher's Guide: 94B, 94, 95
4. Explain the plate tectonic theory.	Student Book: 20-21, 76-79, 80-81 Teacher's Guide: 72B, 76, 78, 80, 81
<ul style="list-style-type: none"> Describing types of volcanoes and faults 	Student Book: 82, 86, 87 Teacher's Guide: 82B, 82, 83, 86, 87, 88
<ul style="list-style-type: none"> Determining energy release through seismographic data 	Student Book: 89 Teacher's Guide: 89
5. Describe layers of the oceanic hydrosphere, including the pelagic zone, benthic zone, abyssal zone, and intertidal zone.	Teacher's Guide: 76
7. Describe Earth's biomes.	Teacher's Guide: 13, 111
<ul style="list-style-type: none"> Identifying geographic factors that cause diversity in flora and fauna, including elevation, location, and climate 	Teacher's Guide: 13, 111
8. Describe how Earth's rotation, Earth's axial tilt, and distance from the equator cause variations in the heating and cooling of various locations on Earth.	Teacher's Guide: 126, 185
10. Describe components of the universe and their relationships to each other, including stars, planets and their moons, solar systems, and galaxies.	Student Book: 188-191, 192-195, 196-197, 198-201, 202-205 Teacher's Guide: 188B, 188-191, 192-195, 196-197, 198-201, 202-205
<ul style="list-style-type: none"> Identifying the impact of space exploration on innovations in technology 	Teacher's Guide: 184, 185, 188B, 204, 208, 210, 212, 213

Content Standards, Sixth Grade	Earth Science Daybook
<ul style="list-style-type: none"><li>• Describing the life cycle of a star	<p>Student Book: 198-201</p> <p>Teacher's Guide: 198B, 198-199, 201</p>



Life Science Daybook © 2002
correlated to
Alabama Course of Study: Science
Seventh Grade
Life Science

Content Standards, Seventh Grade	Life Science Daybook
<p>Students will:</p> <p>1. Describe characteristics common to living things, including growth and development, reproduction, cellular organization, use of energy, exchange of gases, and response to the environment.</p>	<p>Student Book: 10-13, 14-17, 18-19, 20-23, 24-27, 28-29, 30-33, 34-37, 58-61, 80-81, 98-101, 108-109, 124-127, 132-133</p> <p>Teacher's Guide: 10A, 10-13, 14-17, 18-19, 20B, 20-23, 24-27, 28-29, 30B, 30-33, 34-37, 58-61, 80-81, 98-101, 108-109, 124-127, 132-133</p>
<ul style="list-style-type: none"> • Predicting how an organism's behavior impacts the environment 	<p>Student Book: 124-127, 200-201</p> <p>Teacher's Guide: 124, 127, 200, 201</p>
<ul style="list-style-type: none"> • Identifying unicellular organisms, including bacteria and protists, by their methods of locomotion, reproduction, ingestion, excretion, and effects on other organisms 	<p>Student Book: 98, 100, 102-103, 170, 172</p> <p>Teacher's Guide: 10, 20, 94B, 98, 102-103, 170, 172</p>
<ul style="list-style-type: none"> • Identifying the structure of a virus 	<p>Student Book: 166</p> <p>Teacher's Guide: 94, 166, 168, 172</p>
<p>2. Identify functions of organelles found in eukaryotic cells, including the nucleus, cell membrane, cell wall, mitochondria, chloroplasts, and vacuoles.</p>	<p>Student Book: 10-13, 14-17, 18-19, 20-23, 24-25, 28-29</p> <p>Teacher's Guide: 10-13, 17, 18, 20B, 20-23, 24-25, 28-29</p>
<ul style="list-style-type: none"> • Identifying components of the cell theory 	<p>Student Book: 8, 10-13, 14-17, 18-19, 20-23, 24-25, 28-29</p> <p>Teacher's Guide: 10B, 10-13, 17, 18, 20B, 20-23, 24-25, 28-29</p>

Content Standards, Seventh Grade	Life Science Daybook
<ul style="list-style-type: none"> Listing the sequence of the mitotic cell cycle 	<p>Student Book: 30-33</p> <p>Teacher's Guide: 30B, 30-33</p>
<p>3. Relate major tissues and organs of the skeletal, circulatory, reproductive, muscular, respiratory, nervous, and digestive systems to their functions.</p>	<p>Student Book: 146-149, 150-153, 154-155, 156-157</p> <p>Teacher's Guide: 146B, 146-149, 150-153, 154-155, 156-157</p>
<ul style="list-style-type: none"> Arranging in order the organizational levels of the human body from the cell through organ systems 	<p>Student Book: 10, 20, 30, 40, 44-47, 48</p> <p>Teacher's Guide: 10B, 10, 20, 23, 30, 40B, 40, 44-47, 48</p>
<p>4. Describe organisms in the six-kingdom classification system by their characteristics.</p>	<p>Student Book: 82, 85</p> <p>Teacher's Guide: 82B, 82-83</p>
<ul style="list-style-type: none"> Recognizing genus and species as components of a scientific name 	<p>Student Book: 82, 86, 87, 90-91</p> <p>Teacher's Guide: 82B, 85, 86, 87, 90-91</p>
<ul style="list-style-type: none"> Identifying the contributions of Aristotle and Linnaeus to the early history of taxonomy 	<p>Teacher's Guide: 82B</p>
<p>5. Identify major differences between plants and animals, including internal structures, external structures, methods of locomotion, methods of reproduction, and stages of development.</p>	<p>Student Book: 24-27, 28-29, 55</p> <p>Teacher's Guide: 24-27, 28, 29</p>
<ul style="list-style-type: none"> Describing the processes of photosynthesis and cellular respiration 	<p>Student Book: 28-29</p> <p>Teacher's Guide: 28, 29</p>
<p>6. Describe evidence of species variation due to climate, changing landforms, interspecies interaction, and genetic mutation.</p>	<p>Student Book: 60-61, 72-75, 76-79, 80-81</p> <p>Teacher's Guide: 72B, 60-61, 72-75, 76-79, 80-81</p>
<p>7. Describe biotic and abiotic factors in the environment.</p>	<p>Student Book: 73, 74-75, 76-77, 80, 81</p> <p>Teacher's Guide: 72B, 73, 74-75, 77, 80-81</p>

Content Standards, Seventh Grade	Life Science Daybook
<ul style="list-style-type: none"> • Arranging the sequence of energy flow in an ecosystem through food webs, food chains, and energy pyramids 	<p>Student Book: 75, 182, 188-189, 196, 204</p> <p>Teacher's Guide: 182, 188, 189, 192, 196, 204</p>
<p>8. Describe the function of chromosomes.</p>	<p>Student Book: 18, 31, 32, 33, 52-53</p> <p>Teacher's Guide: 30B, 31, 32, 33, 52B, 52, 53</p>
<ul style="list-style-type: none"> • Identifying genes as parts of chromosomes that carry genetic traits 	<p>Student Book: 52, 53</p> <p>Teacher's Guide: 52B, 53</p>
<p>9. Identify the process of chromosome reduction in the production of sperm and egg cells during meiosis.</p>	<p>Student Book: 18</p> <p>Teacher's Guide: 18</p>
<p>10. Identify differences between deoxyribonucleic acid (DNA) and ribonucleic acid (RNA).</p>	<p>Student Book: 18, 53, 85, 88</p> <p>Teacher's Guide: 18, 52B, 85, 88</p>
<p>11. Identify Mendel's laws of genetics.</p>	<p>Student Book: 54-57, 60</p> <p>Teacher's Guide: 54-57, 60</p>



Physical Science Daybook © 2003
correlated to
Alabama Course of Study: Science
Eighth Grade
Physical Science

Content Standards, Eighth Grade	Physical Science Daybook
Students will: 1. Identify steps within the scientific process.	Student Book: 66-67, 138, 139, 141 Teacher's Guide: 10B, 30B, 66, 72B, 141
<ul style="list-style-type: none"> • Applying process skills to interpret data from graphs, tables, and charts 	Student Book: 18-19, 25, 90-91, 110, 133, 150-151, 154, 206-207 Teacher's Guide: 18, 25, 90, 151, 154
<ul style="list-style-type: none"> • Identifying controls and variables in a scientific investigation 	Teacher's Guide: 151
<ul style="list-style-type: none"> • Measuring dimension, volume, and mass using <i>Système International d'Unités</i> (SI units) 	Student Book: 19, 129 Teacher's Guide: 25, 76
<ul style="list-style-type: none"> • Identifying examples of hypotheses 	Student Book: 18-19, 77, 119, 150, 151 Teacher's Guide: 19, 76-77, 119, 124, 151
<ul style="list-style-type: none"> • Identifying appropriate laboratory glassware, balances, time measuring equipment, and optical instruments used to conduct an investigation 	Student Book: 18, 151, 156-157, 184-185 Teacher's Guide: 18, 25, 62, 89, 115, 147, 151, 156-157, 184-185, 197, 201, 209
2. Describe the structure of atoms, including the location of protons, neutrons, and electrons.	Student Book: 136-137, 138-141, 142-145, 173-175, 187 Teacher's Guide: 128, 136B, 136-137, 138-141, 142-145, 187

Content Standards, Eighth Grade	Physical Science Daybook
<ul style="list-style-type: none"> Identifying the charge of each subatomic particle 	Student Book: 187 Teacher's Guide: 140, 187
<ul style="list-style-type: none"> Identifying Democritus and Dalton as contributors to the atomic theory 	Student Book: 138-141 Teacher's Guide: 138-141
3. Determine the number of protons, neutrons, and electrons, and the mass of an element using the periodic table.	Student Book: 166, 167, 172-174 Teacher's Guide: 136B, 145, 166, 167, 169, 172, 173, 174
<ul style="list-style-type: none"> Locating metals, nonmetals, metalloids, and noble gases on the periodic table 	Student Book: 167, 187 Teacher's Guide: 139, 167, 173, 187
<ul style="list-style-type: none"> Using data about the number of electrons in the outer shell of an atom to determine its reactivity 	Student Book: 140, 174 Teacher's Guide: 174
4. State the law of conservation of matter.	Student Book: 136 Teacher's Guide: 136
<ul style="list-style-type: none"> Balancing chemical equations by adjusting coefficients 	Student Book: 170, 191, 199 Teacher's Guide: 198B
5. Differentiate between ionic and covalent bonds.	Student Book: 178-181
6. Define solution in terms of solute and solvent.	Student Book: 164
<ul style="list-style-type: none"> Describing acids and bases based on their hydrogen ion concentration 	Student Book: 170, 191 Teacher's Guide: 179, 190, 191
7. Describe states of matter based on kinetic energy of particles in matter.	Teacher's Guide: 186

Content Standards, Eighth Grade	Physical Science Daybook
<ul style="list-style-type: none"> Explaining effects of temperature, concentration, surface area, and catalysts on the rate of chemical reactions 	<p>Student Book: 170, 188-191, 196-197, 198-199, 200-203, 204-207</p> <p>Teacher's Guide: 170, 178B, 188B, 188-191, 193, 197, 198B, 198-199, 200-203, 204-207</p>
8. Identify Newton's three laws of motion.	<p>Student Book: 10-13, 20-23, 24-27, 28-29</p> <p>Teacher's Guide: 10-13, 20-23, 24-27, 28-29</p>
<ul style="list-style-type: none"> Defining terminology such as action and reaction forces, inertia, acceleration, momentum, and friction 	<p>Student Book: 12, 15, 25-26, 27, 53</p> <p>Teacher's Guide: 11, 24, 25-27</p>
9. Describe how mechanical advantages of simple machines reduce the amount of force needed for work.	<p>Student Book: 30-33, 34-35</p> <p>Teacher's Guide: 30-33, 34-35</p>
10. Differentiate between potential and kinetic energy.	<p>Student Book: 14-17</p> <p>Teacher's Guide: 14-17</p>
11. Explain the law of conservation of energy and its relationship to energy transformation, including chemical to electrical, chemical to heat, electrical to light, electrical to mechanical, and electrical to sound.	<p>Teacher's Guide: 17</p>
12. Classify waves as mechanical or electromagnetic.	<p>Student Book: 94-97, 98, 102-103</p> <p>Teacher's Guide: 94B, 94-97, 98, 102, 103</p>
<ul style="list-style-type: none"> Describing how earthquake waves, sound waves, water waves, and electromagnetic waves can be destructive or beneficial due to the transfer of energy 	<p>Student Book: 94-97, 98-101, 102-103, 104-107, 108-111, 112-113</p> <p>Teacher's Guide: 94B, 94-97, 98-101, 102-103, 104-107, 108-111, 112-113</p>
<ul style="list-style-type: none"> Describing how waves travel through different media 	<p>Teacher's Guide: 94B</p>
<ul style="list-style-type: none"> Relating wavelength, frequency, and amplitude to energy 	<p>Student Book: 97, 100, 105</p> <p>Teacher's Guide: 97, 100, 101, 104B, 105, 109, 112, 113</p>

Content Standards, Eighth Grade	Physical Science Daybook
<ul style="list-style-type: none"> • Describing the electromagnetic spectrum in terms of frequencies 	<p>Student Book: 100</p> <p>Teacher's Guide: 100</p>



TOLL FREE: **800-289-4490**

VISIT OUR WEB SITE: **WWW.GREATSOURCE.COM**
