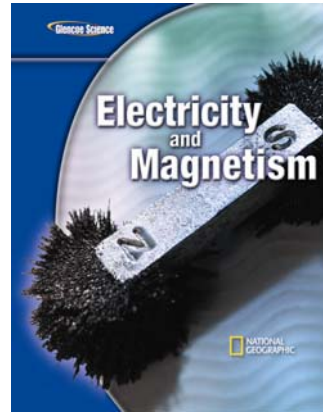
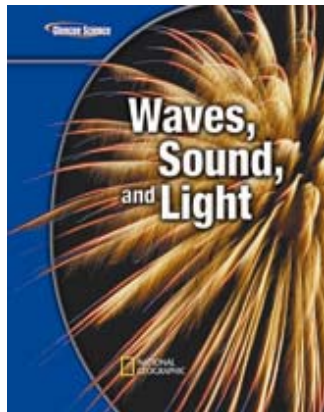


The Nature of Matter K
Chemistry L
Motion, Forces, and Energy M
Electricity and Magnetism N
Waves, Sound, and Light O

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STANDARDS	PAGE REFERENCES
Physical Science Grades 5-6	
PS1 - All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size or amount of substance).	
PS1 (5-8) INQ-1 <i>Investigate the relationships among mass, volume and density.</i>	
PS1 (5-6)-1 Students demonstrate an understanding of characteristic properties of matter by ...	
1a <u>comparing the masses of objects of equal volume made of different substances.</u>	Student Edition: (K) <i>Launch Lab 71</i> Teacher Wraparound Edition: (K) A 59, 71
PS1 (5-8) INQ+POC –2 <i>Given data about characteristic properties of matter (e.g., melting and boiling points, density, solubility) identify, compare, or classify different substances.</i>	
PS1 (5-6) –2 Students demonstrate an understanding of characteristic properties of matter by ...	
2a <u>recognizing that different substances have properties, which allow them to be identified regardless of the size of the sample.</u>	Student Edition: (K) 21-23, 72-76 <i>Lab 30-31, 77, 117</i> <i>MiniLab 26</i> (L) 78-81 Teacher Wraparound Edition: (K) A 20, 77; LD 74, 103
2b <u>classifying and comparing substances using characteristic properties (e.g., solid, liquid, gas).</u>	Student Edition: (K) 22-23 <i>Lab 24, 77, 117</i> <i>MiniLab 26</i> (L) <i>Lab 86-87</i> Teacher Wraparound Edition: (K) A 47; CU 23 (L) IL 20 (N) A 12

STANDARDS	PAGE REFERENCES
<p>PS1 (5-8) INQ+ SAE –3</p> <p><i>Collect data or use data provided to infer or predict that the total amount of mass in a closed system stays the same, regardless of how substances interact (conservation of matter).</i></p>	
<p>PS1 (5-6)–3</p> <p>Students demonstrate an understanding of conservation of matter by ...</p>	
<p>3a explaining that regardless of how parts of an object are arranged, the <u>mass of the whole is always the same as the sum of the masses of its parts.</u></p>	<p>Student Edition:</p> <p>(K) 87 <i>Chapter Review 93 #20</i></p> <p>(L) 40 <i>Chapter Review 58 #10</i> <i>MiniLab 40</i></p> <p>Teacher Wraparound Edition:</p> <p>(K) USW 87</p> <p>(L) DI 41; VL 40</p>
<p>PS1 (5-8) SAE+MAS – 4</p> <p><i>Represent or explain the relationship between or among energy, molecular motion, temperature, and states of matter.</i></p>	
<p>PS1 (5-6) – 4</p> <p>Students demonstrate an understanding of states of matter by ...</p>	
<p>4a <u>differentiating among the characteristics of solids, liquids, and gases.</u></p>	<p>Student Edition:</p> <p>(K) 40-44, 73 <i>Chapter Review 67 #23</i></p> <p>Teacher Wraparound Edition:</p> <p>(K) A 42, 44; MM 73; QD 44</p>
<p>4b predicting the effects of heating and cooling on the physical state, <u>volume and mass</u> of a substance.</p>	<p>Student Edition:</p> <p>(K) 47-52 <i>Applying Science 49</i> <i>Lab 53</i> <i>Launch Lab 39</i></p> <p>(M) 159</p> <p>Teacher Wraparound Edition:</p> <p>(K) A 52; IL 82; TPK 40</p> <p>(M) CC 159</p>

STANDARDS	PAGE REFERENCES
<p>PS1 (5-8) MAS –5 <i>Given graphic or written information, classify matter as atom/molecule or element/compound (Not the structure of an atom).</i></p>	
<p>PS1 (5-6) – 5 Students demonstrate an understanding of the structure of matter by ...</p>	
<p>5a distinguishing between solutions, mixtures, and “pure” substances, i.e. compounds and elements.</p>	<p>Student Edition: (K) 25-29 <i>Lab 30-31</i> (L) 64-66 <i>Section Review 69 #1</i> Teacher Wraparound Edition: (K) A 27, 29 (L) DI 67; MM 65; QD 66; R 69</p>
<p>PS 2 - Energy is necessary for change to occur in matter. Energy can be stored, transferred, and transformed, but cannot be destroyed.</p>	
<p>PS2 (5-8)-SAE+ POC- 6 <i>Given a real-world example, show that within a system, energy transforms from one form to another (i.e., chemical, heat, electrical, gravitational, light, sound, mechanical).</i></p>	
<p>PS2 (5-6)- 6 Students demonstrate an understanding of energy by...</p>	
<p>6a <u>differentiating among the properties</u> of various forms of energy.</p>	<p>Student Edition: (K) <i>Integrate Physics 46</i> (L) 42 (M) 126-130, 161 <i>Lab 138</i> (N) 15-16 (O) 36-40, 96-97 Teacher Wraparound Edition: (M) A 128; IL 127 (O) CC 98</p>
<p>6b <u>explaining how energy may be stored in various ways</u> (e.g. batteries, springs, height in terms of potential energy).</p>	<p>Student Edition: (L) 113-114 (M) 128-129 (N) 17 <i>Integrate Chemistry 17</i> Teacher Wraparound Edition: (L) A 113 (N) A 19; LD 17</p>

STANDARDS	PAGE REFERENCES
<p>6c <u>describing sound as the transfer of energy through various materials (e.g. solids, liquids, gases).</u></p>	<p>Student Edition: (M) Lab 138 (O) 36-38 Chapter Review 61 #23 MiniLab 38</p> <p>Teacher Wraparound Edition: (O) D 37; DI 48; LD 38; QD 37</p>
<p>PS2 (5-8) INQ+SAE+POC – 7 <i>Use data to draw conclusions about how heat can be transferred (convection, conduction, radiation).</i></p>	
<p>PS2 (5-6) – 7 Students demonstrate an understanding of heat energy by...</p>	
<p>7a <u>identifying real world applications where heat energy is transferred and showing the direction that the heat energy flows.</u></p>	<p>Student Edition: (K) Applying Science 49 MiniLab 50 (L) 44 (M) 145, 165, 172-173 Standardized Test Practice 181 #14</p> <p>Teacher Wraparound Edition: (K) SJ 46 (M) A 128, 145; TPK 162</p>
<p>PS 3 - The motion of an object is affected by forces.</p>	
<p>PS3 (5-8) INQ+ POC –8 <i>Use data to determine or predict the overall (net effect of multiple forces (e.g., friction, gravitational, magnetic) on the position, speed, and direction of motion of objects.</i></p>	
<p>PS3 (5-6)–8 Students demonstrate an understanding of motion by...</p>	
<p>8a using data or graphs to compare the relative speed of objects.</p>	<p>Student Edition: (M) 10-12 Chapter Review 31 #30 Design Your Own Lab 26-27 MiniLab 11</p> <p>Teacher Wraparound Edition: (M) A 13; DI 12</p>

STANDARDS	PAGE REFERENCES
Students demonstrate an understanding of force (e.g., friction, gravitational, magnetic) by...	
8b <u>recognizing that a force is a push or a pull.</u>	Student Edition: (M) 36-37 <i>Chapter Review 60 #15</i> <i>Chapter Study Guide 59</i> <i>Design Your Own Lab 56-57</i> <i>MiniLab 53</i> Teacher Wraparound Edition: (M) TPK 36; VL 37
8c <u>explaining that changes in speed or direction of motion are caused by forces.</u>	Student Edition: (M) 36, 42, 44-46 <i>Design Your Own Lab 56-57</i> <i>Launch Lab 35</i> Teacher Wraparound Edition: (M) A 38; QD 38; VL 44, 46
8d <u>showing that electric currents and magnets can exert a force on each other.</u>	Student Edition: (N) 45, 50 <i>Lab 56-57</i> <i>MiniLab 46</i> Teacher Wraparound Edition: (N) IL 51; LD 50
PS3 (5-8) SAE+INQ – Local Assessment Only <i>Experiment, observe, or predict how energy might be transferred by means of waves</i>	
PS3 (5-6) - LA Students demonstrate an understanding of waves by ...	
LAa investigate how vibrations in materials (e.g. pebble in a pond, jump rope, slinky) set up wavelike disturbances that spread away from the source.	Student Edition: (O) 8-11 <i>Design Your Own Lab 26-27</i> <i>Lab 18</i> <i>Launch Lab 7</i> Teacher Wraparound Edition: (O) A 16; D 9; QD 10

STANDARDS	PAGE REFERENCES
Physical Science Grades 7-8	
PS1 - All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size or amount of substance).	
PS1 (5-8) INQ-1 <i>Investigate the relationships among mass, volume and density.</i>	
PS1 (7-8) –1 Students demonstrate an understanding of characteristic properties of matter by ...	
1a measuring mass and volume of both regular and irregular objects and using those values as well as the <u>relationship $D=m/v$ to calculate density.</u>	Student Edition: (K) 59 <i>Applying Math</i> 59 <i>Chapter Review</i> 93 #28 <i>MiniLab</i> 74, 75 <i>Standardized Test Practice</i> 95 #15 (M) 78 <i>Section Review</i> 80 #7 Teacher Wraparound Edition: (K) A 71; QD 76
PS1 (5-8) INQ+POC –2 <i>Given data about characteristic properties of matter (e.g., melting and boiling points, density, solubility) identify, compare, or classify different substances.</i>	
PS1 (7-8) –2 Students demonstrate an understanding of characteristic properties of matter by ...	
2a <u>identifying an unknown substance given its characteristic properties.</u>	Student Edition: (K) <i>Lab</i> 30-31, 77 <i>MiniLab</i> 75 (L) <i>Applying Science</i> 13 Teacher Wraparound Edition: (L) IL 20
2b classifying and comparing substances using characteristic properties (e.g., solid, liquid, gas; <u>metal, non-metal</u>).	Student Edition: (K) 22-23 <i>Lab</i> 24, 77, 117 <i>MiniLab</i> 26 (L) <i>Lab</i> 86-87 Teacher Wraparound Edition: (K) A 47; CU 23 (L) IL 20 (N) A 12

STANDARDS	PAGE REFERENCES
<p>PS1 (5-8) INQ+ SAE –3</p> <p><i>Collect data or use data provided to infer or predict that the total amount of mass in a closed system stays the same, regardless of how substances interact (conservation of matter).</i></p>	
<p>PS1 (7-8) –3</p> <p>Students demonstrate an understanding of conservation of matter by ...</p>	
<p>3a <u>citing evidence to conclude that the amount of matter before and after undergoing a physical or a chemical change in a closed system remains the same.</u></p>	<p>Student Edition:</p> <p>(K) 87 Section Review 87 #4 Standardized Test Practice 95 #14</p> <p>(L) 40 Applying Math 42 MiniLab 40 Section Review 45 #3</p> <p>Teacher Wraparound Edition:</p> <p>(L) DI 41</p>
<p>PS1 (5-8) SAE+MAS – 4</p> <p><i>Represent or explain the relationship between or among energy, molecular motion, temperature, and states of matter.</i></p>	
<p>PS1 (7-8) – 4</p> <p>Students demonstrate an understanding of states of matter by ...</p>	
<p>4a <u>creating diagrams or models that represent the states of matter at the molecular level.</u></p>	<p>Student Edition:</p> <p>(K) 41-44 Standardized Test Practice 69 #23</p> <p>Teacher Wraparound Edition:</p> <p>(K) A 42, 48; MM 73; QD 44; TPK 45</p>
<p>4b <u>explaining the effect of increased and decreased heat energy on the motion and arrangement of molecules.</u></p>	<p>Student Edition:</p> <p>(K) 45-52 Lab 53 Section Review 52 #2</p> <p>Teacher Wraparound Edition:</p> <p>(K) A 48; QD 51</p>
<p>4c <u>observing the physical processes of evaporation and condensation, or freezing and melting, and describe these changes in terms of molecular motion and conservation of mass.</u></p>	<p>Student Edition:</p> <p>(K) 47-52 Chapter Review 67 #26 Lab 53 Launch Lab 39</p> <p>Teacher Wraparound Edition:</p> <p>(K) IM 47; QD 51; R 52</p>

STANDARDS	PAGE REFERENCES
<p>PS1 (5-8) MAS –5 <i>Given graphic or written information, classify matter as atom/molecule or element/compound (Not the structure of an atom).</i></p>	
<p>PS1 (7-8) – 5 Students demonstrate an understanding of the structure of matter by ...</p>	
<p>5a <u>using models or diagrams to show the difference between atoms and molecules.</u></p>	<p>Student Edition: (L) 19-20, 23 <i>Lab 25</i> <i>MiniLab 19</i></p> <p>Teacher Wraparound Edition: (L) A 19; R 24</p>
<p>5b <u>classifying common elements and compounds using symbols and simple chemical formulas.</u></p>	<p>Student Edition: (K) 19, 26 <i>Lab 24</i> (L) 23-24</p> <p>Teacher Wraparound Edition: (K) CU 29; TPK 18, 25 (L) CU 24; MM 40; VL 23</p>
<p>5c <u>interpreting the symbols and formulas of simple chemical equations.</u></p>	<p>Student Edition: (L) 38-41 <i>Applying Math 42</i> <i>Chapter Review 59 #22</i> <i>Standardized Test Practice 61 #16</i></p> <p>Teacher Wraparound Edition: (K) CU 29 (L) A 41; CU 45; DI 41; MM 40</p>

STANDARDS	PAGE REFERENCES
<p>5d <u>using symbols and chemical formulas to show simple chemical rearrangements that produce new substances (chemical change).</u></p>	<p>Student Edition: (L) 38-41 <i>Applying Math</i> 42 <i>Science Online</i> 41 <i>Standardized Test Practice</i> 61 #9</p> <p>Teacher Wraparound Edition: (K) CU 29 (L) DI 41</p>
<p>5e <u>explaining that when substances undergo physical changes, the appearance may change but the chemical makeup and chemical properties do not.</u></p>	<p>Student Edition: (K) 78-79, 85 (L) 36 <i>Standardized Test Practice</i> 61 #8</p> <p>Teacher Wraparound Edition: (K) MM 79</p>
<p>5f <u>explaining that when substances undergo chemical changes to form new substances, the properties of the new combinations may be very different from those of the old.</u></p>	<p>Student Edition: (K) 25, 80, 85 (L) 36 <i>Lab</i> 53 <i>Launch Lab</i> 35</p> <p>Teacher Wraparound Edition: (K) A 64; IM 85 (L) IM 34F</p>
<p>PS2– Energy is necessary for change to occur in matter. Energy can be stored, transferred and transformed, but cannot be destroyed.</p>	
<p>PS2 (5-8)-SAE+ POC- 6 Given a real-world example, show that within a system, energy transforms from one form to another (i.e., chemical, heat, electrical, gravitational, light, sound, mechanical).</p>	
<p>PS2 (7-8)- 6 Students demonstrate an understanding of energy by...</p>	
<p>6a <u>using a real world example to explain the transfer of potential energy to kinetic energy.</u></p>	<p>Student Edition: (M) 132 <i>Chapter Review</i> 153 #20 <i>MiniLab</i> 133 <i>Science Online</i> 132 <i>Section Review</i> 137 #1</p> <p>Teacher Wraparound Edition: (M) LD 132</p>

STANDARDS	PAGE REFERENCES
<p>6b constructing a model to explain the <u>transformation of energy</u> from one form to another. (e.g. an electrical circuit changing electrical energy to light energy in a light bulb).</p>	<p>Student Edition: (M) 131-136 <i>Lab 138</i> <i>MiniLab 133</i> (N) 48, 50 <i>Lab 27</i></p> <p>Teacher Wraparound Edition: (M) A 137; D 135; QD 133; SJ 129</p>
<p>6c explaining that while energy may be stored, transferred, or transformed, the <u>total amount of energy is conserved</u>.</p>	<p>Student Edition: (M) 132, 139, 169 <i>Lab 138</i></p> <p>Teacher Wraparound Edition: (M) TPK 104</p>
<p>6d describing the effect of <u>changing voltage</u> in an electrical circuit.</p>	<p>Student Edition: (N) 16, 20-21 <i>Chapter Study Guide 31</i> <i>Lab 28-29</i> <i>Standardized Test Practice 34 #5</i></p> <p>Teacher Wraparound Edition: (N) AIL 28</p>
<p>PS2 (5-8) INQ+SAE+POC – 7 <i>Use data to draw conclusions about how heat can be transferred (convection, conduction, radiation).</i></p>	
<p>PS2 (7-8) – 7 Students demonstrate an understanding of heat energy by...</p>	
<p>7a <u>designing a diagram, model, or analogy to show or describe the motion of molecules for a material in a warmer and cooler state.</u></p>	<p>Student Edition: (K) 45-52 (L) 49 <i>Standardized Test Practice 61 #10</i> (M) 158, 163 <i>Standardized Test Practice 181 #18</i></p> <p>Teacher Wraparound Edition: (K) A 42, 48; MM 73 (M) IL 163</p>

STANDARDS	PAGE REFERENCES
<p>7b explaining the difference among <u>conduction, convection and radiation and creating a diagram to explain how heat energy travels in different directions and through different materials by each of these methods.</u></p>	<p>Student Edition: (M) 162-165 <i>MiniLab</i> 165 <i>Standardized Test Practice</i> 181 #17</p> <p>Teacher Wraparound Edition: (M) A 167; DI 165; LD 166</p>
<p>PS 3 - The motion of an object is affected by forces.</p>	
<p>PS3 (5-8) INQ+ POC –8 <i>Use data to determine or predict the overall (net effect of multiple forces (e.g., friction, gravitational, magnetic) on the position, speed, and direction of motion of objects.</i></p>	
<p>Students demonstrate an understanding of motion by...</p>	
<p>8a <u>measuring distance and time for a moving object and using those values as well as the relationship $s=d/t$ to calculate speed and graphically represent the data.</u></p>	<p>Student Edition: (M) 10-12 <i>Applying Math</i> 10 <i>Design Your Own Lab</i> 56-57 <i>Lab</i> 55 <i>MiniLab</i> 11 <i>Section Review</i> 13 #2</p> <p>Teacher Wraparound Edition: (M) A 11, 45; CU 13; DI 12</p>
<p>8b <u>solving for any unknown in the expression $s=d/t$ given values for the other two variables.</u></p>	<p>Student Edition: (M) <i>Applying Math</i> 10 <i>Chapter Review</i> 31 #29 <i>Design Your Own Lab</i> 56-57 <i>Lab</i> 55 <i>MiniLab</i> 11 <i>Section Review</i> 13 #5</p> <p>Teacher Wraparound Edition: (M) A 11, 45</p>
<p>8c differentiating among <u>speed, velocity and acceleration.</u></p>	<p>Student Edition: (M) 10-18 <i>MiniLab</i> 11, 17 <i>Standardized Test Practice</i> 33 #21</p> <p>Teacher Wraparound Edition: (M) A 17, 45; CU 18; D 13; R 13</p>

STANDARDS	PAGE REFERENCES
Students demonstrate an understanding of force (e.g., friction, gravitational, magnetic) by...	
<p>8d making and testing predictions on how <u>unbalanced forces</u> acting on objects change speed or direction of motion, or both.</p>	<p>Student Edition: (M) 37 <i>Design Your Own Lab</i> 56-57 <i>Launch Lab</i> 35</p> <p>Teacher Wraparound Edition: (M) A 38; CU 41; QD 38</p>
<p>8e describing or graphically representing that <u>the acceleration of an object is proportional to the force on the object and inversely proportional to the object's mass.</u></p>	<p>Student Edition: (M) 42-43, 45 <i>Applying Math</i> 45</p> <p>Teacher Wraparound Edition: (M) A 45; SJ 45</p>
<p>8f <u>differentiating between mass and weight.</u></p>	<p>Student Edition: (K) 74 (M) 43-44 <i>Standardized Test Practice</i> 62 #4</p> <p>Teacher Wraparound Edition: (M) D 43; DI 43</p>
<p>PS3 (5-8) SAE+INQ – Local Assessment Only <i>Experiment, observe, or predict how energy might be transferred by means of waves.</i></p>	
<p>PS3 (7-8) - LA Students demonstrate an understanding of the visible spectrum of light by...</p>	
<p>LAa experiment how light from the sun is made up of a mixture of many different colors of light (e.g. using prisms, spectrometers, crystals).</p>	<p>Student Edition: (O) 98 <i>Design Your Own Lab</i> 86-87 <i>Lab</i> 80</p> <p>Teacher Wraparound Edition: (O) A 80, 98</p>
<p>LAb representing in words, diagrams, or other models the visible spectrum as a part of the <u>electromagnetic spectrum</u> (consisting of visible light, infrared, and ultraviolet radiation) <u>and composed of all colors of light</u></p>	<p>Student Edition: (O) 14, 71, 74-75 <i>Chapter Review</i> 91 #28 <i>Design Your Own Lab</i> 86-87 <i>Lab</i> 80</p> <p>Teacher Wraparound Edition: (O) A 87; R 79; VL 71</p>

STANDARDS	PAGE REFERENCES
<p>LAc <u>differentiating between electromagnetic and mechanical waves.</u></p>	<p>Student Edition: (O) 9-12, 66 <i>Chapter Review</i> 91 #21 <i>Section Review</i> 70 #4</p> <p>Teacher Wraparound Edition: (O) CB 28; SCB 6E</p>