



# SCIENCE

## A CLOSER LOOK

Grade 2

© 2008

STANDARDS	PAGE REFERENCES
<b>SCIENCE PROCESSES</b>	
<b>Inquiry Process</b>	
<i>K-7 Standard S.IP: Develop an understanding that scientific inquiry and reasoning involves observing, questioning, investigating, recording, and developing solutions to problems.</i>	
<b>S.IP.E.1 Inquiry involves generating questions, conducting investigations, and developing solutions to problems through reasoning and observation.</b>	
<b>S.IP.02.11</b> Make purposeful observation of the natural world using the appropriate senses.	<p><b>Student Edition:</b>  <i>Explore</i> 39, 69, 89, 121, 129, 135, 171, 187, 195, 223, 237, 295, 331, 339, 361, 399, 405, 415  <i>Quick Lab</i> 26, 32, 42, 124, 137, 173, 313, 328, 371, 381, 418</p> <p><b>Teacher Wraparound Edition:</b>            BS 65A-65B, 109A-109B, 273A-273B; E 39, 69, 89, 121, 129, 135, 171, 187, 195, 223, 237, 295, 331, 339, 361, 399, 405, 415; FS 27A-27B; QL 26, 32, 42, 124, 137, 173, 312, 328, 370, 381, 418</p>
<b>S.IP.02.12</b> Generate questions based on observations.	<p><b>Student Edition:</b>  <i>Explore</i> 23, 39, 69, 89, 103, 129, 135, 155, 171, 231, 237, 295, 301, 331, 339, 399, 405, 415  <i>Quick Lab</i> 26, 42, 124, 137, 173, 198, 328, 418</p> <p><b>Teacher Wraparound Edition:</b>            AE 223, 231; BS 65A-65B, 109A-109B, 199A-199B, 273A-273B; E 23, 39, 69, 89, 103, 129, 135, 155, 171, 231, 237, 295, 301, 331, 339, 399, 405, 415; QL 26, 42, 124, 137, 173, 198, 328, 418</p>

STANDARDS	PAGE REFERENCES
<p><b>S.IP.02.13</b> Plan and conduct simple investigations.</p>	<p><b>Student Edition:</b>  <i>Explore</i> 3, 23, 39, 69, 89, 121, 129, 135, 171, 231, 295, 301, 309, 325, 331, 339, 377, 385, 399, 405, 415, 421  <i>Quick Lab</i> 42, 173, 207, 313, 328, 344, 364, 371, 381, 418</p> <p><b>Teacher Wraparound Edition:</b>            AE 295; BS 65A-65B, 199A-199B, 273A-273B, 329A-329B, 389A-389B; E 3, 23, 39, 69, 89, 121, 129, 135, 171, 231, 295, 301, 309, 325, 331, 339, 377, 385, 399, 405, 415, 421; QL 42, 173, 207, 312, 328, 344, 364, 370, 380, 418</p>
<p><b>S.IP.02.14</b> Manipulate simple tools (ruler, meter stick, measuring cups, hand lens, thermometer, balance) that aid observation and data collection.</p>	<p><b>Student Edition:</b>  <i>Explore</i> 29, 39, 135, 171, 187, 195, 223  <i>Quick Lab</i> 26, 32, 124, 132, 191, 304, 364, 407, 418</p> <p><b>Teacher Wraparound Edition:</b>            BS 65A-65B, 109A-109B, 199A-199B, 389A-389B; E 29, 39, 135, 171, 187, 195, 223; FA 305; IM 315; QL 26, 32, 124, 132, 190, 304, 364, 407, 418</p>
<p><b>S.IP.02.15</b> Make accurate measurements with appropriate units (meter, centimeter) for the measurement tool.</p>	<p><b>Student Edition:</b>            304-305  <i>Explore</i> 275, 339, 367  <i>Math in Science</i> 315  <i>Quick Lab</i> 132, 304, 364, 403</p> <p><b>Teacher Wraparound Edition:</b>            AE 223, 275, 367; BS 65A-65B, 199A-199B; DI 311; E 275, 339, 367; M R3; MS 315; QL 132, 304, 364, 402</p>
<p><b>S.IP.02.16</b> Construct simple charts and graphs from data and observations.</p>	<p><b>Student Edition:</b>  <i>Explore</i> 163, 223, 231, 237, 295, 301, 421  <i>Quick Lab</i> 191, 364, 381, 403, 418</p> <p><b>Teacher Wraparound Edition:</b>            AE 135, 295, 421; BS 273A-273B, 389A-389B; E 29, 163, 223, 231, 237, 295, 301, 421; FS 299A-299B; G R7; IM 75; QL 190, 364, 381, 402, 418</p>

STANDARDS	PAGE REFERENCES
<b>Inquiry Analysis and Communication</b>	
<i>K-7 Standard S.IA: Develop an understanding that scientific inquiry and investigations require analysis and communication of findings, using appropriate technology.</i>	
<b>S.IA.E.1 Inquiry includes an analysis and presentation of findings that lead to future questions, research, and investigations.</b>	
<p><b>S.IA.02.12</b> Share ideas about science through purposeful conversation.</p>	<p><b>Student Edition:</b>  <i>Explore</i> 29, 55, 89, 95, 155, 237, 295, 339, 399  <i>Look and Wonder</i> 22, 38, 54, 60, 88, 94, 102, 154, 186, 230, 236, 308, 384, 404  <i>Quick Lab</i> 32, 93, 106, 137, 261, 313, 371  <i>Talk About It</i> 127, 243</p> <p><b>Teacher Wraparound Edition:</b>            AE 55; APK 22, 38, 60, 88, 94; BS 109A-109B; E 29, 55, 89, 95, 155; LW 22, 38, 54, 60, 88, 94, 102, 154, 186, 230, 236, 308, 384, 404; QL 32, 93, 106, 137, 261, 312, 370; TAI 127, 243</p>
<p><b>S.IA.02.13</b> Communicate and present findings of observations.</p>	<p><b>Student Edition:</b>  <i>Explore</i> 11, 89, 95, 187, 201, 237, 331, 361  <i>Quick Lab</i> 97, 106, 124, 132, 173, 272</p> <p><b>Teacher Wraparound Edition:</b>            AE 295; BS 109A-109B, 329A-329B; 389A-389B; E 11, 89, 95, 187, 201, 237, 331, 361; FS 329A-329B; QL 97, 106, 124, 132, 173, 272</p>
<p><b>S.IA.02.14</b> Develop strategies and skills for information gathering and problem solving (books, internet, ask an expert, observation, investigation, technology tools).</p>	<p><b>Student Edition:</b>  <i>Explore</i> 55, 61, 89, 103, 129, 187, 237, 295, 361, 415  <i>Quick Lab</i> 132, 137, 191, 313</p> <p><b>Teacher Wraparound Edition:</b>            AE 231, 237, 295; BS 65A-65B, 109A-109B, 199A-199B; E 55, 61, 89, 103, 129, 187, 295; FS 93A-93B, 133A-133B, 161A-161B, 191A-191B, 235A-235B, 257A-257B, 299A-299B, 329A-329B, 365A-365B, 403A-403B; QL 132, 137, 190, 312</p>

STANDARDS	PAGE REFERENCES
<b>Reflection and Social Implications</b>	
<p><i><b>K-7 Standard S.RS:</b> Develop an understanding that claims and evidence for their scientific merit should be analyzed. Understand how scientists decide what constitutes scientific knowledge. Develop an understanding of the importance of reflection on scientific knowledge and its application to new situations to better understand the role of science in society and technology.</i></p>	
<p><b>S.RS.E.1 Reflecting on knowledge is the application of scientific knowledge to new and different situations. Reflecting on knowledge requires careful analysis of evidence that guides decision-making and the application of science throughout history and within society.</b></p>	
<p><b>S.RS.02.11</b> Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.</p>	<p><b>Student Edition:</b> 15 <i>Quick Lab</i> 63, 73, 97, 124, 161, 226, 272, 278, 328, 370, 407, 418 <i>Writing in Science</i> 100, 192</p> <p><b>Teacher Wraparound Edition:</b> AE 171; BS 109A-109B, 161A-161B, 329A-329B; DI 57, 71, 85, 157, 189, 239, 255, 269, 297, 311, 327, 341, 372, 379, 417; ELLS 24, 56, 136, 238, 306, 362, 406, R14; FA 27, 35, 93, 99, 191, 207, 279, 305, 345, 403; FS 93A-93B; IW 100, 389A, R11; QL 63, 73, 97, 124, 160, 226, 272, 278, 328, 370, 407, 418; WS 192; WU 134</p>
<p><b>S.RS.02.13</b> Recognize that when a science investigation is done the way it was done before, similar results are expected.</p>	<p><b>Student Edition:</b> 15 <i>Reading in Science</i> 280-281 <i>Think, Talk, and Write</i> 15</p> <p><b>Teacher Wraparound Edition:</b> BS 109A-109B, 329C-329D; RS 280-281</p>
<p><b>S.RS.02.15</b> Use evidence when communicating scientific ideas.</p>	<p><b>Student Edition:</b> <i>Explore</i> 95, 201, 237, 295, 309, 325, 415, 421 <i>Quick Lab</i> 304, 371</p> <p><b>Teacher Wraparound Edition:</b> BS 65A-65B, 199A-199B, 273A-273B, 329C-329D, 389A-389B, 419A-419B; IW 273A; FS 235A-235B, 257A-257B; QL 304, 370</p>

STANDARDS	PAGE REFERENCES
<p><b>S.RS.02.16</b> Identify technology used in everyday life.</p>	<p><b>Student Edition:</b>  189, 422-423  <i>Careers in Science</i> 354  <i>Quick Lab</i> 380  <i>Reading in Science</i> 242-243, 426-427  <i>Science Tools</i> R6</p> <p><b>Teacher Wraparound Edition:</b>  AE 421; CS 354; FA 425; QL 380; RS 242-243, 426-427; ST R6; UV 189</p>
<p><b>PHYSICAL SCIENCE</b>  <b>Properties of Matter</b></p>	
<p><i><b>K-7 Standard P.PM:</b> Develop an understanding that all matter has observable attributes with physical and chemical properties that are described, measured, and compared. Understand that states of matter exist as solid, liquid, or gas; and have physical and chemical properties. Understand all matter is composed of combinations of elements, which are organized by common attributes and characteristics on the Periodic Table. Understand that substances can be classified as mixtures or compounds and according to their physical and chemical properties.</i></p>	
<p><b>P.PM.E.1 Physical Properties- All objects and substances</b> have physical properties that can be measured.</p>	
<p>P.PM.02.12 Describe objects and substances according to their properties (color, size, shape, texture, hardness, liquid or solid, sinking or floating).</p>	<p><b>Student Edition:</b>  296-299, 302-303, 310-313, 316-319  <i>Explore</i> 295, 301, 309  <i>Look and Wonder</i> 300  <i>Quick Lab</i> 298, 313  <i>Think, Talk, and Write</i> 299, 305</p> <p><b>Teacher Wraparound Edition:</b>  AE 295; APK 294, 300, 308; C 299, 305, 313; DMI 302, 310, 312; DV 297, 298, 303, 311; E 295, 301, 309; ELLS 296, 302; FA 299; LW 300; QL 298, 312; SB 302; UV 298, 303, 312; WU 294</p>
<p><b>P.PM.02.13</b> Measure the length of objects using rulers (centimeters) and meter sticks (meters).</p>	<p><b>Student Edition:</b>  305  <i>Standard</i> R3</p> <p><b>Teacher Wraparound Edition:</b>  AE 309; BS 65A-65B; DI R3; DMI 311; E 309</p>
<p><b>P.PM.02.14</b> Measure the volume of liquids using common measuring tools (measuring cups, measuring spoons).</p>	<p><b>Student Edition:</b>  <i>Explore</i> 309  <i>Math in Science</i> 315</p> <p><b>Teacher Wraparound Edition:</b>  AE 309; BS 199A-199B; DI 311; E 309; IM 169</p>

STANDARDS	PAGE REFERENCES
<p><b>P.PM.02.15</b> Compare the weight of objects using balances.</p>	<p><b>Student Edition:</b>  <i>Mass R4</i>  <i>Quick Lab 304</i>  <i>Read a Photo 304</i></p> <p><b>Teacher Wraparound Edition:</b>            ELLS R4; EMI R4; FA 299, 305; IM 191A; QL 394; RP 304</p>
<p><b>P.PM.E.4 Material Composition- Some objects are composed of a single substance, while other objects are composed of more than one substance.</b></p>	
<p><b>P.PM.02.41</b> Classify objects as single substances (ice, silver, sugar, salt) or mixtures (salt and pepper, mixed dry beans).</p>	<p><b>Student Edition:</b>            340-343</p> <p><b>Teacher Wraparound Edition:</b>            DI 341, 343; DMI 340, 342; ELLS 340; EMI 343; M TR75; PA 351; SB 340</p>
<p><b>LIFE SCIENCE</b>  <b>Organization of Living Things</b></p>	
<p><i><b>K-7 Standard L.OL:</b> Develop an understanding that plants and animals (including humans) have basic requirements for maintaining life which include the need for air, water and a source of energy. Understand that all life forms can be classified as producers, consumers, or decomposers as they are all part of a global food chain where food/energy is supplied by plants which need light to produce food/energy. Develop an understanding that plants and animals can be classified by observable traits and physical characteristics. Understand that all living organisms are composed of cells and they exhibit cell growth and division. Understand that all plants and animals have a definite life cycle, body parts, and systems to perform specific life functions.</i></p>	
<p><b>L.OL.E.1 Life Requirements- Organisms have basic needs. Animals and plants need air, water, and food. Plants also require light. Plants and animals use food as a source of energy and as a source of building material for growth and repair.</b></p>	
<p><b>L.OL.02.14</b> Identify the needs of plants.</p>	<p><b>Student Edition:</b>            24-26, 90  <i>Explore 23</i>  <i>Quick Lab 42</i></p> <p><b>Teacher Wraparound Edition:</b>            AE 23; APK 22; DI 25; DMI 24, 26; DV 25; E 23; ELLS 24; QL 42; SB 24; WLTN TR56</p>

STANDARDS	PAGE REFERENCES
<p><b>L.OL.E.2 Life Cycles- Plants and animals have life cycles. Both plants and animals begin life and develop into adults, reproduce, and eventually die. The details of this life cycle are different for different organisms.</b></p>	
<p><b>L.OL.02.22</b> Describe the life cycle of familiar flowering plants including the following stages: seed, plant, flower, and fruit.</p>	<p><b>Student Edition:</b> 30-31, 34-35 <i>Look and Wonder</i> 28 <i>Read a Diagram</i> 34 <i>Think, Talk, and Write</i> 35 #1, #3</p> <p><b>Teacher Wraparound Edition:</b> APK 28; DI 34, 41; DMI 30, 34; DV 34; ELLS 30; FA 35; LW 28; PA 49; PMNP TR56-TR57; RD 34; SB 30; UV 31; WU 28</p>
<p><b>Heredity</b></p>	
<p><i><b>K-7 Standard L.HE:</b> Develop an understanding that all life forms must reproduce to survive. Understand that characteristics of mature plants and animals may be inherited or acquired and that only inherited traits are passed on to their young. Understand that inherited traits can be influenced by changes in the environment and by genetics.</i></p>	
<p><b>L.HE.E.1 Observable Characteristics- Plants and animals share many, but not all, characteristics of their parents.</b></p>	
<p><b>L.HE.02.13</b> Identify characteristics of plants (for example: leaf shape, flower type, color, size) that are passed on from parents to young.</p>	<p><b>Student Edition:</b> 40-41</p> <p><b>Teacher Wraparound Edition:</b> DMI 40; ELLS 40; FA 43</p>
<p><b>EARTH SCIENCE</b> <b>Solid Earth</b></p>	
<p><i><b>K-7 Standard E.SE:</b> Develop an understanding of the properties of earth materials and how those properties make materials useful. Understand gradual and rapid changes in earth materials and features of the surface of Earth. Understand magnetic properties of Earth.</i></p>	
<p><b>E.SE.E.2 Surface Changes- The surface of Earth changes. Some changes are due to slow processes, such as erosion and weathering, and some changes are due to rapid processes, such as landslides, volcanic eruptions, and earthquakes.</b></p>	
<p><b>E.SE.02.21</b> Describe the major landforms of the surface of the Earth (mountains, plains, plateaus, valleys, hills).</p>	<p><b>Student Edition:</b> 156-157, 179 <i>Explore</i> 155 <i>Look and Wonder</i> 154</p> <p><b>Teacher Wraparound Edition:</b> AE 155; APK 154; DI 157; DMI 156; E 155; ELLS 156; LW 154; SB 156; UV 157; WU 154</p>

STANDARDS	PAGE REFERENCES
<b>Fluid Earth</b>	
<i>K-7 Standard E.FE: Develop an understanding that Earth is a planet nearly covered with water and that water on Earth can be found in three states, solid, liquid, and gas. Understand how water on Earth moves in predictable patterns. Understand Earth’s atmosphere as a mixture of gases and water vapor.</i>	
<b>E.FE.E.1 Water- Water is a natural resource and is found under the ground, on the surface of the earth, and in the sky. It exists in three states (liquid, solid, gas) and can go back and forth from one form to another.</b>	
<b>E.FE.02.11</b> Identify water sources (wells, springs, lakes, rivers, oceans).	<b>Student Edition:</b> 138, 165-166 <i>Writing in Science</i> 168 <b>Teacher Wraparound Edition:</b> APK 162
<b>E.FE.02.12</b> Identify household uses of water (drinking, cleaning, food preparation).	<b>Student Edition:</b> <i>Explore</i> 163 <b>Teacher Wraparound Edition:</b> AE 163; E 163; ELLS 164; WU 162
<b>E.FE.02.13</b> Describe the properties (visible, flowing, melting, dew) of water as a liquid (lakes, rivers, streams, oceans).	<b>Student Edition:</b> 165, 232-233 <i>Look and Wonder</i> 230 <b>Teacher Wraparound Edition:</b> APK 230; DMI 232; LW 230; UV 233; WU 230
<b>E.FE.02.14</b> Describe the properties (hard, visible, freezing, ice) of water as a solid (ice, snow, iceberg, sleet, hail).	<b>Student Edition:</b> 327 <i>Quick Lab</i> 173 <i>Read a Photo</i> 173 <b>Teacher Wraparound Edition:</b> QL 173; RP 173
<b>E.FE.E.2 Water Movement- Water moves in predictable patterns.</b>	
<b>E.FE.02.21</b> Describe how rain collects on the surface of the Earth and flows downhill into bodies of water (streams, rivers, lakes, oceans) or into the ground.	<b>Student Edition:</b> 234-235 <b>Teacher Wraparound Edition:</b> FS 161A-161B

STANDARDS	PAGE REFERENCES
<p><b>E.FE.02.22</b> Describe the major bodies of water on the Earth's surface (lakes, ponds, oceans, rivers, streams).</p>	<p><b>Student Edition:</b>  166-167  <i>Read a Photo</i> 166  <i>Writing in Science</i> 140, 168</p> <p><b>Teacher Wraparound Edition:</b>  DMI 166; FA 167; RP 166; WS 140, 168</p>