



*Earth Materials and Processes F
The Changing Surface of Earth G
The Water Planet H
The Air Around You I
Astronomy J*

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STANDARDS	PAGE REFERENCES
Earth and Space Science Grades 5-6	
<p>ESS1 - The earth and earth materials as we know them today have developed over long periods of time, through continual change processes.</p>	
<p>ESS1 (5-8) INQ+ POC -1 <i>Use geological evidence provided to support the idea that the Earth's crust/lithosphere is composed of plates that move.</i></p>	

STANDARDS	PAGE REFERENCES
<p>ESS1 (5-6)–1 Students demonstrate an understanding of processes and change over time within earth systems by ...</p>	
<p>1a <u>identifying and describing the layers of the earth.</u></p>	<p>Student Edition: (F) 12, 106, 122 #6-#7, 123 #13-#15, 135-137, 152 #7 <i>Applying Skills</i> 12 <i>Section Review</i> 137 Teacher Wraparound Edition: (F) CC 135; CFU 137; DI 136; R 12; SCB 96E-F; UAA 136; VL 135</p>
<p>1b <u>plotting location of volcanoes and earthquakes and explaining the relationship between the location of these phenomena and faults.</u></p>	<p>Student Edition: (F) 106-115, 126-129, 159-161 <i>Science Online</i> 108 <i>Use the Internet Lab</i> 116-117 <i>Lab</i> 146-147 Teacher Wraparound Edition: (F) A 117; AIL 116; CC 113, 160; DI 114, 128; MM 111; R 129; SCB 96F; VL 110 (G) ACT 12</p>
<p>ESS1 (5-8) SAE–2 <i>Explain the processes that cause the cycling of water into and out of the atmosphere and their connections to our planet’s weather patterns.</i></p>	
<p>ESS1 (5-6)–2 Students demonstrate an understanding of processes and change over time within earth systems by ...</p>	
<p>2a <u>diagramming, labeling and explaining the processes of the water cycle including evaporation, precipitation, and run-off, condensation, transpiration, and groundwater.</u></p>	<p>Student Edition: (H) 9-10, 24-25, 32 #8-#10 <i>Science Online</i> 9 (I) 19, 33 #15-#17 <i>Section Review</i> 20 Teacher Wraparound Edition: (H) ACT 9; CC 24; DI 9; IL 24; R 25; TBI 98; TFYI 17; VL 25 (I) A 19, 20; IM 19; R 20; SJ 19</p>

STANDARDS	PAGE REFERENCES
<p>2b <u>explaining how condensation of water vapor forms clouds which affects climate and weather.</u></p>	<p>Student Edition: (H) 24-25 (I) 19, 31 #19, 40-43 <i>Section Review</i> 43</p> <p>Teacher Wraparound Edition: (H) SCB 6F (I) A 19; CFU 43; SCB 34E</p>
<p>2c <u>developing models to explain how humidity, temperature, and altitude affect air pressure and how this affects local weather.</u></p>	<p>Student Edition: (I) 12, 21-25, 31 #20, 36-39, 45, 63 #12-#13 <i>Applying Science</i> 12 <i>Science Online</i> 45</p> <p>Teacher Wraparound Edition: (H) SCB 6F (I) LD 12, 38; QD 11; R 15; SCB 6E</p>
<p>2d <u>identifying composition and layers of earth's atmosphere.</u></p>	<p>Student Edition: (I) 8-15, 32 #1-#3 <i>Science Online</i> 10 <i>Applying Skills</i> 15</p> <p>Teacher Wraparound Edition: (I) CFU 15; DIS 10; IM 10; SCB 6E; TFYI 11, 13; TPK 8; VL 9</p>
<p>ESS1 (5-8) POC –3 <i>Explain how earth events (abruptly and over time) can bring about changes in Earth's surface: landforms, ocean floor, rock features, or climate.</i></p>	
<p>ESS1 (5-6)–3 Students demonstrate an understanding of processes and change over time within earth systems by ...</p>	
<p>3a <u>describing events and the effect they may have on climate (e.g. El Nino, deforestation, glacial melting, and an increase in greenhouse gases).</u></p>	<p>Student Edition: (I) 74-84, 93 #13-#15 <i>MiniLAB</i> 75 <i>National Geographic</i> 76-77 <i>Science Online</i> 81, 83 <i>Science and History</i> 88</p> <p>Teacher Wraparound Edition: (I) A 84, 85; CC 76; DIS 83; LD 82; VL 82</p>

STANDARDS	PAGE REFERENCES
<p>ESS1 (5-8) SAE+ POC –4 <i>Explain the role of differential heating or convection in ocean currents, winds, weather and weather patterns, atmosphere, or climate.</i></p>	
<p>ESS1 (5-6)–4 Students demonstrate an understanding of processes and change over time within earth systems by...</p>	
<p>4a <u>explaining how differential heating and convection affect Earth’s weather patterns.</u></p>	<p>Student Edition: (I) 17-19, 21-25, 31 #21 <i>MiniLAB 19</i> <i>Section Review 20</i> <i>Design Your Own Lab 26-27</i></p> <p>Teacher Wraparound Edition: (I) CFU 20, 25; IM 6F; SCB 6E</p>
<p>4b <u>describing how differential heating of the oceans affects ocean currents which in turn influence weather and climate.</u></p>	<p>Student Edition: (H) 104-106, 125 #15 <i>Section Review 109</i> <i>Integrate Earth Science 120</i> (I) 67-68, 75 <i>National Geographic 76-77</i></p> <p>Teacher Wraparound Edition: (H) DI 107; DIS 106; TBI 98 (I) CB 77; TFYI 68</p>
<p>4c <u>explaining the relationship between differential heating/convection and the production of winds.</u></p>	<p>Student Edition: (I) 21-25 <i>Science Online 22</i> <i>National Geographic 23</i></p> <p>Teacher Wraparound Edition: (I) A 25; CFU 25; IM 6F</p>
<p>4d <u>analyzing global patterns of atmospheric movements to explain effects on weather.</u></p>	<p>Student Edition: (I) 24-25, 44-46 <i>Applying Skills 51</i></p> <p>Teacher Wraparound Edition: (I) A 51; DI 24, 26; DIS 24</p>

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<p>4e <u>predicting temperature and precipitation changes associated with the passing of various fronts.</u></p>	<p>Student Edition: (I) 45-46, 54, 63 #17-#18 <i>Lab 55</i></p> <p>Teacher Wraparound Edition: (I) A 51; CC 46; CFU 54; DI 46; IL 46; TFYI 42; VL 40, 46</p>
<p>ESS1 (5-8) INQ+ POC –5 <i>Using data about a rock’s physical characteristics make and support an inference about the rock’s history and connection to rock cycle.</i></p>	
<p>ESS1 (5-6)-5 Students demonstrate an understanding of processes and change over time by ...</p>	
<p>5a <u>representing the processes of the rock cycle in words, diagrams, or models.</u></p>	<p>Student Edition: (F) 36-39, 40-42, 45-46, 49-55, 61 #25, 62 #7-#9 <i>Get Ready to Read 36A-B</i> <i>MiniLAB 37</i> <i>National Geographic 38</i></p> <p>Teacher Wraparound Edition: (F) A 39, 55; CFU 39; DIS 38; MM 55; SCB 34E; SJ 51; TBI 34; TFYI 39; V 38</p>
<p>5b <u>citing evidence and developing a logical argument to explain the formation of a rock, given its characteristics and location. (e.g. classifying rock type using identification resources).</u></p>	<p>Student Edition: (F) 36-39, 40-43, 45-48, 49-55, 61 #26 <i>Get Ready to Read 36A-B</i> <i>MiniLAB 37, 50</i> <i>Science Online 42</i> <i>Lab 44, 56-57</i></p> <p>Teacher Wraparound Edition: (F) A 37; ACT 38, 47; DI 37; DIS 51; FF 41; QD 53; SCB 34E-F; TPK 36; UAA 46</p>

STANDARDS	PAGE REFERENCES
No further targets for EK ESS 1 at the 5-8 Grade Span	
ESS2 - The earth is part of a solar system, made up of distinct parts that have temporal and spatial interrelationships.	
ESS2 (5-8) MAS –6 <i>Compare and contrast planets based on data provided about size, composition, location, orbital movement, atmosphere, or surface features (includes moons).</i>	
ESS2 (5-6)-6 Students demonstrate an understanding of characteristics of the solar system by ...	
<p>6a <u>identifying and comparing the size, location, distances, and movement (e.g. orbit of planets, path of meteors) of the objects in our solar system.</u></p>	<p>Student Edition: (J) 40-45, 46-50, 76-81, 82-87, 90-93 <i>Science Online</i> 43, 49 <i>Applying Skills</i> 45 <i>MiniLAB</i> 47, 84 <i>Lab</i> 55 <i>Model and Invent Lab</i> 94-95</p> <p>Teacher Wraparound Edition: (J) A 47, 84, 95; ACT 43, 88; CC 85; CFU 72; QD 78</p>
<p>6b <u>comparing the composition, atmosphere, and surface features of objects in our solar system.</u></p>	<p>Student Edition: (J) 51-54, 58-59, 74, 76-81, 82-89, 90-93 <i>National Geographic</i> 52 <i>Launch Lab</i> 69 <i>Lab</i> 75 <i>Accidents in Science</i> 96</p> <p>Teacher Wraparound Edition: (J) ACT 83, 88; CFU 81; DI 52, 72; DIS 78, 91; TFYI 77; V 52</p>

STANDARDS	PAGE REFERENCES
<p>ESS2 (5-8) NOS –7 <i>Explain how technological advances have allowed scientists to re-evaluate or extend existing ideas about the solar system.</i></p>	
<p>ESS2 (5-6)-7 <i>Students demonstrate an understanding of how technological advances have allowed scientists to re-evaluate or extend existing ideas about the solar system by...</i></p>	
<p>No GSEs for the ESS2 (5-8) NOS-7 Assessment Target</p>	
<p>ESS2 (5-8) SAE+ POC –8 <i>Explain temporal or positional relationships between or among the Earth, sun, and moon (e.g., night/day, seasons, year, tides) or how gravitational force affects objects in the solar system (e.g., moons, tides, orbits, satellites).</i></p>	
<p>ESS2 (5-6)-8 Students demonstrate an understanding of temporal or positional relationships between or among the Earth, sun, and moon by ...</p>	
<p>8a <u>using models to describe the relative motion/position of the Earth, sun and moon.</u></p>	<p>Student Edition: (J) 40-45, 46-50, 65 #21 Launch Lab 39 Applying Skills 45 Teacher Wraparound Edition: (J) ACT 43; FF 43; LD 50; QD 49; R 54</p>
<p>8b <u>explaining night/day, seasons, year, and tides as a result of the regular and predictable motion of the Earth, sun, and moon.</u></p>	<p>Student Edition: (H) 113-116 Science Online 113 (I) 74 (J) 40-45 Get Ready to Read 40A-B Science Online 45 Lab 60-61 Teacher Wraparound Edition: (H) ACT 114; DI 115; QD 113; VL 116 (I) IM 64F (J) AIL 60; QD 44; R 45; TBI 38</p>

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<p>8c <u>using a model of the Earth, sun and moon to recreate the phases of the moon.</u></p>	<p>Student Edition: (J) 45-48, 66 #5-#6 <i>Lab 55</i></p> <p>Teacher Wraparound Edition: (J) A 55; IM 38F; SJ 47; TPK 46; VL 48</p>
<p>ESS2 (5-6) -8 Students demonstrate an understanding of gravitational relationships between or among objects of the solar system by ...</p>	
<p>8d <u>defining the Earth's gravity as a force that pulls any object on or near the Earth toward its center without touching it.</u></p>	<p>Student Edition: (G) 64-65 (J) 17 <i>MiniLAB 21</i></p> <p>Teacher Wraparound Edition: (G) SCB 90E</p>
<p>ESS3 - The origin and evolution of galaxies and the universe demonstrate fundamental principles of physical science across vast distances and time</p> <p>No further targets for EK ESS3 at the 5-8 Grade Span</p> <p><i>The GSEs listed below are assessed at the local level only</i></p>	
<p>ESS3 (5-6)–9 Students demonstrate an understanding of the structure of the universe by ...</p>	
<p>9a <u>describing the apparent motion/position of the objects in the sky. (e.g. constellations, planets).</u></p>	<p>Student Edition: (J) 40, 104-107 <i>Design Your Own Lab 126-127</i></p> <p>Teacher Wraparound Edition: (J) A 127; ACT 107; DIS 107; IM 105; SCB 68E; SJ 72</p>
<p>9b <u>identifying the sun as a medium-sized star located near the edge of a disk-shaped galaxy of stars.</u></p>	<p>Student Edition: (J) 72, 109-112, 114-115, 121, 133 #22</p> <p>Teacher Wraparound Edition: (J) IM 68F</p>

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<p>No further targets for EK ESS3 at the 5-8 Grade Span</p>	
<p>Earth and Space Science Grades 7-8</p>	
<p>ESS1 - The earth and earth materials as we know them today have developed over long periods of time, through continual change processes.</p>	
<p>ESS1 (5-8) INQ+ POC –1 <i>Use geological evidence provided to support the idea that the Earth’s crust/lithosphere is composed of plates that move.</i></p>	
<p>ESS1 (7-8)–1 Students demonstrate an understanding of processes and change over time within earth systems by ...</p>	
<p>1a <u>citing evidence and developing a logical argument for plate movement using fossil evidence, layers of sedimentary rock, location of mineral deposits, and shape of the continents.</u></p>	<p>Student Edition: (F) 98-101, 102-104, 106-115 <i>Launch Lab</i> 97 <i>Get Ready to Read</i> 98A-B <i>Science Online</i> 99 <i>Lab</i> 105 <i>MiniLAB</i> 100 <i>Applying Skills</i> 101</p> <p>Teacher Wraparound Edition: (F) CFU 101; DI 99, 100; QD 107; SCB 96E; SJ 107; TBI 96; TFYI 100; TPK 98; UAA 99</p>

STANDARDS	PAGE REFERENCES
<p>ESS1 (5-8) SAE-2 <i>Explain the processes that cause the cycling of water into and out of the atmosphere and their connections to our planet’s weather patterns.</i></p>	
<p>ESS1 (7-8)-2 Students demonstrate an understanding of processes and change over time within earth systems by ...</p>	
<p>No GSEs for the ESS1 (5-8) SAE-2 Assessment Target</p>	
<p>ESS1 (5-8) POC -3 <i>Explain how earth events (abruptly and over time) can bring about changes in Earth’s surface: landforms, ocean floor, rock features, or climate.</i></p>	
<p>ESS1 (7-8)-3 Students demonstrate an understanding of processes and change over time within earth systems by ...</p>	
<p>3a <u>evaluating slow processes (e.g. weathering, erosion, mountain building, sea floor spreading) to determine how the earth has changed and will continue to change over time.</u></p>	<p>Student Edition: (F) 102-104 <i>Lab 105</i> (G) 9-13, 36-41, 42, 64-68, 69-74, 76-81, 92-102 <i>Science Online 39</i> <i>National Geographic 43</i> <i>Design Your Own Lab 54-55</i> <i>Launch Lab 63</i> <i>Lab 75</i> Teacher Wraparound Edition: (G) CC 73; DI 39, 72; SJ 37, 66; TFYI 37, 94</p>
<p>3b <u>evaluating fast processes (e.g. erosion, volcanoes and earthquakes) to determine how the earth has changed and will continue to change over time.</u></p>	<p>Student Edition: (F) 126-129, 130-137, 139-145, 156-161, 162-169 <i>Launch Lab 125</i> <i>National Geographic 132, 164</i> <i>Design Your Own Lab 176-177</i> Teacher Wraparound Edition: (F) A 129; ACT 127, 128; CC 163; DI 164; R 129, 169; SJ 143, 165; TBI 124; TFYI 157</p>

STANDARDS	PAGE REFERENCES
<p>3c investigating the effect of flowing water on landforms (e.g. stream table, local environment).</p>	<p>Student Edition: (G) 64-67, 92-102 <i>MiniLAB</i> 65 <i>Launch Lab</i> 91 <i>National Geographic</i> 98-99 (H) 36-43 <i>MniLAB</i> 39</p> <p>Teacher Wraparound Edition: (G) DI 96; IL 66; IM 62F; QD 67; SJ 95; TBI 90; TFYI 94 (H) CC 41; TFYI 40</p>
<p>ESS1 (5-8) SAE+ POC –4 <i>Explain the role of differential heating or convection in ocean currents, winds, weather and weather patterns, atmosphere, or climate.</i></p>	
<p>ESS1 (7-8)–4 Students demonstrate an understanding of processes and change over time within earth systems by...</p>	
<p>No GSEs for the ESS1 (5-8) SAE+POC=4 Assessment Target</p>	
<p>4a explaining cause and effect relationships between global climate and energy transfer.</p>	<p>Student Edition: (I) 66-69, 74, 91 #27 <i>MiniLAB</i> 67</p> <p>Teacher Wraparound Edition: (I) A 67; DI 67; IM 64F; QD 66; SCB 64E; TFYI 68</p>
<p>4b using evidence to make inferences or predictions about global climate issues.</p>	<p>Student Edition: (I) 74-84, 91 #19, 93 #10 <i>MiniLAB</i> 75 <i>National Geographic</i> 76-77 <i>Science Online</i> 81</p> <p>Teacher Wraparound Edition: (I) A 85; CB 77; CC 80; R 84; SCB 64E; TBI 64; V 76</p>

STANDARDS	PAGE REFERENCES
<p>ESS1 (5-8) INQ+ POC –5 <i>Using data about a rock’s physical characteristics make and support an inference about the rock’s history and connection to rock cycle.</i></p>	
<p>ESS1 (7-8)-5 Students demonstrate an understanding of processes and change over time by ...</p>	
<p>No GSEs for the ESS1 (5-8) INQ+POC-5 Assessment Target</p>	
<p>No further targets for EK ESS1 at the 5-8 Grade Span</p>	
<p>ESS2 - The earth is part of a solar system, made up of distinct parts that have temporal and spatial interrelationships.</p>	
<p>ESS2 (5-8) MAS –6 <i>Compare and contrast planets based on data provided about size, composition, location, orbital movement, atmosphere, or surface features (includes moons).</i></p>	
<p>ESS2 (7-8)-6 Students demonstrate an understanding of characteristics of the solar system by ...</p>	
<p>No GSEs for the ESS2 (7-8)-6 Assessment Target</p>	
<p>ESS2 (5-8) NOS –7 <i>Explain how technological advances have allowed scientists to re-evaluate or extend existing ideas about the solar system.</i></p>	
<p>ESS2 (7-8) -7 <i>Students demonstrate an understanding of how technological advances have allowed scientists to re-evaluate or extend existing ideas about the solar system by...</i></p>	
<p>7a <u>identifying major discoveries from different scientists and cultures and describing how these discoveries have contributed to our understanding of the solar system (e.g. timeline, research project, picture book).</u></p>	<p>Student Edition: (J) 15-22, 23-29, 56-59, 70-74, 115 <i>National Geographic</i> 19 <i>Science and History</i> 62 <i>Integrate History</i> 118</p> <p>Teacher Wraparound Edition: (J) ACT 124; CB 62; CC 16; CD 16, 51, 84; DI 21, 58, 80, 115, 123; SJ 91; TFYI 71, 84</p>

STANDARDS	PAGE REFERENCES
<p>ESS2 (5-8) SAE+ POC –8 <i>Explain temporal or positional relationships between or among the Earth, sun, and moon (e.g., night/day, seasons, year, tides) or how gravitational force affects objects in the solar system (e.g., moons, tides, orbits, satellites).</i></p>	
<p>ESS2 (7-8)-8 Students demonstrate an understanding of temporal or positional relationships between or among the Earth, sun, and moon by ...</p>	
<p>8a <u>using or creating a model of the Earth, sun and moon system to show rotation and revolution.</u></p>	<p>Student Edition: (J) 40-45, 46-47, 65 #21 <i>Launch Lab 39</i></p> <p>Teacher Wraparound Edition: (J) R 45; SCB 38E; TBI 38</p>
<p>8b <u>explaining night/day, seasons, year, and tides as a result of the regular and predictable motion of the Earth, sun, and moon.</u></p>	<p>Student Edition: (H) 113-116 <i>Science Online 113</i> (J) 40-45 <i>Get Ready to Read 40A-B</i> <i>Science Online 45</i> <i>Lab 60-61</i></p> <p>Teacher Wraparound Edition: (H) ACT 114; DI 115; QD 113; VL 116 (J) AIL 60; QD 44; R 45; TBI 38</p>
<p>8c <u>using a model of the Earth, sun and moon to recreate the phases of the moon.</u></p>	<p>Student Edition: (J) 45-48, 66 #5-#6 <i>Lab 55</i></p> <p>Teacher Wraparound Edition: (J) A 55; IM 38F; SJ 47; TPK 46; VL 48</p>
<p>ESS2 (7-8) -8 Students demonstrate an understanding of gravitational relationships between or among objects of the solar system by ...</p>	
<p>8d <u>describing the relationship between mass and the gravitational force between objects.</u></p>	<p>Student Edition: (G) 65 (J) 70-71</p> <p>Teacher Wraparound Edition: (G) SCB 90E (H) DIS 116</p>

STANDARDS	PAGE REFERENCES
<p>8e <u>describing the relationship between distance and the gravitational force between objects.</u></p>	<p>Student Edition: (H) Section Review 116 Teacher Wraparound Edition: (H) DIS 116</p>
<p>8f <u>explaining that the sun’s gravitational pull holds the Earth and other planets in their orbits, just as the planet’s gravitational pull keeps their moons in orbit.</u></p>	<p>Student Edition: (J) 53, 70-71, 83 Section Review 74 Teacher Wraparound Edition: (J) V 73</p>
<p>ESS3 - The origin and evolution of galaxies and the universe demonstrate fundamental principles of physical science across vast distances and time</p>	
<p style="text-align: center;">No further targets for EK ESS3 at the 5-8 Grade Span</p> <p style="text-align: center;"><i>The GSEs listed below are assessed at the local level only</i></p>	
<p>ESS3 (7-8)-9 Students demonstrate an understanding of the structure of the universe by ...</p>	
<p>9a <u>describing the universe as containing many billions of galaxies, and each galaxy contains many billions of stars.</u></p>	<p>Student Edition: (J) 120-121 Teacher Wraparound Edition: (J) TBI 102</p>