



SOIL Conceptual Storyline & Assessment Map

Assessment opportunities are shown in the highlighted areas of the Conceptual Storyline. Please choose those that are most valuable to you and your students. Full options and tools are located on the Web site at www.asdk12.org/depts/science/elementary/2Earth.html.

Subconcept 1: Soil contains plants, animals, and their remains, and other particles of different sizes.

Subconcept 2: Sand, clay and humus are three of the basic components of soil and have unique properties that can be identified using simple tests.

PRE-ASSESSMENT

<p>Lesson 1</p> <p>Students examine soil with hand lenses and probes and begin two of the charts the class will make, "Soils" and "Questions About Soils."</p> <ul style="list-style-type: none"> Assess I concept: Student notebook and discussion, p. 28. 	<p>Lesson 2</p> <p>Students develop compost bags with garden soil, plant matter, and red wiggler worms.</p> <ul style="list-style-type: none"> Assess C concept: Student notebook and discussion, p. 38. 	<p>Lessons 7, 10, 13</p> <p>Students observe the material in their compost bags, describe, and record what they see.</p> <p>Lesson 13:</p> <ul style="list-style-type: none"> Assess ES2 concept: Teacher questioning and student notebooks. Assess E concept: student record sheet or discussion, p. 150. 	<p>Lesson 3</p> <p>Students investigate sand, dry clay, and humus with their four senses.</p> <ul style="list-style-type: none"> Assess ES1 concept: Student notebook and discussion, p. 48 & 49. 	<p>Lesson 4</p> <p>Students compare wet and dry soil samples.</p> <ul style="list-style-type: none"> Assess ES1 & I concepts: Student notebook and discussion, p. 56. 	<p>Lesson 5</p> <p>Students conduct smear tests with wet soil and investigate dry and wet clay balls.</p> <ul style="list-style-type: none"> Assess E concept: Teacher questioning, p. 63. 	<p>Lesson 6</p> <p>Students separate soil components by settling.</p>	<p>Lesson 7</p> <p>Students further investigate the settling of sand, clay, and humus.</p> <ul style="list-style-type: none"> Assess ES1 concept: Teacher observation, Activity sheet 7A and/or science notebook.
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Subconcept 3: Many factors, including soil's ability to absorb water, affect plant and root growth.

<p>Lesson 8</p> <p>Students conduct soil tests on unfamiliar "mystery mixture".</p> <p>Embedded Assessment</p> <ul style="list-style-type: none"> Assess ES1 & C concepts: Student notebook and discussion, p. 95-100. Assess I concept: Students use tools to make observations in notebook, p. 95-100. 	<p>Lesson 9</p> <p>Students plant seeds in sand, clay, humus and local soil. They record information about what happens to their plant over time.</p> <ul style="list-style-type: none"> Assess ES2 concept: Science notebook entries on growing plants in different soils, p. 105, 107, 108. 	<p>Lesson 10</p> <p>Students review the investigations they have participated in over the past several weeks and identify a subject they would like to investigate in detail.</p>	<p>Lesson 12</p> <p>Students filter water through sand and clay and compare the amounts of water retained by the three soil components.</p>	<p>Lessons 11, 12, 13, 14</p> <p>Students review the investigations they have participated in over the past several weeks and identify a subject they would like to investigate in detail.</p> <p>Lessons 11 & 13</p> <ul style="list-style-type: none"> Assess I concept: students use droppers and record observations, p. 136. Assess E concept: teacher questioning, p. 126 <p>Lesson 14:</p> <ul style="list-style-type: none"> Assess ES1 & I concepts: Student record sheet and discussion, p. 159-161. 	<p>Lessons 14, 15, 16</p> <p>Students filter water through sand and clay and compare the amounts of water retained by the three soil components.</p> <p>Lesson 14: • see box to the left</p> <p>Lesson 15: • Assess ES1 concept: Student record sheet and discussion, p. 169-170.</p> <p>Lesson 16: • Assess ES2 concept: Teacher questioning and student notebook, p. 176.177.</p> <ul style="list-style-type: none"> Assess C concept: Student record sheet or discussion, p.181.
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POST-ASSESSMENT