




3rd Grade Plants Unit Unit Blueprint


Activity	Essential & Unit Questions (for conceptual benchmarks)	Benchmarks (Bolded sections indicate portion of benchmark addressed)	Assessments (Unless noted as a Summative Assessment, the assessments are formative and should be used to guide teaching and learning.)	Using Assessments to Facilitate and Monitor Student Learning
<p><u>STC Plant Growth and Development</u></p> <p>Lesson 1: What Do You Know about Plants?</p> <p>Pacing: See page 4 in Teacher’s Guide for a schedule of Lessons.</p>	/	<p>Lesson serves as a pre-unit assessment of students’ general knowledge about plants</p>	<p><i>What We Know about Plants</i> and <i>What We Would Like to Know about Plants</i> class charts (See <i>Procedure Steps 3-5</i> on page 11 in Teacher’s Guide.)</p>	<p>Review students’ responses on the two charts with respect to the unit benchmarks. To what extent do their comments indicate prior knowledge or preconceptions about the unit benchmarks?</p>
<p>Lesson 2: What is Inside a Seed</p> <p>Pacing: See page 4 in Teacher’s Guide for a schedule of Lessons.</p>	/	<p>12C(3-5)#3: Keep a notebook that describes observations made, carefully distinguishes actual observations from ideas and speculations about what was observed, and is understandable weeks or months later.</p> <p>12D(3-5)#2: Make sketches to aid in [describing observations and] explaining procedures or ideas.</p>	<p><i>Activity Sheet 1: Recording Chart for Seed Observations</i> (See <i>Procedure Steps 4 & 8</i> on pages 16 & 17 in Teacher’s Guide.)</p>	<ul style="list-style-type: none"> • Do students make descriptive observations of the seed? • Do students use multiple senses? (Are they able to describe the texture and odor?) • Are students’ drawings of the seeds reasonably accurate?


Activity	Essential & Unit Questions (for conceptual benchmarks)	Benchmarks (Bolded sections indicate portion of benchmark addressed)	Assessments (Unless noted as a Summative Assessment, the assessments are formative and should be used to guide teaching and learning.)	Using Assessments to Facilitate and Monitor Student Learning
<p>Lesson 3: Planting the Seeds</p> <p>Pacing: See page 4 in Teacher’s Guide for a schedule of Lessons.</p> <p>Teacher Resources:</p> 	<p>Why is it important to follow directions and keep accurate records of one’s work?</p>	<p>Related to 1B(3-5)#2: Results of scientific investigations are seldom exactly the same, but if the differences are large, it is important to try to figure out why. One reason for following directions carefully and for keeping records of one’s work is to provide information on what might have caused the differences.</p>	<p>Class discussion on importance of following directions (See <i>Procedure</i> Step 1 on page 23 in Teacher’s Guide.)</p> <p>Teacher observations of students’ ability to follow directions</p>	<p><i>Class Discussion</i></p> <ul style="list-style-type: none"> • During the class discussion, do students understand the importance of following directions? • Does their understanding extend beyond the concept of “rules” to follow and reflect a scientific understanding of the importance of following set lab procedures to increase consistency in experiment results? <p><i>Teacher Observations of Students</i></p> <p>While the benchmark is a conceptual benchmark, the skill of following directions is also important.</p> <ul style="list-style-type: none"> • To what extent are the students able to monitor their work and follow each direction accurately? • If students exhibit difficulty, a post-planting discussion about the importance of following directions is probably warranted.


Activity	Essential & Unit Questions (for conceptual benchmarks)	Benchmarks (Bolded sections indicate portion of benchmark addressed)	Assessments (Unless noted as a Summative Assessment, the assessments are formative and should be used to guide teaching and learning.)	Using Assessments to Facilitate and Monitor Student Learning
Lesson 3 (Continued)		<p>12C(3-5)#3: Keep a notebook that describes observations made, carefully distinguishes actual observations from ideas and speculations about what was observed, and is understandable weeks or months later.</p> <p>12D(3-5)#2: Make sketches to aid in [describing observations and] explaining procedures or ideas.</p>	<p>Student journal entries containing written observations and drawings of the plants—ongoing from Day 5 to Day 35 (Use teacher-generated <i>Observation Log</i> sheet.)</p> <p>(Note: Maintaining a month-long journal is not specified in the Teacher’s Guide.)</p>	<p><i>Written Observations</i></p> <ul style="list-style-type: none"> • Do the written observations contain true observations (information obtained through the senses)? • Are the observations clear enough that they would be understandable weeks and/or months later? • To what extent do the students include inferences, opinions, and fictional information in their entries? (Depending on the prevalence of these types of entries, the teacher may need to do some mini-lessons on observing using the senses; help students differentiate between observations, inferences, opinions, and fiction; and model for students how they can write/record their ideas separate from their observations.) <p><i>Drawings</i></p> <ul style="list-style-type: none"> • Do the drawings contain labels? • Do the drawings contain most of the details of the plant? • Are the drawings clear enough that they would be understandable weeks and/or months later? • Do the drawings provide a reasonably accurate representation of the plants?


Activity	Essential & Unit Questions (for conceptual benchmarks)	Benchmarks (Bolded sections indicate portion of benchmark addressed)	Assessments (Unless noted as a Summative Assessment, the assessments are formative and should be used to guide teaching and learning.)	Using Assessments to Facilitate and Monitor Student Learning
<p>Lesson 4: Thinning and Transplanting</p> <p>Pacing: See page 4 in Teacher's Guide for a schedule of Lessons.</p> <p>Teacher Resources: </p>	/	No benchmarks, but lesson is necessary to teach	/	/

Activity	Essential & Unit Questions (for conceptual benchmarks)	Benchmarks (Bolded sections indicate portion of benchmark addressed)	Assessments (Unless noted as a Summative Assessment, the assessments are formative and should be used to guide teaching and learning.)	Using Assessments to Facilitate and Monitor Student Learning
<p>Lesson 5: How Does Your Plant Grow?</p> <p>Pacing: See page 4 in Teacher’s Guide for a schedule of Lessons.</p> <p>Teacher Resources:</p> 	<p>What is the pattern of growth of your plants?</p>	<p>11B(3-5)#2: Geometric figures, number sequences, graphs, diagrams, sketches, number lines, maps, and stories can be used to represent objects, events and processes in the real world, although such representations can never be exact in every detail.</p> <p>12D(3-5)#3: Use numerical data in describing and comparing objects and events.</p> <p>11C(3-5)#2: Things change in steady, repetitive, or irregular ways—or sometimes in more than one way at the same time. Often the best way to tell which kinds of changes are happening is to make a table or graph of measurements.</p>	<ul style="list-style-type: none"> • Students measure and graph the plant growth (Use teacher-generated graph paper in place of the graph paper in the Teacher’s Guide. See <i>Procedure</i> Steps 1-5 on pages 36 & 37 in Teacher’s Guide.) • Students write statements describing the data displayed in their graph. (This is not listed in the Teacher’s Guide. See “Tips” under “Teacher Resources” on the electronic curriculum.) • Class discussions about the importance of graphs and the information that can be learned from their graphs. 	<p><i>Measuring and Graphing</i></p> <ul style="list-style-type: none"> • Are students able to accurately measure the height of their plant? Are their measurement skills improving over time? • Are students able to graph the height of the plant? • Are their graphing skills improving over time? <p><i>Summarizing Graphs & Class Discussions</i></p> <ul style="list-style-type: none"> • Are students able to use the graphs to describe the plant growth? • Do students see patterns in the plant growth? (from day-to-day and between groups)


Activity	Essential & Unit Questions (for conceptual benchmarks)	Benchmarks (Bolded sections indicate portion of benchmark addressed)	Assessments (Unless noted as a Summative Assessment, the assessments are formative and should be used to guide teaching and learning.)	Using Assessments to Facilitate and Monitor Student Learning
<p>Lesson 6: Observing Leaves and Flower Buds</p> <p>Pacing: See page 4 in Teacher’s Guide for a schedule of Lessons.</p> <p>Teacher Resources:</p> 	<p>What is the life cycle of plants?</p>	<p>11C(3-5)#2: Things change in steady, repetitive, or irregular ways—or sometimes in more than one way at the same time. Often the best way to tell which kinds of change are happening is to make a table or graph of the measurements.</p> <p>12C(3-5)#3: Keep a notebook that describes observations made, carefully distinguishes actual observations from ideas and speculations about what was observed, and is understandable weeks or months later.</p> <p>12D(3-5)#2: Make sketches to aid in [describing observations and] explaining procedures or ideas.</p>	<p>Class discussion about a plant’s life cycle (See <i>Final Activities</i> on page 41 in the Teacher’s Guide.)</p> <p>On-going student observations of plants in <i>Observation Log</i> (See <i>Procedures</i> Steps 1 & 2 on page 41 in Teacher’s Guide.)</p>	<ul style="list-style-type: none"> • Do students see patterns in the plant growth? (from day-to-day and between groups) • Do students understand the plant’s life cycle is a predictable pattern of growth? <p><i>Written Observations</i></p> <ul style="list-style-type: none"> • Do the written observations contain true observations (information obtained through the senses and not inferences, opinions, or fictional information)? • Are students’ observations improving in clarity, accuracy, and description? • Are the observations clear enough that they would be understandable weeks and/or months later? <p><i>Drawings</i></p> <ul style="list-style-type: none"> • Do the drawings contain labels? • Do the drawings contain most of the details of the plant? • Is the drawing clear enough that it would be understandable weeks and/or months later? <p>(Also see <i>Evaluation</i> on page 42 in Teacher’s Guide.)</p>

Activity	Essential & Unit Questions (for conceptual benchmarks)	Benchmarks (Bolded sections indicate portion of benchmark addressed)	Assessments (Unless noted as a Summative Assessment, the assessments are formative and should be used to guide teaching and learning.)	Using Assessments to Facilitate and Monitor Student Learning
<p>Lesson 7: Observing the Growth Spurt</p> <p>Pacing: See page 4 in Teacher’s Guide for a schedule of Lessons.</p> <p>Teacher Resources: </p>	<p>What is the pattern of growth of your plants?</p>	<p>11C(3-5)#2: Things change in steady, repetitive, or irregular ways—or sometimes in more than one way at the same time. Often the best way to tell which kinds of change are happening is to make a table or graph of the measurements.</p> <p>11B(3-5)#2: Geometric figures, number sequences, graphs, diagrams, sketches, number lines, maps, and stories can be used to represent objects, events and processes in the real world, although such representations can never be exact in every detail.</p> <p>12D(3-5)#3: Use numerical data in describing and comparing objects and events.</p> <p>12C(3-5)#3: Keep a notebook that describes observations made, carefully distinguishes actual observations from ideas and speculations about what was observed, and is understandable weeks or months later.</p>	<p>On-going plant observations, measurements, and <i>Plant Growth Graph</i>, which was started in Lesson 5</p> <p>Class discussion of plant growth data (See <i>Final Activities</i> on page 47 in Teacher’s Guide.)</p>	<p><i>Measuring Plants</i></p> <ul style="list-style-type: none"> • Are students able to accurately measure the height of their plant? Are their measurement skills improving over time? • Are students able to use the plant height data to make reasonable predictions about future plant growth? • Are students making clear, descriptive observations of their plant? • Are students dating their entries? <p><i>Graph</i></p> <ul style="list-style-type: none"> • Are students able to graph the height of the plant? • Are their graphing skills improving over time? (Students should be able to graph data with minimal to no teacher support.) <p><i>Class Discussion of Data</i></p> <ul style="list-style-type: none"> • Are students able to use data to support their comments about the time and length of the growth spurt? • Do students recognize the value of a graph in illustrating patterns of growth? • Are students able to correctly read their graph?


Activity	Essential & Unit Questions (for conceptual benchmarks)	Benchmarks (Bolded sections indicate portion of benchmark addressed)	Assessments (Unless noted as a Summative Assessment, the assessments are formative and should be used to guide teaching and learning.)	Using Assessments to Facilitate and Monitor Student Learning
<p>Lesson 8: Why Are Bees Important?</p> <p>Pacing: See page 4 in Teacher's Guide for a schedule of Lessons.</p> <p>Teacher Resources:</p> 	/	<p>Lesson is a pre-requisite to Lesson 9</p> <p>See "Tips" under "Teacher Resources" on electronic curriculum for information regarding portion of lesson to omit.</p>	/	/


Activity	Essential & Unit Questions (for conceptual benchmarks)	Benchmarks (Bolded sections indicate portion of benchmark addressed)	Assessments (Unless noted as a Summative Assessment, the assessments are formative and should be used to guide teaching and learning.)	Using Assessments to Facilitate and Monitor Student Learning
<p>Lesson 9: Getting a Handle on Your Bee</p> <p>Pacing: See page 4 in Teacher’s Guide for a schedule of Lessons.</p> <p>Teacher Resources:</p> 	<p>Why is it important to follow directions and keep accurate records of one’s work?</p>	<p>Related to 1B(3-5)#2: Results of scientific investigations are seldom exactly the same, but if the differences are large, it is important to try to figure out why. One reason for following directions carefully and for keeping records of one’s work is to provide information on what might have caused the differences.</p>	<p>Class discussion on importance of following directions</p> <p>Teacher observations of students’ ability to follow directions</p>	<p><i>Class Discussion</i></p> <ul style="list-style-type: none"> • During the class discussion, do students understand the importance of following directions? • Does their understanding extend beyond the concept of “rules” to follow and reflect a scientific understanding of the importance of following set lab procedures to increase consistency in experiment results? • Does their understanding show more sophistication than revealed during Lesson 3? <p><i>Teacher Observations of Students</i></p> <p>While the benchmark is a conceptual benchmark, the skill of following directions is also important.</p> <ul style="list-style-type: none"> • To what extent are the students able to monitor their work and follow each direction accurately? (Given the nature of the unit and many opportunities to practice following directions, students should exhibit minimal problems following the directions.)

Activity	Essential & Unit Questions (for conceptual benchmarks)	Benchmarks (Bolded sections indicate portion of benchmark addressed)	Assessments (Unless noted as a Summative Assessment, the assessments are formative and should be used to guide teaching and learning.)	Using Assessments to Facilitate and Monitor Student Learning
<p>Lesson 10: Looking at Flowers</p> <p>Pacing: See page 4 in Teacher’s Guide for a schedule of Lessons.</p>		<p>12C(3-5)#3: Keep a notebook that describes observations made, carefully distinguishes actual observations from ideas and speculations about what was observed, and is understandable weeks or months later.</p> <p>12D(3-5)#2: Make sketches to aid in [describing observations and] explaining procedures or ideas.</p>	<p>Student-recorded observations and sketches of flowers in on-going <i>Observation Logs</i> (See <i>Procedure Step 3</i> on page 60 in Teacher’s Guide.)</p>	<p><i>Written Observations</i></p> <ul style="list-style-type: none"> • Do the written observations contain true observations (information obtained through the senses and not inferences, opinions, or fictional information)? • Are students’ observations improving in clarity, accuracy, and description? • Are the observations clear enough that they would be understandable weeks and/or months later? <p><i>Drawings</i></p> <ul style="list-style-type: none"> • Do the drawings contain labels? • Do the drawings contain most of the details of the flower? • Are the drawing clear enough that they would be understandable weeks and/or months later?

Activity	Essential & Unit Questions (for conceptual benchmarks)	Benchmarks (Bolded sections indicate portion of benchmark addressed)	Assessments (Unless noted as a Summative Assessment, the assessments are formative and should be used to guide teaching and learning.)	Using Assessments to Facilitate and Monitor Student Learning
<p>Lesson 11: Pollinating Flowers</p> <p>Pacing: See page 4 in Teacher’s Guide for a schedule of Lessons.</p> <p>Teacher Resources:</p> 	<p>What is the relationship between flowers and bees and why is it important? Besides providing food, what are some ways different living things work together?</p>	<p>5D(3-5)#3: Organisms interact with one another in various ways besides providing food. Many plants depend on animals for carrying their pollen to other plants or for dispersing their seeds.</p>	<p>Class discussion about the interaction between bees and flowers (See <i>Procedure</i> Steps 6 & 7 and <i>Extensions</i> Step 2 on page 67 in Teacher’s Guide.) <i>Note: The benchmark is not explicitly addressed through the lesson. The lesson focuses exclusively on the bee-flower relationship. The teacher needs to deliberately expand the discussion to address other interactions between various living things.</i></p>	<ul style="list-style-type: none"> • Do students understand the role of bees in cross-pollination? • Do students understand how bees benefit from the plants/flowers? • Do students understand how plants/flowers benefit from the bees?

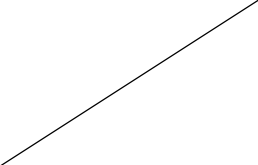
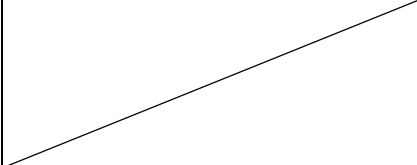
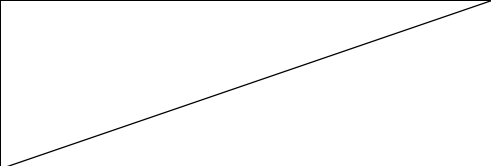
Activity	Essential & Unit Questions (for conceptual benchmarks)	Benchmarks (Bolded sections indicate portion of benchmark addressed)	Assessments (Unless noted as a Summative Assessment, the assessments are formative and should be used to guide teaching and learning.)	Using Assessments to Facilitate and Monitor Student Learning
<p><u>STC Plant Growth and Development</u></p> <p>Lesson 12: Observing Pods</p> <p>Pacing: See page 4 in Teacher’s Guide for a schedule of Lessons. (Continue observations for approximately 17 days along with the Soil Science lessons.)</p>		<p>12C(3-5)#3: Keep a notebook that describes observations made, carefully distinguishes actual observations from ideas and speculations about what was observed, and is understandable weeks or months later.</p>	<p>On-going observations in student logs</p>	<p><i>Written Observations</i></p> <ul style="list-style-type: none"> • Do the written observations contain true observations (information obtained through the senses and not inferences, opinions, or fictional information)? • Are students’ observations improving in clarity, accuracy, and description? • Are the observations clear enough that they would be understandable weeks and/or months later? <p><i>Drawings</i></p> <ul style="list-style-type: none"> • Do the drawings contain labels? • Do the drawings contain most of the details of the flower? • Are the drawings clear enough that they would be understandable weeks and/or months later?
	<p>What is a life cycle? What is the life cycle of plants?</p>	<p>11C(3-5)#2: Things change in steady, repetitive, or irregular ways—or sometimes in more than one way at the same time. Often the best way to tell which kinds of change are happening is to make a table or graph of the measurements.</p> <p>5E(3-5)#3: Over the whole earth, organisms are growing, dying, and decaying, and new organisms are being produced by the old ones.</p>	<p>Class discussion about a plant’s life cycle (See <i>Final Activities</i> on page 72 in the Teacher’s Guide)</p>	<ul style="list-style-type: none"> • Do students understand the emerging life cycle of the plant? • Can students relate their classroom observations of the plant life cycle with other life cycles?


Activity	Essential & Unit Questions (for conceptual benchmarks)	Benchmarks (Bolded sections indicate portion of benchmark addressed)	Assessments (Unless noted as a Summative Assessment, the assessments are formative and should be used to guide teaching and learning.)	Using Assessments to Facilitate and Monitor Student Learning
<p><u>Delta Science</u> <u>Module: Soil</u> <u>Science</u></p> <p>Activity 1: A First Look at Soil</p> <p>Pacing Suggestions: 1 Day</p> <p>Teacher Resources:</p> 	<p>What makes up soil? Where do the parts come from?</p>	<p>Introduce 4C(3-5)#2: Rock is composed of different combinations of minerals. Smaller rocks come from the breakage and weathering of bedrock and larger rocks. Soil is made partly from weathered rock, partly from plant remains—and also contains many living organisms.</p>		

Activity	Essential & Unit Questions (for conceptual benchmarks)	Benchmarks (Bolded sections indicate portion of benchmark addressed)	Assessments (Unless noted as a Summative Assessment, the assessments are formative and should be used to guide teaching and learning.)	Using Assessments to Facilitate and Monitor Student Learning
<p><u>Delta Science</u> <u>Module: Soil</u> <u>Science</u></p> <p>Activity 2: Soil Particle Layering</p> <p>Pacing Suggestions: Day 1- Session 1 on pages 21- 24 in Teacher’s Guide Day 2- Session 2 on pages 24-26 in Teacher’s Guide</p> <p>Teacher Resources: </p>	<p>What makes up soil? Where do the parts come from?</p>	<p>4C(3-5)#2: Rock is composed of different combinations of minerals. Smaller rocks come from the breakage and weathering of bedrock and larger rocks. Soil is made partly from weathered rock, partly from plant remains—and also contains many living organisms.</p> <p>12D(3-5)#2: Make sketches to aid in [describing observations and] explaining procedures or ideas.</p>	<p>Activity Sheet 2 (Students make a <i>Soil Particle Layering</i> drawing and label the parts.)</p> <p>Class discussion about the components of soil (See Session 1, <i>Guiding the Activity</i>, Steps 1-4 on pages 22 & 23 and Session II, <i>Guiding the Activity</i>, Steps 7-8 on pages 24 & 25 in Teacher’s Guide.)</p>	<p><i>Activity Sheet 2</i></p> <ul style="list-style-type: none"> • Does the drawing contain labels? • Does the drawing contain most of the details of each layer so that the different layers are clearly represented in the drawing? • Is the drawing clear enough that it would be understandable weeks and/or months later? <p>Class Discussion:</p> <ul style="list-style-type: none"> • Following the observation of the soil, do students know that soil is made-up of broken rocks and plants that were once alive? • Do they know that soil often contains many living animals?

Activity	Essential & Unit Questions (for conceptual benchmarks)	Benchmarks (Bolded sections indicate portion of benchmark addressed)	Assessments (Unless noted as a Summative Assessment, the assessments are formative and should be used to guide teaching and learning.)	Using Assessments to Facilitate and Monitor Student Learning
<p><u>Delta Science</u> <u>Module: Soil</u> <u>Science</u></p> <p>Activity 3: Comparing Soil Samples</p> <p>Pacing Suggestions: Day 1- Session 1 on pages 29-32 in Teacher's Guide Day 2- Session 2 on pages 33 & 34 in Teacher's Guide</p>	<p>What makes up soil? Where do the parts come from?</p>	<p>4C(3-5)#2: Rock is composed of different combinations of minerals. Smaller rocks come from the breakage and weathering of bedrock and larger rocks. Soil is made partly from weathered rock, partly from plant remains—and also contains many living organisms.</p> <p>12D(3-5)#2: Make sketches to aid in [describing observations and] explaining procedures or ideas.</p>	<p><i>Activity Sheet 3, Part A</i></p> <p><i>Activity Sheet 3, Part B</i> (Sketches should illustrate soil is made of many substances, such as weathered rock and plant remains.)</p> <p>Class discussion of activity (See step 4 <i>Guiding the Activity</i> on page 34 in the Teacher's Guide.)</p>	<p><i>Activity Sheet 3, Part A</i></p> <ul style="list-style-type: none"> • Do students' predictions indicate they know soil is made up of many different sized pieces of broken rock and plant remains? • Does the drawing contain labels? • Is the drawing clear enough that it can be used later to compare with Part B? <p><i>Activity Sheet 3, Part B</i></p> <ul style="list-style-type: none"> • Does the drawing contain labels? • Does the drawing contain most of the details of each layer so that the different layers are clearly represented in the drawing? • Is the drawing clear enough that it would be understandable weeks and/or months later? <p>Class Discussion:</p> <ul style="list-style-type: none"> • Do students recognize that soils differ based on the size/amount of broken rocks and the types of plant remains?

Activity	Essential & Unit Questions (for conceptual benchmarks)	Benchmarks (Bolded sections indicate portion of benchmark addressed)	Assessments (Unless noted as a Summative Assessment, the assessments are formative and should be used to guide teaching and learning.)	Using Assessments to Facilitate and Monitor Student Learning
<p><u>Delta Science</u> <u>Module: Soil</u> <u>Science</u></p> <p>Activity 4: The Components of Soil</p> <p>Pacing Suggestions: 1 Day</p>	<p>What makes up soil? Where do the parts come from?</p>	<p>4C(3-5)#2: Rock is composed of different combinations of minerals. Smaller rocks come from the breakage and weathering of bedrock and larger rocks. Soil is made partly from weathered rock, partly from plant remains—and also contains many living organisms.</p>	<p>Class discussion of lab observations (See <i>Guiding the Session</i> Steps 4-12 on pages 40-42 in Teacher’s Guide.)</p>	<p>Class Discussion:</p> <ul style="list-style-type: none"> Do students know that soil is made-up of broken rocks and plants that were once alive? Note: As a result of this lesson, students should have a very clear understanding that plant (and animal) remains are one component of soil.
<p><u>Delta Science</u> <u>Module: Soil</u> <u>Science</u></p> <p>Activity 5: Weathering Makes Soil</p> <p>Pacing Suggestions: 1 Day</p>	<p>What makes up soil? Where do the parts come from?</p>	<p>4C(3-5)#2: Rock is composed of different combinations of minerals. Smaller rocks come from the breakage and weathering of bedrock and larger rocks. Soil is made partly from weathered rock, partly from plant remains—and also contains many living organisms.</p>	<p><i>Activity Sheet 5</i>, Question 7 (See page 46 in Teacher’s Guide for sample answers.)</p> <p>Class discussion of activity (See <i>Guiding the Activity</i> Step 6 on page 49 in Teacher’s Guide.)</p>	<p><i>Activity Sheet 5</i>, Question 7: Students should be able to answer this question completely and correctly without any teacher support.</p> <p>Class Discussion:</p> <ul style="list-style-type: none"> Do students understand that the small rocks found in soil are formed from weathering? Note: Weathering can be a difficult concept for children. This is their first introduction to the term. In the Earth’s Changes unit, students will study weathering extensively. Do students know that when weathered rocks, sand/silt, and plant/animal remains are mixed, soil is formed?

Activity	Essential & Unit Questions (for conceptual benchmarks)	Benchmarks (Bolded sections indicate portion of benchmark addressed)	Assessments (Unless noted as a Summative Assessment, the assessments are formative and should be used to guide teaching and learning.)	Using Assessments to Facilitate and Monitor Student Learning
<p>Delta Science Module: Soil Science</p> <p>Activity 6: Models of Weathering</p> <p>Pacing Suggestions: Day 1- Session 1 on pages 51-54 Day 2 Session 2 on pages 54-56</p>	<p>What makes up soil? Where do the parts come from?</p>	<p>4C(3-5)#2: Rock is composed of different combinations of minerals. Smaller rocks come from the breakage and weathering of bedrock and larger rocks. Soil is made partly from weathered rock, partly from plant remains—and also contains many living organisms.</p> <p>12D(3-5)#2: Make sketches to aid in [describing observations and] explaining procedures or ideas.</p>	<p>Class discussion of weathering and soil formation (See <i>Guiding the Activity</i> Step 10 on page 56 in the Teacher’s Guide) Key Questions:</p> <ol style="list-style-type: none"> 1. What happens to all the small particles created by weathering? 2. What do you think would happen if there were no weathering? 	<p>Class Discussion:</p> <ul style="list-style-type: none"> • Do students have a <u>basic</u> understanding of weathering? • Do students understand that the weathered rocks combine with plant/animal remains to form soil? • Do students understand that if rocks never broke down or weathered, there would be no soil? (Rather, there would only be humus—plant and animal remains.) <p>Student Drawings:</p> <ul style="list-style-type: none"> • Do the drawings contain labels? • Do the drawings contain details of the soaked beans • Are the drawing clear enough that they would be understandable weeks and/or months later? <p>Note: At this point, students’ drawings should be improving in neatness, detail, and accuracy. Student should also be labeling the drawings with minimal reminders from the teacher.</p>
<p>Lessons 13-15</p>		<p>SKIP Lessons</p> <p>Lessons do not align with any benchmarks and do not build science literacy.</p>		

Activity	Essential & Unit Questions (for conceptual benchmarks)	Benchmarks (Bolded sections indicate portion of benchmark addressed)	Assessments (Unless noted as a Summative Assessment, the assessments are formative and should be used to guide teaching and learning.)	Using Assessments to Facilitate and Monitor Student Learning
<p>Lesson 16: Harvesting and Threshing the Seeds</p> <p>Pacing: See page 4 in Teacher’s Guide for a schedule of Lessons.</p> <p>Teacher Resources: </p>	<p>What is a life cycle? What is the relationship between flowers and bees and why is it important? Besides providing food, what are some ways different living things work together? What makes up soil? Where do the parts come from?</p>	<p>5D(3-5)#3: Organisms interact with one another in various ways besides providing food. Many plants depend on animals for carrying their pollen to other plants or for dispersing their seeds. 5E(3-5)#3: Over the whole earth, organisms are growing, dying, and decaying, and new organisms are being produced by the old ones. 4C(3-5)#2: Rock is composed of different combinations of minerals. Smaller rocks come from the breakage and weathering of bedrock and larger rocks. Soil is made partly from weathered rock, partly from plant remains—and also contains many living organisms.</p>	<p>Class discussion comparing the non-pollinated plants (set aside after Lesson 4) to the students’ plants</p> <p>Class discussion about the life cycle of plants and the life cycle of organisms in general.</p> <p>Summative Assessment: <i>End-of-Unit Assessment</i> (Sheet available on electronic curriculum. Also, see Teacher Tips.)</p>	<p>Class discussion:</p> <ul style="list-style-type: none"> • Do students understand the interdependence of flowers and bees? • Do students understand the life cycle of the plant? • Can students relate their classroom observations of the plant life cycle with other life cycles? <p>Summative Assessment: See <i>Answer Key</i> under “Teacher Resources.”</p>