

Unit 1—Earth Materials (FOSS® Pebbles, Sand, and Silt) *Earth Science***Essential Question: What materials make up the Earth?**

Major Understandings: *Quoted from New York State Performance Indicators*

(Note: Correlation is provided at the level of FOSS “Investigation & Part.” All “Steps” of an investigation must be completed to meet the standard.)

LE 1.1 Describe the characteristics of and variations between living and nonliving things.

1.1d Nonliving things can be human-created or naturally occurring.

LE 2.1 Describe the relationship among air, water, and land on Earth.

2.1d Erosion and deposition result from the interaction among air, water, and land.

- interaction between air and water breaks down earth materials
- pieces of earth material may be moved by air, water, wind, and gravity
- pieces of earth material will settle or deposit on land or in the water in different places
- soil is composed of broken-down pieces of living and nonliving material

PS 3.1 Observe and describe properties of materials, using appropriate tools.

3.1b Matter has properties (color, hardness, odor, sound, taste, etc.) that can be observed through the senses.

3.1c Objects have properties that can be observed, described, and/or measured: length, width, volume, size, shape, mass or weight, temperature, texture, flexibility, reflectiveness of light.

3.1d Measurements can be made with standard metric units and nonstandard units.

3.1e The material(s) an object is made up of determine some specific properties of the object (sink/float, conductivity, magnetism). Properties can be observed or measured with tools such as hand lenses, metric rulers, thermometers, balances, magnets, circuit testers, and graduated cylinders.

3.1f Objects and/or materials can be sorted or classified according to their properties.

3.1g Some properties of an object are dependent on the conditions of the present surroundings in which the object exists. For example:

- temperature – hot or cold
- lighting – shadows, color
- moisture – wet

Grade 2**Consult the FOSS® Pebbles, Sand and Silt Teacher Guide:**

- Overview, Science Background, pp. 3-4. The “key” to the earth material particles separated by the FOSS Screens is discussed here.
- **Materials, Review “Materials Supplied by the Teacher” (items not included in your kit) and “Preparing the Kit for Your Classroom,” pp. 4-7.**
 - View the FOSS Pebbles, Sand and Silt Module Introduction and Before You Begin segments of the FOSS Teacher Preparation Video / DVD (also available online at <http://www.fossweb.com/modulesK-2/PebblesSandandSilt/index.html> .
 - Consult the “Getting Ready” notes for Investigation 1, Parts 1 & 3 (bagging sets of rocks) and Investigation 2, Part 1 (preparing a rock mixture). You may wish to do all of this “dusty” work in one prep session.

Consider Safety and Clean-Up: Rocks, Sand and Soil are used in this module. Consider the use of safety goggles and hand washing at the conclusion of the activities.

Consider Recording Observations: Download the Science Notebook Folio on the Teacher Resources page at www.fossweb.com/NYC for more information.

Decide if you will use the optional Geologist Tool Kit described in the Interdisciplinary Extensions section of Investigation 1 (p. 30-31). This “Tool Kit” can be incorporated into a science notebook or prepared as a stand-alone booklet as described.

Use of the Geologist Tool Kit reinforces and documents meeting Standard PS 3.1: Observe and describe properties of materials, using appropriate tools throughout the module.

Review Investigation 3, Part 1, “Rocks in Use” to plan the outdoor portion of the activity.

Gather clay soil and dry grass, weeds or straw to use in the brick making activity in Investigation 3.

Obtain clean sand (3 liters per class) and a box of cornstarch for sand sculptures in Investigation 3.

Review Investigation 4, Part 2, “Soil Search” to decide if you will take the schoolyard field trip as described or set up an alternate indoor soil hunt.

Review Investigation 3, Parts 3, 4 & 5 and consider if you will do these activities in your classroom or another space (art room, outdoors, etc.)

Review suggestions for fiction and nonfiction student reading in the Resources section of the Pebbles, Sand and Silt Teacher Guide.

Grade 2

WEEK 1	<p>Lesson 1 (45 min)</p> <p>Objective(s): Pre-assessment.</p>	<p>Alignment with NYS Core Curriculum: LE 1.1d; PS 2.1d; PS 3.1b, c, d, e, f, g</p>	
	<p>Advanced Planning/Notes to Teachers</p> <ul style="list-style-type: none"> – Note: Administration of the Pre-Test should be a few days BEFORE the start of the unit. – Teacher Guide, Assessment Folio, pp. 1-12 – Kit preparation: See Teacher Guide, Materials, pp. 1-7 and Teacher Preparation Video or DVD (or view at www.fossweb.com/NYC). – Note: See Teacher Guide, Materials, pp. 4-5 for Materials Supplied by the Teacher. – Gather materials as noted above for Investigations 1 and 3. – Review the Overview folio of the Teacher Guide taking special note of pp. 3-4: Science Background; pp. 8-9: Organizing the Classroom; p. 15: Safety in the Classroom; p.18: Module Matrix 	<p style="text-align: center;">Investigation/Activity</p> <ul style="list-style-type: none"> – End-of-Module Assessment, Written Assessment may be administered as a Pre-Test. Use Assessment Duplication Masters Nos. 5, 6 (Questions 1-5) – Letter to Parents, Teacher Sheet No. 1 <p>Note: The Letter to Parents in your Teacher Guide refers to inviting visitors to the classroom and students capturing insects in containers for short-term observation. Two resources found on Fossweb.com will help you connect parents to student learning. Log on to www.fossweb.com/nyc: Go to Grade 1, click on Insects. Click on “For Parents and Teachers”:</p> <ol style="list-style-type: none"> 1. Click on “Home School Connection.” Download the “FOSS® at Home” Folio. 2. Click on “Teacher Resources.” Click on “Taking Science Outdoors.” Download the “Science in the Schoolyard Guide”. 	<p style="text-align: center;">Homework/Extra Practice</p> <p>Send Home Letter to Parents.</p>

Grade 2

WEEK 1 (continued)	Lesson 2 (45 min) Objective(s): <ul style="list-style-type: none"> Rocks have a variety of properties. When rocks rub together, some (softer) rocks may be chipped or scratched, or make rock dust. 		Alignment with NYS Core Curriculum: LE 1.1d; PS 2.1d; PS 3.1b, c, f, g	
	Advanced Planning/ Notes to Teacher <ul style="list-style-type: none"> Teacher Guide Inv. 1: First Rocks, pp. 1-7 Teacher Guide Inv. 1: First Rocks, Part 1: Three Rocks, Materials and Getting Ready, pp. 8-10 Teacher Guide Science Stories folio, pp. 1-5 Teacher Guide Inv. 1: First Rocks, Interdisciplinary Extensions, p. 30. Consider making a Geologist Tool Kit. www.fossweb.com/NYC – Check website for interactive simulations, Audio Stories, to write questions to a scientist, for teaching tips, and other websites to support teaching Pebbles, Sand, and Silt. 	Investigation/Activity <ul style="list-style-type: none"> Investigation 1: First Rocks Part 1: Three Rocks, pp. 11-12, Steps 1-9 Investigation Duplication Master: Teacher Sheet No. 1 Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 		Homework/ Extra Practice

Grade 2

WEEK 1 (continued)	<p>Lesson 3 (45 min) Objective(s): <ul style="list-style-type: none"> • Rocks have a variety of properties. • When rocks are washed in water, the colors or sparkling qualities are enhanced. </p>		<p>Alignment with NYS Core Curriculum: LE 1.1d; PS 2.1d; PS 3.1b, c, e, f, g</p>	
	<p>Advanced Planning/ Notes to Teachers – Teacher Guide Inv. 1: First Rocks, pp. 1-7 – Teacher Guide Inv. 1: First Rocks, Part 2: Washing Three Rocks, Materials and Getting Ready, pp. 13-14 – Teacher Guide Science Stories folio, pp. 1-5 – Teacher Guide Inv. 1: First Rocks, Interdisciplinary Extensions, p. 30 Consider making a Geologist Tool Kit.</p>	<p style="text-align: center;">Investigation/Activity</p> <ul style="list-style-type: none"> – Investigation 1: First Rocks Part 2: Washing Three Rocks, pp. 15-17, Steps 1-14 – Investigation Duplication Master: Student Sheets Nos. 2, 3 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 		<p style="text-align: center;">Homework/ Extra Practice</p>
WEEK 2	<p>Lesson 4 (45 min) Objective(s): Rocks can be sorted by their properties.</p>		<p>Alignment with NYS Core Curriculum: LE 1.1d; PS 2.1d; PS 3.1b, c, d, e, f, g</p>	
	<p>Advanced Planning/ Notes to Teacher – Teacher Guide Inv. 1: First Rocks, pp. 1-7 – Teacher Guide Inv. 1: First Rocks, Part 3: First Sorting, Materials and Getting Ready, pp. 18-19 – Teacher Guide Science Stories folio, pp. 1-5 – Teacher Guide Inv. 1: First Rocks, Interdisciplinary Extensions, p. 30 Consider making a Geologist Tool Kit.</p>	<p style="text-align: center;">Investigation/Activity</p> <ul style="list-style-type: none"> – Investigation 1: First Rocks Part 3: First Sorting, pp. 20-21, Steps 1-12 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 		<p style="text-align: center;">Homework/Extra Practice</p>

Grade 2

WEEK 2 (continued)	Lesson 5 (45 min) Objective(s): Rocks can be sorted by their properties.	Alignment with NYS Core Curriculum: LE 1.1d; PS 2.1d; PS 3.1b, c, d, e, f, g		
	Advanced Planning/ Notes to Teachers – Teacher Guide Inv. 1: First Rocks, pp. 1-7 – Teacher Guide Inv. 1: First Rocks, Part 4: Sorting Games, Materials and Getting Ready, pp. 22-23 – Teacher Guide Science Stories, pp. 1-5 – Teacher Guide Inv. 1: First Rocks, Interdisciplinary Extensions, p. 30 Consider making a Geologist Tool Kit.	Investigation/Activity – Investigation 1: First Rocks Part 4: Sorting Games, pp. 24-25, Steps 1-7 – Investigation Duplication Master: Student Sheets Nos. 4, 5 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist	Homework/Extra Practice Math Extension B – Student Sheet No. 15	
	Lesson 6 (45 min) Objective(s): <ul style="list-style-type: none"> • Rocks are all around us. • Rocks are the solid material of the earth. 	Alignment with NYS Core Curriculum: LE 1.1d; PS 2.1d; PS 3.1b, c, d, e, f, g		
	Advanced Planning/ Notes to Teachers – Teacher Guide Inv. 1: First Rocks, pp. 1-7 – Teacher Guide Inv. 1: First Rocks, Part 5: Start a Rock Collection, Materials and Getting Ready, pp. 26-27. – Teacher Guide Science Stories, pp. 1-5 – Teacher Guide Inv. 1: First Rocks, Interdisciplinary Extensions, p. 30 Consider making a Geologist Tool Kit.	Investigation/Activity – Investigation 1: First Rocks Part 5: Start a Rock Collection, pp. 28-29, Steps 1-8 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist	Homework/Extra Practice	

Grade 2

	<p>Lesson 7 (45 min) Objective(s):</p> <ul style="list-style-type: none"> • Rocks are all around us. • Rocks are the solid material of the earth. 	<p>Alignment with NYS Core Curriculum: LE 1.1d; PS 2.1d; PS 3.1b, c, d, e, f, g</p>	
WEEK 3	<p>Advanced Planning/ Notes to Teachers</p> <ul style="list-style-type: none"> – Teacher Guide Inv. 1: First Rocks, pp. 1-7 – Teacher Guide Inv. 1: First Rocks, Part 5: Start a Rock Collection, Materials and Getting Ready, pp. 26-27. – Teacher Guide Science Stories, pp. 1-5 – Teacher Guide Inv. 1: First Rocks, Interdisciplinary Extensions, p. 30 Consider making a Geologist Tool Kit. 	<p style="text-align: center;">Investigation/Activity</p> <ul style="list-style-type: none"> – Investigation 1: First Rocks Part 5: Start a Rock Collection, pp. 28-29, Steps 9-11 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist – Read Science Stories: pp. 3-7 <i>Exploring Rocks</i> pp. 8-9 and <i>Colorful Rocks</i> <p>For link to the Pebbles, Sand, and Silt Science Stories Audio Stories</p> <p>Log on to www.fossweb.com/nyc: Go to Grade 2, click on Pebbles, Sand, and Silt. Click on “Media”; Click on Audio Stories.</p>	<p style="text-align: center;">Homework/Extra Practice</p> <p>Home/School Connection – Student Sheet No. 21</p>

Grade 2

WEEK 3 (continued)	<p>Lesson 8 (45 min) Objective(s):</p> <ul style="list-style-type: none"> • Screens can be used to sort the sizes of earth materials. • Rock sizes include sand, small gravel, large gravel, small pebbles, and large pebbles. 		<p>Alignment with NYS Core Curriculum: LE 1.1a; 3.1a, c; 4.1f</p>
	<p>Advanced Planning/ Notes to Teachers</p> <ul style="list-style-type: none"> – Teacher Guide Inv. 2: River Rocks, pp. 1-7 – Teacher Guide Inv. 2: River Rocks, Part 1: Screening River Rocks, Materials and Getting Ready, pp. 8-9 – Teacher Guide Science Stories folio, pp. 6-7 – www.fossweb.com/NYC – Check website for interactive simulations, Audio Stories, to write questions to a scientist, for teaching tips, and other websites to support teaching Pebbles, Sand, and Silt. 	<p>Investigation/Activity</p> <ul style="list-style-type: none"> – Investigation 2: River Rocks Part 1: Screening River Rocks, pp. 10-13, Steps 1-19 – Investigation Duplication Master: Student Sheet No. 6 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist <p>Note: During the first year implementation this part may be divided into two lessons at the Breakpoint at Step 6. In subsequent years, students will have had experience using the screen sets in the Solids & Liquids module in Grade 1. Thus the breakpoint may not be needed.</p>	<p>Homework/Extra Practice</p>
<p>Lesson 9 (45 min) Objective(s):</p> <ul style="list-style-type: none"> • Rocks can be categorized visually by size. • Rock sizes include sand, small gravel, large gravel, small pebbles, and large pebbles. • Rocks larger than pebbles are cobbles. • Rocks larger than cobbles are boulders. 		<p>Alignment with NYS Core Curriculum: LE 1.1d; PS 2.1d; PS 3.1b, c, d, e, f, g</p>	
<p>Advanced Planning/ Notes to Teachers</p> <ul style="list-style-type: none"> – Teacher Guide Inv. 2: River Rocks, pp. 1-7 – Teacher Guide Inv. 2: River Rocks, Part 2: River Rocks by Size, Materials and Getting Ready, pp. 14-15 – Teacher Guide Science Stories, pp. 6-7 	<p>Investigation/Activity</p> <ul style="list-style-type: none"> – Investigation 2: River Rocks Part 2: River Rocks by Size, pp. 18-19, Steps 1-8 – Investigation Duplication Master: Student Sheet No. 7 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	<p>Homework/Extra Practice</p>	

Grade 2

WEEK 4	Lesson 10 (45 min) Objective(s): <ul style="list-style-type: none"> Sand often contains smaller particles called silt. Water can be used to sort the sizes of earth materials. 		Alignment with NYS Core Curriculum: LE 1.1d; PS 2.1d; PS 3.1b, c, d, e, f, g
	Advanced Planning/ Notes to Teachers <ul style="list-style-type: none"> Teacher Guide Inv. 2: River Rocks, pp. 1-7 Teacher Guide Inv. 2: River Rocks, Part 3: Sand and Silt, Materials and Getting Ready, pp. 18-19 Teacher Guide Science Stories, pp. 6-7 	Investigation/Activity <ul style="list-style-type: none"> Investigation 2: River Rocks Part 3: Sand and Silt, pp. 20-21, Steps 1-10 Investigation Duplication Master: Student Sheet No. 8 Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	Homework/Extra Practice
	Lesson 11 (45 min) Objective(s): <ul style="list-style-type: none"> Sand often contains smaller particles called silt. Water can be used to sort the sizes of earth materials. 		Alignment with NYS Core Curriculum: LE 1.1d; PS 2.1d; PS 3.1b, c, d, e, f, g
	Advanced Planning/ Notes to Teachers <ul style="list-style-type: none"> Teacher Guide Inv. 2: River Rocks, pp. 1-7 Teacher Guide Inv. 2: River Rocks, Part 3: Sand and Silt, Materials and Getting Ready, pp. 18-19 Teacher Guide Science Stories, pp. 6-7 	Investigation/Activity <ul style="list-style-type: none"> Investigation 2: River Rocks Part 3: Sand and Silt, pp. 22-23, Steps 11-19 Investigation Duplication Master: Student Sheet No. 8 Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	Homework/Extra Practice Math Extension A or B – Student Sheet No. 16 or 17

Grade 2

WEEK 4 (continued)	Lesson 12 (45 min) Objective(s): <ul style="list-style-type: none"> Sand often contains smaller particles called silt. Water can be used to sort the sizes of earth materials. 		Alignment with NYS Core Curriculum: LE 1.1d; PS 2.1d; PS 3.1b, c, d, e, f, g	
	Advanced Planning/Notes to Teachers <ul style="list-style-type: none"> Teacher Guide Inv. 2: River Rocks, pp. 1-7 Teacher Guide Inv. 2: River Rocks, Part 3: Sand and Silt, Materials and Getting Ready, pp. 18-19 Teacher Guide Science Stories folio, pp. 6-7 	Investigation/Activity <ul style="list-style-type: none"> Investigation 2: River Rocks Part 3: Sand and Silt, p. 23, Steps 20-22 Investigation Duplication Master: Student Sheet No. 8 Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist Read Science Stories: pp. 10-13, <i>The Story of Sand</i> 		Homework/Extra Practice
WEEK 5	Lesson 13 (45 min) Objective(s): Clay particles are very small, even smaller than silt.		Alignment with NYS Core Curriculum: LE 1.1d; PS 2.1d; PS 3.1b, c, d, e, f, g	
	Advanced Planning/Notes to Teachers <ul style="list-style-type: none"> Teacher Guide Inv. 2: River Rocks, pp. 1-7 Teacher Guide Inv. 2: River Rocks, Part 4: Exploring Clay, Materials and Getting Ready, pp. 24-25 Tip: String, fishing line or dental floss are good tools for cutting clay cubes. Teacher Guide Science Stories, pp. 6-7 	Investigation/Activity <ul style="list-style-type: none"> Investigation 2: River Rocks Part 4: Exploring Clay, pp. 26-27, Steps 1-9 Investigation Duplication Master: Student Sheet No. 9 Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 		Homework/Extra Practice

Grade 2

WEEK 5 (continued)	Lesson 14 (45 min) Objective(s): Clay particles are very small, even smaller than silt.	Alignment with NYS Core Curriculum: LE 1.1d; PS 2.1d; PS 3.1b, c, d, e, f, g		
	Advanced Planning/ Notes to Teachers – Teacher Guide Inv. 2: River Rocks pp. 1-7 – Teacher Guide Inv. 2: River Rocks, Part 4: Exploring Clay, Materials and Getting Ready, pp. 24-25 – Tip: String, fishing line or dental floss are good tools for cutting clay cubes. – Teacher Guide Science Stories folio, pp. 6-7	Investigation/Activity – Investigation 2: River Rocks Part 4: Exploring Clay, pp. 28-29, Steps 10-21 – Investigation Duplication Master: Student Sheet No. 9 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist	Homework/Extra Practice	
	Lesson 15 (45 min) Objective(s): <ul style="list-style-type: none"> • Earth materials are natural resources. • The properties of different earth materials make each suitable for specific uses. • Earth materials are commonly used in the construction of buildings and streets. 	Alignment with NYS Core Curriculum: LE 1.1d; PS 3.1b, c, e, f, g		
	Advanced Planning/ Notes to Teachers – Teacher Guide Inv. 3: Using Rocks, pp. 1-7 – Teacher Guide Inv. 3: Using Rocks, Part 1: Rocks in Use, Materials and Getting Ready, pp. 8-9 – Tip: The Field Trip may be a carefully planned indoor walk. – Teacher Guide Science Stories, pp. 8-11 – www.fossweb.com/NYC – Check website for interactive simulations, Audio Stories, to write questions to a scientist, for teaching tips, and other websites to support teaching Pebbles, Sand, and Silt .	Investigation/Activity – Investigation 3: Using Rocks Part 1: Rocks in Use, pp. 10-11, Steps 1-3 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist	Homework/Extra Practice	

Grade 2

WEEK 6	<p>Lesson 16 (45 min) Objective(s):</p> <ul style="list-style-type: none"> • Earth materials are natural resources. • The properties of different earth materials make each suitable for specific uses. • Earth materials are commonly used in the construction of buildings and streets. 		<p>Alignment with NYS Core Curriculum: LE 1.1d; PS 3.1b, c, e, f, g</p>
	<p>Advanced Planning/ Notes to Teachers</p> <ul style="list-style-type: none"> – Teacher Guide Inv. 3: Using Rocks, pp. 1-7 – Teacher Guide Inv. 3: Using Rocks, Part 1: Rocks in Use, Materials and Getting Ready, pp. 8-9 – Tip: The Field Trip may be a carefully planned indoor walk. – Teacher Guide Science Stories, pp. 8-11 	<p>Investigation/Activity</p> <ul style="list-style-type: none"> – Investigation 3: Using Rocks Part 1: Rocks in Use, pp. 10-11, Steps 4-7 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist – Read Science Stories: pp. 14-15, <i>Rocks Move</i> 	<p>Homework/Extra Practice</p> <p>Home/School Connection – Student Sheet No. 23</p>
	<p>Lesson 17 (45 min) Objective(s):</p> <ul style="list-style-type: none"> • The properties of different earth materials make each suitable for specific uses. • Different sizes of sand are used in sand paper to change the surface of wood from rough to smooth. 		<p>Alignment with NYS Core Curriculum: LE 1.1d; PS 2.1d; PS 3.1b, c, d, e, f, g</p>
	<p>Advanced Planning/ Notes to Teachers</p> <ul style="list-style-type: none"> – Teacher Guide Inv. 3: Using Rocks, pp. 1-7 – Teacher Guide Inv. 3: Using Rocks, Part 2: Looking at Sandpaper, Materials and Getting Ready, pp. 12-13 – Teacher Guide Science Stories, pp. 8-11 	<p>Investigation/Activity</p> <ul style="list-style-type: none"> – Investigation 3: Using Rocks Part 2: Looking at Sandpaper, pp. 14-15, Steps 1-11 – Investigation Duplication Master: Student Sheet No. 10 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	<p>Homework/Extra Practice</p>

Grade 2

WEEK 6 (continued)	Lesson 18 (45 min) Objective(s): <ul style="list-style-type: none"> The properties of different earth materials make each suitable for specific uses. Earth materials are used to make sculptures. 		Alignment with NYS Core Curriculum: LE 1.1d; PS 3.1b, c, d, e, f, g
	Advanced Planning/ Notes to Teachers <ul style="list-style-type: none"> Teacher Guide Inv. 3: Using Rocks, pp. 1-7 Teacher Guide Inv. 3: Using Rocks, Part 3: Sand Sculptures, Materials and Getting Ready, pp. 16-17 Teacher Guide Science Stories, pp. 8-11 	Investigation/Activity <ul style="list-style-type: none"> Investigation 3: Using Rocks Part 3: Sand Sculptures, pp. 18-19, Steps 1-7 Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	Homework/Extra Practice
WEEK 7	Lesson 19 (45 min) Objective(s): <ul style="list-style-type: none"> The properties of different earth materials make each suitable for specific uses. Earth materials are used to make jewelry and sculptures. 		Alignment with NYS Core Curriculum: LE 1.1d; PS 3.1b, c, f, g
	Advanced Planning/ Notes to Teachers <ul style="list-style-type: none"> Teacher Guide Inv. 3: Using Rocks pp. 1-7 Teacher Guide Inv. 3: Using Rocks, Part 4: Clay Beads, Materials and Getting Ready, pp. 20-21 Teacher Guide Science Stories, pp. 8-11 	Investigation/Activity <ul style="list-style-type: none"> Investigation 3: Using Rocks Part 4: Clay Beads, pp. 22-23, Steps 1-5 Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	Homework/Extra Practice

Grade 2

WEEK 7 (continued)	Lesson 20 (45 min) (When the beads are dry they may be moved out of sequence.) Objective(s): <ul style="list-style-type: none"> The properties of different earth materials make each suitable for specific uses. Earth materials are used to make jewelry and sculptures. 		Alignment with NYS Core Curriculum: LE 1.1d; PS 3.1b, c, f, g
	Advanced Planning/ Notes to Teachers <ul style="list-style-type: none"> Teacher Guide Inv. 3: Using Rocks, pp. 1-7 Teacher Guide Inv. 3: Using Rocks, Part 4: Clay Beads, Materials and Getting Ready, pp. 20-21 Teacher Guide Science Stories, pp. 8-11 	Investigation/Activity <ul style="list-style-type: none"> Investigation 3: Using Rocks Part 4: Clay Beads, pp. 22-23, Steps 6-8 Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	Homework/Extra Practice
	Lesson 21 (45 min) Objective(s): <ul style="list-style-type: none"> The properties of different earth materials make each suitable for specific uses. Simple bricks are made by combining clay soil with plant material. 		Alignment with NYS Core Curriculum: LE 1.1d; PS 3.1b, c, d, e, f, g
	Advanced Planning/ Notes to Teachers <ul style="list-style-type: none"> Teacher Guide Inv. 3: Using Rocks, pp. 1-7 Teacher Guide Inv. 3: Using Rocks, Part 5: Making Bricks, Materials and Getting Ready, pp. 24-26 Teacher Guide Science Stories, pp. 8-11 	Investigation/Activity <ul style="list-style-type: none"> Investigation 3: Using Rocks Part 5: Making Bricks, pp. 27-29, Steps 1-7 Investigation Duplication Master: Teacher Sheet No. 11 Investigation Duplication Master: Student Sheet No. 12 Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	Homework/Extra Practice

Grade 2

WEEK 8	<p>Lesson 22 (45 min) (When bricks are dry they may be moved out of sequence.)</p> <p>Objective(s):</p> <ul style="list-style-type: none"> The properties of different earth materials make each suitable for specific uses. Simple bricks are made by combining clay soil with plant material. 	<p>Alignment with NYS Core Curriculum: LE 1.1d; PS 3.1b, c, d, e, f, g</p>		
	<p>Advanced Planning/ Notes to Teachers</p> <ul style="list-style-type: none"> Teacher Guide Inv. 3: Using Rocks, pp. 1-7 Teacher Guide Inv. 3: Using Rocks, Part 5: Making Bricks, Materials and Getting Ready, pp. 24-26 Teacher Guide Science Stories, pp. 8-11 	<p>Investigation/Activity</p> <ul style="list-style-type: none"> Investigation 3: Using Rocks Part 5: Making Bricks, pp. 27-29, Steps 8-10 Investigation Duplication Master: Teacher Sheet No. 11 Investigation Duplication Master: Student Sheet No. 12 Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	<p>Homework/Extra Practice</p>	
	<p>Lesson 23 (45 min) (Follows Lesson 21)</p> <p>Objective(s):</p> <ul style="list-style-type: none"> The properties of different earth materials make each suitable for specific uses. Simple bricks are made by combining clay soil with plant material. 	<p>Alignment with NYS Core Curriculum: LE 1.1d; PS 3.1b, c, d, e, f, g</p>		
	<p>Advanced Planning/ Notes to Teachers</p> <ul style="list-style-type: none"> Teacher Guide Inv. 3: Using Rocks, pp. 1-7 Teacher Guide Inv. 3: Using Rocks, Part 5: Making Bricks, Materials and Getting Ready, pp. 24-26 Teacher Guide Science Stories, pp. 8-11 www.fossweb.com/NYC – Check website for interactive simulations, Audio Stories, to write questions to a scientist, for teaching tips, and other websites to support teaching Pebbles, Sand, and Silt. 	<p>Investigation/Activity</p> <ul style="list-style-type: none"> Investigation 3: Using Rocks Part 5: Making Bricks, pp. 22-23, Steps 11-13 Investigation Duplication Master: Teacher Sheet No. 11 Investigation Duplication Master: Student Sheet No. 12 Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist Read Science Stories: pp. 16-19, <i>Making Things with Rocks</i> Visit www.fossweb.com/NYC for the student activity “Find Earth Materials” 	<p>Homework/ Extra Practice</p>	

Grade 2

WEEK 8 (continued)	Lesson 24 (45 min) Objective(s): <ul style="list-style-type: none"> • Soil is a mixture of earth materials. • Humus is decayed material from plants and animals. • The ingredients of soil can be observed by mixing soil with water, shaking it, and letting it settle. 		Alignment with NYS Core Curriculum: LE 1.1d; PS 2.1d; PS 3.1b, c, d, e, f, g	
	Advanced Planning/ Notes to Teachers <ul style="list-style-type: none"> – Teacher Guide Inv. 4: Soil Explorations, pp. 1-7 – Teacher Guide Inv. 4: Soil Explorations, Part 1: Homemade Soil, Materials and Getting Ready, pp. 8-9 – Teacher Guide Science Stories, pp. 12-19 – www.fossweb.com/NYC – Check website for interactive simulations, Audio Stories, to write questions to a scientist, for teaching tips, and other websites to support teaching Pebbles, Sand, and Silt. 	Investigation/Activity <ul style="list-style-type: none"> – Investigation 4: Soil Explorations Part 1: Homemade Soil, pp. 10-14, Steps 1-6 – Investigation Duplication Master: Student Sheet No. 13 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 		Homework/ Extra Practice
WEEK 9	Lesson 25 (45 min) Objective(s): <ul style="list-style-type: none"> • Soil is a mixture of earth materials. • Humus is decayed material from plants and animals. • The ingredients of soil can be observed by mixing soil with water, shaking it, and letting it settle. 		Alignment with NYS Core Curriculum: LE 1.1d; PS 2.1d; PS 3.1b, c, d, e, f, g	
	Advanced Planning/ Notes to Teachers <ul style="list-style-type: none"> – Teacher Guide Inv. 4: Soil Explorations, pp. 1-7 – Teacher Guide Inv. 4: Soil Explorations, Part 1: Homemade Soil, Materials and Getting Ready, pp. 8-9 – Teacher Guide Science Stories, pp. 12-19 	Investigation/Activity <ul style="list-style-type: none"> – Investigation 4: Soil Explorations Part 1: Homemade Soil, pp. 10-14, Steps 7-18 – Investigation Duplication Master: Student Sheet No. 13 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 		Homework/ Extra Practice

Grade 2

WEEK 9 (continued)	<p>Lesson 26 (45 min)</p> <p>Objective(s):</p> <ul style="list-style-type: none"> • Soil is a mixture of earth materials. • Humus is decayed material from plants and animals. • The ingredients of soil can be observed by mixing soil with water, shaking it, and letting it settle. 	<p>Alignment with NYS Core Curriculum:</p> <p>LE 1.1d; PS 2.1d; PS 3.1b, c, d, e, f, g</p>	
	<p>Advanced Planning/ Notes to Teachers</p> <ul style="list-style-type: none"> – Teacher Guide Inv. 4: Soil Explorations, pp. 1-7 – Teacher Guide Inv. 4: Soil Explorations, Part 1: Homemade Soil, Materials and Getting Ready, pp. 8-9 – Teacher Guide Science Stories, pp. 12-19 	<p>Investigation/Activity</p> <ul style="list-style-type: none"> – Investigation 4: Soil Explorations Part 1: Homemade Soil, pp. 10-14, Steps 19-25 – Investigation Duplication Master: Student Sheet No. 13 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	<p>Homework/ Extra Practice</p>
	<p>Lesson 27 (45 min)</p> <p>Objective(s):</p> <ul style="list-style-type: none"> • Soils vary from place to place. • Soils have properties of color and texture. • Different soils differ in their ability to support plants. 	<p>Alignment with NYS Core Curriculum:</p> <p>LE 1.1d; PS 2.1d; PS 3.1b, c, d, e, f, g</p>	
	<p>Advanced Planning/ Notes to Teachers</p> <ul style="list-style-type: none"> – Teacher Guide Inv. 4: Soil Explorations, pp. 1-7 – Teacher Guide Inv. 4: Soil Explorations, Part 2: Soil Search, Materials and Getting Ready, pp. 15-16 – Teacher Guide Science Stories, pp. 12-19 	<p>Investigation/Activity</p> <ul style="list-style-type: none"> – Investigation 4: Soil Explorations Part 2: Soil Search, pp. 17-18, Steps 1-5 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist <p>Note: Be creative in your Soil Search! You may be able to assign soil collecting as a homework assignment. Or, you might consider transforming your classroom or other school space into a “Dig Site.” Samples from flower pots, play area, garden soil, and others will help you reach the lesson objective: Soils collected from different places have different compositions.</p>	<p>Homework/Extra Practice</p> <p>Math Extension – Student Sheet No. 20</p>

Grade 2

WEEK 10	Lesson 28 (45 min) Focus: Mealworm Life Cycle Objective(s): Soils vary from place to place. Soils have properties of color and texture. Different soils differ in their ability to support plants.		Alignment with NYS Core Curriculum: LE 1.1d; PS 2.1d; PS 3.1b, c, d, e, f, g
	Advanced Planning/ Notes to Teachers – Teacher Guide Inv. 4: Soil Explorations, pp. 1-7 – Teacher Guide Inv. 4: Soil Explorations, Part 2: Soil Search, Materials and Getting Ready, pp. 15-16 – Teacher Guide Science Stories, pp. 12-19	Investigation/Activity – Investigation 4: Soil Explorations Part 2: Soil Search, pp. 17-18, Steps 6-8 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist – Read Science Stories: pp. 20-23, <i>What is in Soil?</i>	Homework/Extra Practice
	Lesson 29 (45 min) Objective(s): Soils can be composed of humus and different amounts and sizes of rocks.		Alignment with NYS Core Curriculum: LE 1.1d; PS 2.1d; PS 3.1b, c, d, e, f, g
	Advanced Planning/ Notes to Teachers – Teacher Guide Inv. 4: Soil Explorations, pp. 1-7 – Teacher Guide Inv. 4: Soil Explorations, Part 3: Studying Local Soil, Materials and Getting Ready, pp. 19-21 – Teacher Guide Science Stories, pp. 12-19	Investigation/Activity – Investigation 4: Soil Explorations Part 3: Studying Local Soil, pp. 22-25, Steps 1-7 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist	Homework/ Extra Practice

Grade 2

WEEK 10 (continued)	Lesson 30 (45 min) Objective(s): Soils can be composed of humus and different amounts and sizes of rocks.		Alignment with NYS Core Curriculum: LE 1.1d; PS 2.1d; PS 3.1b, c, d, e, f, g
	Advanced Planning/ Notes to Teachers – Teacher Guide Inv. 4: Soil Explorations, pp. 1-7 – Teacher Guide Inv. 4: Soil Explorations, Part 3: Studying Local Soil, Materials and Getting Ready, pp. 19-21 – Teacher Guide Science Stories, pp. 12-19	Investigation/Activity – Investigation 4: Soil Explorations Part 3: Studying Local Soil, pp. 22-25, Steps 8-13 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist	Homework/Extra Practice
WEEK 11	Lesson 31 (45 min) Objective(s): Soils can be composed of humus and different amounts and sizes of rocks.		Alignment with NYS Core Curriculum: LE 1.1d; PS 2.1d; PS 3.1b, c, d, e, f, g
	Advanced Planning/ Notes to Teachers – Teacher Guide Inv. 4: Soil Explorations, pp. 1-7 – Teacher Guide Inv. 4: Soil Explorations, Part 3: Studying Local Soil, Materials and Getting Ready, pp. 19-21 – Teacher Guide Science Stories, pp. 12-19	Investigation/Activity – Investigation 4: Soil Explorations Part 3: Studying Local Soil, pp. 22-25, Steps 14-16 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist – Read Science Stories: pp. 24-25, <i>Testing Soil</i>	Homework/Extra Practice Home/School Connection – Student Sheet No. 23

Grade 2

WEEK 11 (continued)	Lesson 32 (45 min) Objective(s): Soils can be composed of humus and different amounts and sizes of rocks.	Alignment with NYS Core Curriculum: LE 1.1d; PS 2.1d; PS 3.1b, c, d, e, f, g		
	Advanced Planning/ Notes to Teachers – Teacher Guide Inv. 4: Soil Explorations, pp. 1-7 – Teacher Guide Inv. 4: Soil Explorations, Part 3: Studying Local Soil, Materials and Getting Ready, pp. 19-21 – Teacher Guide Science Stories, pp. 12-19	Investigation/Activity – Investigation 4: Soil Explorations Part 3: Studying Local Soil, pp. 22-25, Steps 16-19 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist – Read Science Stories: pp. 26-31, <i>Fossils</i>	Homework/Extra Practice	
	Lesson 33 (45 min) Objective(s): Performance Assessment	Alignment with NYS Core Curriculum: PS 3.1b, c, d, e, f, g		
	Advanced Planning/ Notes to Teachers Teacher Guide, Assessment Folio, pp. 6-11	Investigation/Activity – Administer the End-of-Module Assessment – Performance Assessment. – Assessment Duplication Master No. 4 – Assessment Duplication Master No. 7, Portfolio Assessment – Anecdotal Notes and Assessment Checklist	Homework/Extra Practice	

Grade 2

WEEK 12	Lesson 34 (45 min) Objective(s): End of Module Assessment		Alignment with NYS Core Curriculum: LE 1.1d; PS 2.1d; PS 3.1b, c, d, e, f, g
	Advanced Planning/ Notes to Teachers Teacher Guide, Assessment Folio, pp. 6-11	Investigation/Activity <ul style="list-style-type: none"> – Administer the End-of-Module Assessment – Written Assessment. – Assessment Duplication Masters Nos. 5-6 – Assessment Duplication Master No. 7, Portfolio Assessment – Anecdotal Notes and Assessment Checklist 	