

Pebbles, Sand and Silt Unit Design – Grade 2

The **Pebbles, Sand, and Silt Module** consists of four sequential investigations, each designed to introduce concepts in earth science. The investigations provide experiences that heighten students' awareness of rocks as earth materials and natural resources. They will come to know rocks by many names and in a variety of sizes. Pebbles and sand are the same material—just different in size.

Grade 2

RI Statements of Enduring Knowledge - (Established Goals):

ESS1 - The earth and earth materials as we know them today have developed over long periods of time, through continual change processes.

Related Rhode Island GSE's (Understandings)	RI Assessment Targets Assessment Evidence ***High Emphasis Targets
<p>ESS1 (K-2)–1 Students demonstrate an understanding of earth materials by ...</p> <p>1a describing, comparing, sorting rocks and soils by similar or different physical properties (e.g., size, shape, color, texture, smell, weight).</p> <p>1b recording observations/ about physical properties.</p> <p>1c using attributes of properties to state why objects are grouped together (e.g., rocks that are shiny or not shiny).</p>	<p>***ESS1 (K-4) INQ –1 <i>Given certain earth materials (soils, rocks or minerals) use physical properties to sort, classify, and describe them.</i></p> <p>Investigation 1, Parts 1-5, pp. 8-29 Investigation 2, Parts 1-4, pp. 8-29 Investigation 4, Parts 1-3, pp. 8-25 Science Stories, pp. 3-9</p> <p>Investigation1, Parts 2, 4, pp. 13-17, 22-25 Investigation 2, Parts 1-4, pp. 8-29 Investigation 4, Part 1, pp. 8-14</p> <p>Investigation 1, Parts 3-4, pp. 18-25 Investigation 2, Part 2, pp. 14-17</p>

<p>ESS1 (K-2) –2 Students demonstrate an understanding of processes and change over time within earth systems by ... 2a conducting tests on how different soils retain water (e.g., how fast does the water drain through?).</p>	<p>***ESS1 (K-4) INQ –2 Use results from an experiment to draw conclusions about how water interacts with earth materials (e.g., percolation, erosion, frost heaves). Investigation 4, Home/School Connection, p. 28</p>
<p>ESS1 (K-2) –6 Students demonstrate an understanding of properties of earth materials by... 6a identifying which materials are best for different uses (e.g., soils for growing plants, sand for the sand box).</p>	<p>ESS1 (K-4) FAF -6 <i>Given information about earth materials explain how their characteristics lend themselves to specific uses</i> Investigation 3, Parts -5, pp. 8-29 Science Stories, pp. 16-19, 24-25</p>

Words in **bold** are important for science vocabulary development, and should be used for word walls.

Investigation- Time (45min. periods)	Investigation	Focus Questions (Essential Questions)	Big Ideas (Understandings)
1.1-(1)	Three Rocks	<ul style="list-style-type: none"> • How are rocks different? • What happens when you rub rocks together? 	<p>Rocks have a variety of properties When rocks rub together, some (softer) rocks may be chipped or scratched, or make rock dust</p>
1.2-(1)	Washing Three Rocks	<ul style="list-style-type: none"> • What happened when you washed the rocks? 	<p>Rocks have a variety of properties When rocks are washed in water, the colors or sparkling qualities are enhanced</p>
1.3-(1)	First Sorting	<ul style="list-style-type: none"> • How can some rocks be the same? 	<p>Rocks can be sorted by their properties</p>
1.4-(1)	Sorting Games	<ul style="list-style-type: none"> • How many ways can we sort rocks? 	<p>Rocks can be sorted by their properties</p>
1.5-(ongoing)	Start A Rock Collection	<ul style="list-style-type: none"> • What kind of rocks can we find around us? 	<p>Rocks are all around us Rocks are the solid material of the earth</p>
2.1-(1)	Screening River Rocks	<ul style="list-style-type: none"> • How can rocks be sorted by size? 	<p>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>

Investigation-Time (45min. periods)	Investigation	Focus Questions (Essential Questions)	Big Ideas (Understandings)
2.2-(1)	River Rocks By Size	<ul style="list-style-type: none"> How else can rocks be sorted by size? 	<p>Rocks can be categorized visually by size</p> <p>Rock sizes include sand, small gravel, large gravel, small pebbles, and large pebbles</p> <p>Rocks larger than pebbles are cobbles</p> <p>Rocks larger than cobbles are boulders</p>
2.3-(1)	Sand And Silt	<ul style="list-style-type: none"> Is there an earth material smaller than sand? 	<p>Sand often contains smaller particles called silt</p> <p>Water can be used to sort the sizes of earth materials</p>
2.4-(1)	Exploring Clay	<ul style="list-style-type: none"> Is there an earth material smaller than silt? 	<p>Clay particles are very small, even smaller than silt</p>
3.1-(1)	Rocks In Use	<ul style="list-style-type: none"> How do people use earth materials? 	<p>Earth materials are natural resources</p> <p>The properties of earth materials make each suitable for specific uses</p> <p>Earth materials are commonly used in the construction of buildings and streets</p>
3.2-(1)	Looking at Sandpaper	<ul style="list-style-type: none"> What does sand do for sandpaper? 	<p>The properties of different earth materials make each suitable for specific uses</p> <p>Different sizes of sand are used in sandpaper to changes the surface of wood from rough to smooth</p>
3.3-(1)	Sand Sculptures	<ul style="list-style-type: none"> How else can sand be used? 	<p>The properties of different earth materials make each suitable for specific uses</p> <p>Earth materials are used to make sculptures</p>
3.4-(1)	Clay Beads	<ul style="list-style-type: none"> What can be made with clay? 	<p>The properties of different earth materials make each suitable for specific uses</p> <p>Earth materials are use to make jewelry and sculptures</p>
3.5-(1)	Making Bricks	<ul style="list-style-type: none"> How are bricks made? 	<p>The properties of different earth materials make each suitable for specific uses</p> <p>Simple bricks are made by combining clay soil with plant material</p>
4.1-(1)	Homemade Soil	<ul style="list-style-type: none"> What is in dirt? 	<p>Soil is a mixture of earth materials</p> <p>Humus is decayed material from plants and animals</p> <p>The ingredients of soil can be observed by mixing soil with water, shaking it, and letting it settle</p>
4.2-(1)	Soil Search	<ul style="list-style-type: none"> Are all soils the same? 	<p>Soils vary from place to place</p> <p>Soils have properties of color and texture</p> <p>Different soils differ in their ability to support plants</p>
4.3-(ongoing)	Studying a Local Soil	<ul style="list-style-type: none"> How are soils different? 	<p>Soils can be composed of humus and different amounts and sizes of rocks</p>