

Essential Question: How do the different properties of earth materials make them useful?

Time Frame (in weeks): 6 (hour daily) **or** 12 weeks (30 mins. daily)

VOCABULARY: classify, observe, explain, identify, sort, fair test, reusable, texture, soil, rough, shiny, dull, smooth, layered

National Standards or Core Standards

Earth is made of rock, metal, water, air, and living organisms in the form of the geosphere, hydrosphere, atmosphere, and biosphere.

Guiding Questions	Big Ideas of Science	Knowledge and Skills	Teaching Resources & Technology
<p>How many ways can you sort earth materials by properties? Can you explain your rule for grouping earth materials? How can we use properties to identify a mystery soil sample? How can we conduct a fair test to figure out which soil sample will hold the most water? How can earth materials be reused in our world?</p>	<p>Earth materials have different properties. Rocks and water are not living. Earth materials can be grouped in more than one way. Some Earth materials can be reused. There are many things that people can do to help protect Earth's resources and environments, such as reducing the amount of materials they use, reusing materials when possible, and recycling materials. When scientists use tools, they can discover new properties about objects.</p>	<p>Formative Understandings Conduct fair test Record results Make claim based upon results Identify mystery soil samples by observable properties Communicate rules for grouping earth materials Sort recyclables/non-recyclables Observe and describe properties of earth materials Classify earth materials by observable properties</p>	<p>FOSS Pebbles, Sand, and Silt</p>

Scientific Inquiry/Scientific Habits of Mind	CONNECTED/ 21st Century Learning
<p>Scientists use their senses to learn about the world around them. Scientists begin a fair test with a question Scientists make predictions based upon their observations, experiences, and things they read. Scientists only change one thing in a fair test. They keep all the other things the same. Scientists develop a plan to follow. Scientists observe, record, measure, and analyze data to acquire evidence. Scientists use tables and graphs to identify patterns and relationships within data. Scientists develop claims based on their evidence. Scientists embrace unexpected results.</p>	<p>Nurturing the Characteristics of Successful Learners Students use inquiry when sorting rocks.</p> <p>Transforming Technology into a Continuous Knowledge Tool Using SMART Board to explore and sort earth materials. Access FOSS website.</p> <p>Cultivating Collaboration Work with partner or in small groups.</p> <p>Evolving Teaching Styles Manipulatives and movement throughout lessons Describe observed events Ask questions based upon observations Conduct guided inquiry Use instruments to gather data Organize and generalize data on charts, pictographs, tables, journals</p>