### Wilmette Public Schools, District 39, Science Curriculum, Kindergarten

**Unit:** Properties of Earth Materials

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

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

**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.

<table>
<thead>
<tr>
<th>Guiding Questions</th>
<th>Big Ideas of Science</th>
<th>Knowledge and Skills</th>
<th>Teaching Resources &amp; Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>How many ways can you sort earth materials by properties?</td>
<td>Earth materials have different properties.</td>
<td><strong>Formative Understandings</strong></td>
<td><strong>FOSS</strong></td>
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<tr>
<td>Can you explain your rule for grouping earth materials?</td>
<td>Rocks and water are not living.</td>
<td>Conduct fair test</td>
<td>Pebbles, Sand, and Silt</td>
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<tr>
<td>How can we use properties to identify a mystery soil sample?</td>
<td>Earth materials can be grouped in more than one way.</td>
<td>Record results</td>
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<tr>
<td>How can we conduct a fair test to figure out which soil sample will hold the most water?</td>
<td>Some Earth materials can be reused.</td>
<td>Make claim based upon results</td>
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<tr>
<td>How can earth materials be reused in our world?</td>
<td>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.</td>
<td>Identify mystery soil samples by observable properties</td>
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<td>When scientists use tools, they can discover new properties about objects.</td>
<td>Communicate rules for grouping earth materials</td>
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<td>Sort recyclables/non-recyclables</td>
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<td>Observe and describe properties of earth materials</td>
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<td>Classify earth materials by observable properties</td>
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**Scientific Inquiry/Scientific Habits of Mind**

- 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.

**CONNECTED/ 21st Century Learning**

- **Nurturing the Characteristics of Successful Learners**
  - Students use inquiry when sorting rocks.
- **Transforming Technology into a Continuous Knowledge Tool**
  - Using SMART Board to explore and sort earth materials. Access FOSS website.
- **Cultivating Collaboration**
  - Work with partner or in small groups.
- **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