Collaborative Unit Plan  
Forest Lake Elementary Technology Magnet School

**Content Area:** Science - Landforms  
**Grade Level:** 5  
**Length of Unit:**

### Standards to be Addressed:

#### Standard 5-1: The student will demonstrate an understanding of scientific inquiry, including the foundations of technological design and the processes, skills, and mathematical thinking necessary to conduct a controlled scientific investigation.

**Indicators**

- **5-1.1** Identify questions suitable for generating a hypothesis.
- **5-1.2** Identify independent (manipulated), dependent (responding), and controlled variables in an experiment.
- **5-1.3** Plan and conduct controlled scientific investigations, manipulating one variable at a time.
- **5-1.4** Use appropriate tools and instruments (including a timing device and a 10x magnifier) safely and accurately when conducting a controlled scientific investigation.
- **5-1.5** Construct a line graph from recorded data with correct placement of independent (manipulated) and dependent (responding) variables.
- **5-1.6** Evaluate results of an investigation to formulate a valid conclusion based on evidence and communicate the findings of the evaluation in oral or written form.
- **5-1.7** Use a simple technological design process to develop a solution or a product, communicating the design by using descriptions, models, and drawings.
- **5-1.8** Use appropriate safety procedures when conducting investigations.

#### Standard 5-3: The student will demonstrate an understanding of features, processes, and changes in Earth's land and oceans. (Earth Science)

**Indicators**

- **5-3.1** Explain how natural processes (including weathering, erosion, deposition, landslides, volcanic eruptions, earthquakes, and floods) affect Earth's oceans and land in constructive and destructive ways.
- **5-3.2** Illustrate the geologic landforms of the ocean floor (including the continental shelf and slope, the mid-ocean ridge, rift zone, trench, and the ocean basin).
- **5-3.3** Compare continental and oceanic landforms.
- **5-3.4** Explain how waves, currents, tides, and storms affect the geologic features of the ocean shore zone (including beaches, barrier islands, estuaries, and inlets).
- **5-3.5** Compare the movement of water by waves, currents, and tides.
- **5-3.6** Explain how human activity (including conservation efforts and pollution) has affected the land and the oceans of Earth.

### Pre-Assessment Methods to be Used:

<table>
<thead>
<tr>
<th>Readiness</th>
<th>KWL</th>
<th>Self-Evaluation</th>
<th>Inventories</th>
<th>Learning Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fist to Five</td>
<td>MAP-math</td>
<td>Squaring off</td>
<td>Student interest</td>
<td>Multiple intelligence survey</td>
</tr>
<tr>
<td>Graphing</td>
<td>MAP-reading</td>
<td>Thumbs up/down</td>
<td>Interest inventory</td>
<td>Other:</td>
</tr>
<tr>
<td>Pre-test</td>
<td>SCRA</td>
<td>Yes/No card</td>
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</tbody>
</table>

**Big 6 Format:** No

**Essential Question:** How do natural processes affect landforms? How do humans affect landforms?
### Focus Questions:

**Being There Experience:** Community Walk

**Responsibilities of Classroom teacher:**
- Identify and teach vocabulary - erosion, deposition, weathering, etc.
- Provide hands-on activities for exploring vocabulary concepts.
- Target instruction to reach all learners

**Responsibilities of ITS:**
- Create district unit test review on CPS.
- Identify and list websites and United Streaming related to landforms.

<table>
<thead>
<tr>
<th>Earth's Land Theme Unit</th>
<th>United Streaming: See School shared folder on United Streaming.</th>
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</thead>
<tbody>
<tr>
<td>Earthquake Facts</td>
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<td>Earthquakes for Kids</td>
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<tr>
<td>Earthquakes Topic</td>
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<td>Earthquakes</td>
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<td>Exploratorium Faultline, Seismic Science at the Epicenter</td>
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<td>FEMA For Kids Disaster Connection - Kids to Kids</td>
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<tr>
<td>Geo-Mysteries @ The Children's Museum of Indianapolis</td>
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<tr>
<td>Geologist</td>
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<tr>
<td><a href="http://www.bedfordk12tn.com-harris-earthquake.htm">http://www.bedfordk12tn.com-harris-earthquake.htm</a></td>
<td></td>
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<tr>
<td>Image Gallery of Landforms</td>
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<tr>
<td>Landforms Face of the Earth</td>
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<tr>
<td>LANDFORMS</td>
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<td>Landforms11</td>
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<td>Observing Different Landforms</td>
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<td>Ology</td>
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<td>Rockhounds Home Page</td>
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<td>Types of Land</td>
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<tr>
<td>Understanding Earthquakes Elastic Rebound Animation</td>
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<tr>
<td>Understanding Earthquakes</td>
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<tr>
<td>WebQuest</td>
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</tbody>
</table>

**Responsibilities of LMS:**
- Identify and list books related to study of landforms.
- Secure NASA SciFiles Unit - "The Case of the Disappearing Dirt"

**Resource Speakers:** Clemson Extension

**NASA Video Conference on Landforms from Space Jan. 29-Feb 2**

**Field Studies (in and out of school)**

**Clemson Extension Center Activities**

**Literary Correlations:** (See attached bibliography)

**Strategies used within the unit:** (Put topics by strategies used.)
<table>
<thead>
<tr>
<th>Acceleration</th>
<th>Independent</th>
<th>Learning contracts</th>
<th>Multiple intelligences</th>
<th>Student choice</th>
<th>Varied materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anchor activities</td>
<td>Jigsaw</td>
<td>Learning stations</td>
<td>Orbital studies</td>
<td>Taped material</td>
<td>Varied tasks</td>
</tr>
<tr>
<td>Compacting</td>
<td>Large group</td>
<td>Literature circles</td>
<td>Small group</td>
<td>Tiered lesson</td>
<td>Visual organizers</td>
</tr>
<tr>
<td>Webquests</td>
<td>Others: SmartBoard activities</td>
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</table>

**Technology Components**
- SmartBoard activities
- Webquests
- PowerPoint presentations
- United Streaming
- BrainPop

**Project:**
- PowerPoint or SmartBoard presentations
- Writing a letter to editor of newspaper

**Final assessments used:**
- Chapter tests
- Exit cards
- Portfolio review
- Rotation
- Talking topics
- Wraparounds
- Conversation circles
- Performance tasks
- Reflection gallery
- Rubrics
- Unit test
- Other: CPS review

**Integration into other subject areas:**
- ELA - Correlated stories “Oceans” and “Seeing Earth From Space”
  - Letter to editor
- Social Studies - Weekly Reader on natural disasters and space
- Math - Graphing and word problems

**Evaluation of collaborative efforts:**
- How well were the standards met?
- What impact did information literacy have on this unit or lesson?
- How well did the library resource collection support the objectives of this unit?
  - Scale: 5=Excellent  4=above average  3=average  2=below average  1=poor
  - Suggestions for improvement:

**Materials or technology needed to repeat lesson:**