

## Landforms & Earth Materials-4<sup>th</sup> Grade

Timeframe 10 weeks
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May 10, 2012

Standards	Assessment/ Student Evidence	Academic Vocabulary	Resources
<b>SYSC Systems have inputs and outputs. Changes in inputs may change the outputs of a system.</b>	<ul style="list-style-type: none"> <li>Describe what goes into a system (input) and what comes out of a system (output) (e.g., when slope is increased there is more soil washed away)</li> <li>Describe the effect on a system if its input is changed (e.g., if there is a flood, then topsoil will be deposited in a new location)</li> </ul>	System Input Output	<i>Landforms</i> Teacher Guide by FOSS <i>Earth Materials</i> Teacher Guide by FOSS SPS inserts into Teacher Guides
<b>INQF A scientific model is a simplified representation of an object, event, system, or process created to understand some aspect of the natural world. When learning from a model, it is important to realize that the model is not exactly the same as the thing being modeled.</b>	<ul style="list-style-type: none"> <li>Create a simple model to represent an event, system, or process</li> <li>Use the model to learn something about the event, system, or process</li> <li>Explain how the model is similar to and different from the thing being modeled</li> </ul>	Model	
<b>INQG Scientific explanations emphasize evidence, have logically consistent arguments, and use known scientific principles, models, and theories.</b>	<ul style="list-style-type: none"> <li>Generate a conclusion from a scientific investigation and show how the conclusion is supported by evidence and other scientific principles</li> </ul>	Conclusion	

Power Standards in green

Complementary Standards in yellow

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INQH Scientists communicate the results of their investigations verbally and in writing. They review and ask questions about the results of other scientists' work.			
INQI Scientists report the results of their investigations honestly, even when those results show their predictions were wrong or when they cannot explain the results.			
<b>ES2A (2-3) Water plays an essential role in Earth systems, including shaping landforms.</b>	<ul style="list-style-type: none"> <li>Identify where natural water bodies occur in the students' local environment</li> <li>Show how water has shaped a local landform (e.g., Spokane river valley, Columbia River canyon, etc)</li> </ul>	Landforms	
<b>ES2A Earth materials include solid rocks and soil, water, and gases of the atmosphere. Materials have different physical and chemical properties which make them useful in different ways. Earth materials provide many of the resources that humans use.</b>	<ul style="list-style-type: none"> <li>Describe Earth materials and list their physical and chemical properties</li> <li>Explain how the properties of an Earth material make it useful for certain purposes, but not useful for other purposes (e.g., rocks are heavy and strong so they are good for building walls, but they are not as useful as lighter materials for roofs)</li> </ul>	Earth materials Properties	
<b>ES2D Soils are formed by weathering and erosion, decay of plant matter, transport by rain through streams and rivers, and deposition of sediments in valleys, riverbeds, and lakes.</b>	<ul style="list-style-type: none"> <li>Explain how the formation of soils is related to the following processes: weathering of rock; decay of plant matter; transport by rain, streams, and rivers; deposition of sediments in rivers and lakes</li> </ul>	Soil Weathering Erosion Decay Deposition Sediment	

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ES2B Weathering is the breaking down of rock into pebbles and sand caused by physical processes such as heating, cooling, pressure, and chemical processes such as acid rain.			
ES2C Erosion is the movement of Earth materials by forces such as wind, moving water, ice forming, and gravity.			
ES2F Erosion plays an important role in the formation of soil, but too much erosion can wash away fertile soil from ecosystems and farms.			
ES2E Soils are often found in layers, with each layer having a different chemical composition and different physical properties			

Power Standards in green

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