

**Stratford Public Schools Unit Design  
Grade 6**

**Unit Name:** Science Inside Earth      **Est. # of Weeks:** 5/6 weeks  
**Synopsis:** – Students will explain how external and internal sources of energy affect the Earth’s Systems.

**STUDENT LEARNING GOALS**

<b>Content-Specific Powered Standards</b>	<b>Interdisciplinary Standards (as appropriate)</b>	
<p><b>7.3. a</b> Volcanic activity and the folding and faulting of rock layers during the shifting of the Earth’s crust affect the formation of mountains, ridges and valleys.</p> <p><b>7.3. b</b> Glaciation, weathering and erosion change the Earth’s surface by moving earth materials from place to place.</p>	<p><b>Key Vocabulary</b></p> <p>Conduction Continental Convection Convergent Core Crust Divergent Epicenter Faulting Folding</p>	<p>Glacier Lava Magma Mantle Plates Radiation Subduction Tectonic Transform Volcano</p>

<p><b>Enduring Understandings</b></p> <ol style="list-style-type: none"> <li>Earth’s surface features, such as mountains, volcanoes and continents, are the constantly-changing result of dynamic processes and forces at work inside the Earth.</li> <li>The solid Earth has a core, mantle and crust, each with distinct properties.</li> <li>Earth’s crust is broken into different “tectonic plates” that float on molten rock and move very slowly. Continental drift is driven by convection currents in the hot liquid mantle beneath the crust.</li> <li>The presence of plant and animal fossils of the same age found around different continent shores, along with the matching coastline shapes of continental land masses, provides evidence that the continents were once joined.</li> <li>Tectonic plates meet and interact at divergent, convergent or transform boundaries. The way in which the plates interact at a boundary affects outcomes such as folding, faulting, uplift or earthquakes.</li> <li>The folding and faulting of rock layers during the shifting of the Earth’s crust causes the constructive formation of mountains, ridges and valleys.</li> <li>Mountain formation can be the result of convergent tectonic plates colliding, such as the Appalachians and the Himalayas; mountains may also be formed as a result of divergent tectonic plates moving apart and causing rifting as in East Africa or Connecticut.</li> <li>Most volcanoes and earthquakes are located at tectonic plate boundaries where plates come together or move apart from each other. A geographic plot of the location of volcanoes and the centers of earthquakes allows us to locate tectonic plate boundaries.</li> </ol>	<p><b>Essential Questions</b></p> <p>What constructive and destructive forces interact to create, destroy or change landforms?</p>
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9. The geological makeup of Connecticut shows evidence of various earth processes, such as continental collisions, rifting, and folding that have shaped its structure.
10. Earth's surface is constantly being shaped and reshaped by natural processes. Some of these processes, like earthquakes and volcanic eruptions, produce dramatic and rapid change. Others, like weathering and erosion, usually work less conspicuously over longer periods of time.
11. Glaciers form in areas where annual snowfall is greater than the seasonal melt, resulting in a gradual build-up of snow and ice from one season to the next.
12. Glaciers increase and decrease in size over long periods of time, depending on variations in Earth's climate.
13. Glaciers move slowly, spreading outward across a region or moving down a slope.
14. Moving glaciers reshape the land beneath them by scraping, carving, transporting and depositing soil and rock.
15. Glacial landforms have identifiable shapes. Connecticut's landscape provides many examples of glacial movement and deposition.

**Learning Objectives / Grade Level Expectations**

1. Illustrate and describe in writing the composition of the three major layers of the Earth's interior.
2. Explain how Earth's internal energy is transferred to move tectonic plates.
3. Demonstrate the processes of folding and faulting of the Earth's crust.
4. Correlate common geological features/events (deep sea trenches, mountains, earthquakes, volcanoes) with the location of plate boundaries.
5. Analyze and interpret data about the location, frequency and intensity of earthquakes.
6. Investigate and determine how glaciers form and affect the Earth's surface as they change over time.
7. Observe and report on the geological events that are responsible for having shaped Connecticut's landscape.

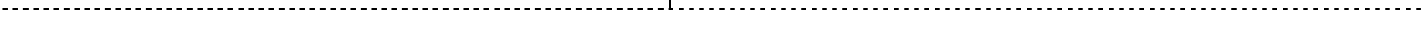
**ASSESSMENT PLAN**

**Summative Assessment(s)**

- Unit Test
- Student Notebooks
- Project Completion

**Formative and Diagnostic Assessment(s)**

Pre and Post Tests by Chapter



## LEARNING PLAN COMPONENTS

### Prentice Hall: Inside Earth Text Book

- Layers of the Earth (Hands-on Activity) -  
[http://www.saskschools.ca/curr\\_content/rbtboxes/mcrust/s\\_act/l1\\_ho.html](http://www.saskschools.ca/curr_content/rbtboxes/mcrust/s_act/l1_ho.html)
- Annenberg Media: Dynamic Earth - <http://www.learner.org/interactives/dynamicearth/structure.html>
- AIMS Book: Drifting Continents/Pangaea Pages 91-99  
Puzzle on Pangaea/Plotting the Evidence- p.100-107
- PHSchool.com web code: cfd-1012
- PHSchool.com web code: cfd-1014 “Sea Floor Spreading”
- PHSchool.com: Seismic waves online Active Art: cfp-1022
- [www.SciLinks.org](http://www.SciLinks.org) scn-1013 Plate Tectonics/Continental Drift
  
- United Streaming : “Continental Drift”  
“Hot Spots: The Formation of the Hawaiian Islands”  
“Why So Much Damage?”
- Discovery School video (VHS) Plate Tectonics
- Convergent boundaries:  
<http://www.learner.org/interactives/dynamicearth/slip2.html> - Illustration on Plate Boundaries 34- 35
- McDougal Little: Exploring Earth:  
[http://www.classzone.com/books/earth\\_science/terc/navigation/investigation.cfm](http://www.classzone.com/books/earth_science/terc/navigation/investigation.cfm)
- ES1106 Faults and Folds-(figures 101-9, 10, 11, 12) -  
<http://www.physicalgeography.net/fundamentals/10l.html>
- World Atlas – map with ring of fire - <http://www.worldatlas.com/aatlas/infopage/ringfire.htm>
- Volcano Gallery - map with ring of fire and plates - [http://www.volcanogallery.com/volcano\\_rofire.htm](http://www.volcanogallery.com/volcano_rofire.htm)
- Annenberg Media: Earth Revealed: #28 Glaciers - <http://www.learner.org/resources/series78.html>
- National Geographic - Forces of Nature - #2 Volcanoes and # 4 Earthquakes -  
<http://www.nationalgeographic.com/forcesofnature/interactive/index.html>
- Annenberg Media: Interactive: Dynamic Earth Slip, Slide, & Collide  
<http://www.learner.org/interactives/dynamicearth/slip2.html>