Lesson Title	Earth Processes… Where in Mississippi?
Length of Lesson	One (50 minute) class period
Created By	Charlotte Buehler
Subject	General Science
Grade Level	7th grade
State Standards	7th: Inquiry (1e, h), Earth and Space Science (4b)
DOK Level	DOK 3
DOK Application	Compare, Explain phenomena in terms of concepts
National Standards	5-8: Inquiry (A), Earth and Space Science (D)
Graduate Research Element	The landscape has its shape and form today because earth processes constantly act upon it. These processes include tectonics, erosion/weathering, and human influences. The earth is a dynamic system and as researchers, it is essential to understand these changers over a period of time and how research studies are shaped by earth's varying phenomenon.

Student Learning Goal:
MS 7th Grade:
Inquiry-
(1e) Communicate results of scientific procedures and explanations though a variety of written and graphic methods.
(1h) Make relationships between evidence and explanations
Earth and Space Science-
(4b) Explain causes and effects of historical processes shaping the planet earth (e.g. movements of the continents, continental plates, subduction zones, trenches etc.)

National Science Education Standards of Content 5-8:
Inquiry (A)-- Earth and Space Science (D)— Structure of the Earth System

Materials Needed (supplies, hand-outs, resources):
Computer, projector, internet, Powerpoint (INSPIRE_Buehler_ppt_earthprocesses_3_1_12), homemade volcano (see Teacher Notes), earthquake demo (plastic cup filled with sand, three pennies), river erosion demo

(aluminum baking tray filled with sand, pitcher of water), glacier demo (aluminum baking tray filled with sand, rock to represent a "glacier")

Lesson Performance Task/Assessment:
In this lesson students will learn how earth processes form and shape the land. The instructor will give a PowerPoint lesson (INSPIRE_Buehler_ppt_earthprocesses_3_1_12), with demonstrations included within the lesson. Students will follow along with the powerpoint and demonstrations by taking notes to explain what they see occurring in the demo. They may even be encouraged to draw a picture describing what they see. At the conclusion of the lesson, students will have become familiar the four main earth processes that shape the land (tectonics, erosion/weathering, climate, humans) and have relevant example of each process happening in their local/regional area.

Lesson Relevance to Performance Task and Students:
Tectonics, erosion/wreathing, climate, and humans shape the earth in a multitude of ways. The students will learn how features in their region or state have been shaped by these various phenomena and hopefully come away with a better understanding of how dynamic the earth is in shaping their region.

Anticipatory Set/Capture Interest:
The instructor will demo the volcano activity! (See teacher notes for how to make the volcano)

Guided Practice:
This lesson will comprise the entire 50 minutes with a powerpoint, but students will have their own time segments to work independently, either taking notes or drawing what they see take place in the demos.

Independent Practice:
The students will be encouraged to listen attentively during the powerpoint without taking notes, however, note taking time and drawing time will be designated throughout the lesson for the students. For independent practice, students can actually partake in the demonstrations; the penny and sand activity would be the best for the instructor to incorporate with the studetns

Remediation and/or Enrichment:
Remediation- Individual IEP; work in groups
Enrichment – Link land forms to National parks around the country

Check(s) for Understanding:
Can the students name the four earth shaping processes? Can they recall what they saw in the demonstrations and explain which earth shaping process the demonstration was linked to.

Closure:
Question 1: What effect do humans have on the landscape?

Question 2: Should we worry about climate change affecting earth shaping processes?

Possible Alternate Subject Integrations:
Earth Science, Geography

Teacher Notes:
Volcano recipe: http://chemistry.about.com/cs/howtos/ht/buildavolcano.htm


source: http://0.tqn.com/d/chemistry/1/G/O/_/eruption.jpg

Penny cup activity:

Fill small plastic cups with sand, compact. Place four pennies (or quarters) in the sand where they stand up on their own. Lift the plastic sand cup a few inches off the table, then drop. Observe the pennies. Did they topple over, stay standing? This is simulating an earthquake event and the pennies are "buildings."