Lesson Title	Plate Tectonics
Length of Lesson	One (50 minute) class period
Created By	Will McBryde, Rob Thornton
Subject	Earth Science
Grade Level	8th grade
State Standards	8th: 1b (Inquiry); 4a, b (Earth Science)
DOK Level	DOK 3
DOK Application	Label, Draw, Construct, Investigate, Illustrate, Identify Patterns, Explain Phenomena in Terms of Concepts
National Standards	5-8: A (Inquiry); D (Earth/Space)
Graduate Research Element	Having knowledge of plate tectonics is important to understanding what causes certain natural hazards like earthquakes and volcanoes.

Student Learning Goal:
MS 8th Grade:
1(b) Make inferences based on observations 4(a) How the lithosphere responds to tectonic forces (faulting and folding). 4(b) Describe the cause and effect relationship between the composition of and movement within the earth's lithosphere.

National Science Education Standards of Content 5-8:
A: Inquiry: Understandings about scientific inquiry; Students will learn about plate tectonics through a PowerPoint lecture and by making their own drawings from images shown on the PowerPoint lecture. This will help students to understand the information presented.
D: Earth and Space Science: Structure of the Earth's System; A PowerPoint lecture will deliver the basics on plate tectonics. A capture activity will have students draw a fault. Finally, other drawings will be made of plate boundaries. This will help students visualize these concepts.

Materials Needed (supplies, hand-outs, resources):
PowerPoint file (INSPIRE_McBryde_10.01.10_PP); laptop; projector

Lesson Performance Task/Assessment:
The instructor will lecture, observe, ask, and answer questions regarding the lesson. Toward the beginning of the lecture, the instructor will direct the students to take out a sheet of paper to draw fault. An image will be provided in the PowerPoint slide to guide the students in their drawings. Further into the lesson, a series of images representing plate boundaries will be displayed. As each of these is shown, the instructor will ask the students to sketch them.

Lesson Relevance to Performance Task and Students:
The capture activity drawing will help students grasp the concept of how a fault works. In addition, the PowerPoint lecture will give students the hows and whys of plate tectonics. The drawings toward the middle-to-end of the lecture will also helps students comprehend how plate boundaries operate.

Anticipatory Set/Capture Interest:
After a few introductory remarks on plate tectonics, the instructor will then draw the students' attention to a PowerPoint slide, which illustrates what students will draw on their own sheet of paper. (see slide "Draw and Cut" in INSPIRE_McBryde_10.01.10_PP). The instructor will walk the students through what they are to draw on their paper. Once the students have their drawings completed, the instructor will have the students cut their paper with scissors along a diagonal line already drawn on their paper. This will simulate a fault line. The students can then move the two pieces of paper to simulate a fault line. This will give students a visual of how fault lines work in the real world.

Guided Practice:
The class will be directed to draw a picture of a fault using an image provided in the PowerPoint. After this, the students will continue observing a PowerPoint lecture on plate tectonics. Later on in the lecture, students will be instructed to draw plate boundaries.

Independent Practice:
Students will observe a PowerPoint lecture on plate tectonics. Students will also draw a picture of a fault and several pictures of plate boundaries.

Remediation and/or Enrichment:
Remediation – Individual IEP; Make PowerPoint presentation available to resource teacher.

Enrichment- Have students give real-world examples of the various plate boundaries. This could be done as an outside assignment.

Check(s) for Understanding:
Observe students during lecture, ask questions and examine their drawings.

Closure:
Ask students questions.

Question 1: What is the name of the boundary in California responsible for earthquakes?

Question 2: Where is the Ring of Fire and why is it important?

Possible Alternate Subject Integrations:
Geography, Math and Physics

Teacher Notes

A reference website…

http://www.platetectonics.com/book/page_2.asp