Lesson Title	Recycling…ROCKS?
Length of Lesson	Two (50 minute) class periods
Created By	Calista Guthrie
Subject	Earth Science
Grade Level	8th grade
State Standards	8th: (Inquiry)
DOK Level	DOK 3
DOK Application	Assess, Compare, Investigate, Draw Conclusions, Cite Evidence
National Standards	5-8: A (Inquiry); D (Earth Science)
Graduate Research Element	Geologists study the Earth. They study it's structure and how it changes overtime.

Student Learning Goal:
MS 8th Grade:
1(d) Analyze evidence that is used to form explanations and draw conclusions. 1(h) Analyze different ideas.

National Science Education Standards of Content 5-8:
A: Inquiry: Think critically and logically to make the relationships between evidence and explanations. Understandings about scientific inquiry.
D: Earth Science: Structure of the Earth System. Earth's History.

Materials Needed (supplies, hand-outs, resources):
PowerPoint (INSPIRE_Guthrie_09.01.12_RockCyclePPT), Notes sheet (INSPIRE_Guthrie_09.01.12_Notes), rock cycle drawing to go with notes (INSPIRE_Guthrie_09.01.12_Cycle), lab worksheet (INSPIRE_Guthrie_09.01.12_Lab), lab instructions (INSPIRE_Guthrie_09.01.12_LabInstructions), different types of rocks for the number of groups needed for students not to be fighting for rocks

Lesson Performance Task/Assessment:
This lesson introduces the rock cycle. Class will begin by discussing a few rock/mineral samples. After this a PowerPoint will be presented highlighting the three main types of rocks and the processes that act on them to cause change. As the PowerPoint is presented, have students draw the cycle with you (INSPIRE_Guthrie_09.01.12_Cycle). The second class period will begin with a review of what they know about the rock cycle. Next, students will use a dichotomous key to determine if rocks are igneous, sedimentary, or metamorphic. Students will fill in the table and answer the questions on their lab worksheet (INSPIRE_Guthrie_09.01.12_Lab).

Lesson Relevance to Performance Task and Students:
Students will learn what the rock cycle is and how rocks are changed as they move through the cycle (sand -> sandstone -> quartzite). Rocks are recycled just like water in the water cycle.

Anticipatory Set/Capture Interest:
The capture activity will be looking at hand samples of rocks and minerals.

Guided Practice:
Students will be given lab instructions and will be guided through the lab activity and how a dichotomous key works. During the lab the instructor will walk around and guide them toward correct assumptions when necessary. Also, the Name that Rock game at the end of the PowerPoint is a good way to work with students on identifying rocks.

Independent Practice:
Students will be expected to stay on task and make their observations as they go through the lab. Though they will be working and discussing in groups, they should make their own inferences based on their observations of the samples. Students will each have their own worksheet with questions to answer.

Remediation and/or Enrichment:
Remediation – Have students draw a diagram of the rock cycle including the processes that cause rocks to be transformed from one rock type to another.

Enrichment- At the end of the lab, students will tell a rock's (Rocky/Rockia) journey through the rock cycle. Students may do this through making a comic strip, various drawings, a song, story book etc.

Check(s) for Understanding:
Checks for understanding include questions in the lab as well as understanding demonstrated in the rock story developed by each group.

Closure:
We will reveal the name of the rocks and play the name that rock game at the end of the PowerPoint or play the game with hand samples.

Possible Alternate Subject Integrations:
Physical Science

Teacher Notes
Videos:
http://www.youtube.com/watch?v=SRaInMDNyE8