Lesson Title	Classifying Part 2
Length of Lesson	50 Minutes
Created By	Adam Lenz
Subject	Science
Grade Level	7th Grade
State Standards	1a, 1h, 4a, 4b
DOK Level	1, 2, 3
DOK Application	Classify, Organize, Compare
National Standards	Inquiry – recognize the relationship between explanation and evidence; identify questions that can be answered through scientific investigation; make relationships between evidence and explanation. Earth and Space – Justify and explain earth materials as they relate to humans. Explain cause and effect of historical process.

Graduate Research Element
In my research with the George County Reservoir project we have to classify different types of soils based on their hydrologic characteristics. Most of the time we do this through visual or physical characteristics much like the way students will be classifying different rocks in lab and organizing them into their group.

Student Learning Goal:
Students will be learning how to create a dichotomous key by classify rocks based on their physical characteristics. They will be doing this by being given a set of rocks and having to distinguish them from one other based on the characteristics that make them unique and included into their correct group.

Materials Needed (supplies, hand-outs, resources):
Materials needed include rock kits with examples of Sedimentary, Metamorphic and Igneous rocks, and paper or a handout for students to create their own dichotomous key.

Lesson Performance Task/Assessment:
Students will be given a set of rocks that they will try and classify using a dichotomous key or creating a dichotomous key (see remediation/enrichment). The student assessment will be if they are able to correctly identify all of the rocks.

Lesson Relevance to Performance Task and Students:

Part 2 of this lesson will give allow them to further understand the classification process that we use in science (especially taxonomy) by having them create their own dichotomous key. This lab will help them learn by giving them a different perspective of the classification process.

Anticipatory Set/Capture Interest:

Letting the students pass around to touch and examine a set of rocks that they may not be familiar with can be used to capture the student's interest while the brief introduction of the lab is taking place.

Guided Practice:

The instructor will give a brief introduction to the lab with an explanation of the rocks, and how we group them using the rock cycle. The instructor can then walk the students through the process of how to use the dichotomous key through the key we did in Part 1 of this lab using the when we classified fictional creatures.

Independent Practice:

Students will finish the rest of the lab by creating their own dichotomous key which we enable them to group their rock samples into Igneous, Sedimentary, or Metamorphic rocks.

Remediation and/or Enrichment:

Remediation: Students who need extra remediation or help may work with another group of students or have the instructor give them extra help or examples. These students may also be given less rocks to classify or classify the rocks using a dichotomous key instead of creating their own.

Enrichment: Students who need further enrichment can discuss answer extra questions about how we use this sort of classification process in real life. They could also bring in their own rock samples to see if they follow the rules of the dichotomous key they created.

Check(s) for Understanding:

- Are you able to classify the rocks correctly?

- How does your dichotomous key compare to other students' keys?
- Can your dichotomous key be used for rocks not in our set of samples?

Closure:

If the students are able to create a dichotomous key that will allow them to classify all of the rocks in their set correctly then they can understand the principles we use when classify other things in life.

Possible Alternate Subject Integrations:

- Biology - Taxonomy
- Geology

Teacher Notes:

Instructors may create their own dichotomous key if they feel that it is necessary for help or enhance student learning. Teachers may purchase rock kits or retrieve rocks from another source such as a local outcrop, stone query, etc.