**“Take it for Granite” Lesson Plan**

**Grade:** 3rd

**Estimated Time:** 40 minutes

**Day:** Last day of Earth Materials AMSTI unit

**Model:** The Guided Discovery Model – This model teaches students concepts or generalizations using examples to guide students to an understanding. Involvement, curiosity, and critical thinking are encouraged by the use of this model.

**Goal:** The goal is for students to further reach an understanding about certain characteristics of minerals and rocks. Also, for them to further reach an understanding about the differences between these two earth materials.

**Objectives:**

* Recognize the difference between a rock and a mineral.
* Identifying minerals in granite.
* Draw conclusions based on evidence.

**National Standards:**

As a result of their activities in grades K-4, all students should develop an understanding of

* Properties of earth materials

**State (ALCOS) Standards – 3rd grade:**

Science:

* Classifying rocks and minerals by characteristics, including streak, color, hardness, magnetism, luster, and texture.

**Materials:**

* AMSTI Kit:
	+ Rock and mineral samples (1 for each group):
		- 1 Calcite
		- 1 Feldspar
		- 1 Pink granite
		- 1 Hornblende
		- 1 Mica
		- 1 Quartz
	+ 1 tray
	+ 1 hand lens per student
	+ Earth Materials Notebook, pp. 13-15, per student
	+ Vinegar
* Venn Diagram
* Technology: paper clips and pennies

**Special Education Accommodations:** There weren’t any necessary for this group of students.

**Procedures:**

* Preplanning:
	+ Students have already been discussing rocks and minerals during the week leading up to the lesson.
	+ Gather materials.
	+ Arrange groups of students.
	+ Prepare open-ended questions.
* Set induction: Show them the collection of rocks and minerals. Review material and let them know that we are now going to act as geologists and experiment to find the rocks and minerals.
* Whole class: As the students work in determining the difference between and classifying the materials, I will ask open-ended questions. These questions will help lead them to a conclusion about the materials.
* Group work: In groups, the students will examine the materials and discuss within their groups which one they want to choose as the rock. Then, they will again examine materials and discuss which minerals they believe the rock is made up of.
* Assessment: Students will be assessed on their participation throughout the experiment. This includes their contribution to the experiments as the group comes to a mutual agreement on the materials they choose for the two separate experiments as well as answering the questions asked by teacher aloud. Also, the students will be assessed based off the answers on their matrices.