



# Science Lesson Plan

Name: Rachael Heidorn Date: 2/25/16

Time needed: 20 minutes

Subject: Earth Science Grade: 4th grade

Topic: Sedimentary, Metamorphic, and Igneous Rock Formations

Approved by Cooperating Teacher \_\_\_\_\_

Science Standards (MN) that this lesson will address: 4.3.1.3.1 Recognize that rocks may be uniform or made of mixtures of different minerals.

**A. Objectives / Learner Outcomes (knowledge, attitudes, skills)** “At the completion of this lesson, learners will ...” (Remember to use observable /measurable terms + strong verbs.) Label as COGNITIVE, AFFECTIVE or PSYCHO-MOTOR

Cognitive: Students will be able to identify three different types of rock formations: sedimentary, metamorphic, and igneous.

Psycho-motor: Students will be cutting, forming, and melting Starburst’s to make them look like the three different rock formations.

**B. Assessment Plan:** *(How will you know that the learners met the objectives? What will you be able to observe and measure? What percentage of the class will be meeting your objectives? Incorporate this plan into the Input section of the lesson.)*

They are meeting the objectives when they are following the directions to make the different rocks.

**C. Multiple Intelligences: Select one primary(p), one secondary(s), and (x) for others**

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> verbal linguistic             | <input type="checkbox"/> musical/rhythmic | <input type="checkbox"/> visual/spatial |
| <input type="checkbox"/> logical/mathematical          | <input type="checkbox"/> interpersonal    | <input type="checkbox"/> intrapersonal  |
| <input checked="" type="checkbox"/> bodily/kinesthetic | <input type="checkbox"/> naturalistic     |   |

**D. Materials/Equipment needed:**

package of Starbursts  
wax paper

**E. Essential Vocabulary**

sediment  
sedimentary rock

heavy book  
microwave  
scissors

metamorphic rock  
igneous rock

**F. Accommodations for Exceptional Learners** (those who have difficulty, ELL/ESL/LEP, LD, gifted, etc.)  
Don't let Timmy use the scissors due to his visual impairment.

### **G. Lesson Planning of Teaching/Learning Activities:**

1. Anticipatory Set/Focusing Event/Introduction (How will you grab and focus students' attention in order to introduce the lesson?)

"I have some rocks here and Starbursts over here. Would do you think we will possibly be doing today? What do you think rocks and Starbursts have in common?"

*Transition: "Let's find out!"*

*Have squares of wax paper, scissors, heavy book, and 4 unwrapped Starbursts ready for each student. Scissors might need to be shared.*

2. Input: Outline of instruction steps/strategies/modeling (written like a recipe)

1. Explain what a sedimentary rock, metamorphic, rock, and igneous rock is.
  - a. Sediment: Bits of weathered rocks and minerals and pieces of dead plants or animals.
  - b. Sedimentary Rock: A type of rock that forms when sediments harden.
  - c. Metamorphic Rock: A type of rock that forms from existing rocks because of changes caused by heat, pressure, or chemicals.
  - d. Magma: Melted rock material that forms deep within the Earth.
  - e. Igneous Rock: A type of rock that forms from melted rock that cools and hardens.
2. Have the students place four Starbursts on top of each other on the wax paper. Fold the other half of the wax paper over it and out the heavy book on top. They may have to do this in two separate sections. This is what sedimentary rock looks like. Then have them cut their sedimentary rocks however they like. Ideally each square would be cut into 9 little squares but give them the freedom to make all types of different rocks.
3. Each student then scoops all the little 'sediments' together and squishes them into a

ball. Breathing on the candy helps it form. Explain to them that this is also what happens when many different sediments come together to form a rock called sedimentary rock.

4. Have the students place their sedimentary rocks onto one half of the wax paper and fold the other half of the wax paper on top of the sedimentary rock. Take the heavy book and have the students press down as hard as they can on the rock. They may need to step on it and push for a while. Once it is flat and mixed together, have them fold it and do it again. Explain that this is what metamorphic rock looks like. They can also mow it onto a ball to really blend the different colors.
5. Have each student microwave their metamorphic rock for 20-30 seconds in the microwave. What comes out of the microwave is what's called igneous rock.

3. **Guided Practice Activity** (How will the children practice as a class or small group under your watchful eye?)

The guided practice is when they are doing the Starburst experiment.

4. **Evidence of Learning:** *How will you know when the learners have reached the objectives? What will a successful outcome look like? (Refer to your assessment plan)*

The objectives will be met when the students are participating and contribute when talking about what they are making.

**Transition:** *“Now you have an idea of what the three different rock layers may look like.”*

5. **Closure and Independent Practice for transfer/extension of learning** (What will students do now that the lesson has been taught?)

An exit ticket will be handed out and expected to be brought back the next day or at the end of that class day.

**H. Evaluation/Reflection of Teaching/Learning:** (By the student teacher —How did I teach? What did I learn about my teaching/students? What specifically do I need to work on for improvement? Etc.)

I thought the lesson went okay. I should have been more informed about the three different rock types before I gave the lesson. I could tell the students were confused at the end about the difference. They had the terms explaining the three down but when it came down to seeing and making the different kinds- distinguishing between sedimentary and metamorphic was confusing for them and me! I also added a section to making the rocks and I think that was a mistake because that added to the confusion.