



Science Lesson Plan

Name: Morgan Schwarz

Date: February 25th, 2016

Time needed: 25 minutes

Subject: Earth Science

Grade: 4th-5th grade

Topic: Layers of the Soil

Approved by Cooperating Teacher _____

Science Standards (MN) that this lesson will address:

- The surface of the Earth changes. Some changes are due to slow processes and some changes are due to rapid processes. (5.3.1.2.1)

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 PSYCHOMOTOR

COGNITIVE: At the completion of this lesson, given the appropriate example, learners will be able to recall the layers of the soil accurately.

AFFECTIVE: During the lesson, learners will be able to distinguish between the different layers of soil, given the descriptions of each.

PSYCHOMOTOR: During the lesson, learners will produce an edible version of the soil horizons, given the appropriate direction and materials.

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.)*

- Observation
- In-Class Discussions
- Engagement in Activities
- Summative Assessment: Labeling cups correctly

Goal: 90% of the class will meet the objectives

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

<u> s </u> verbal linguistic	<u> x </u> musical/rhythmic	_____ visual/spatial
_____ logical/mathematical	_____ interpersonal	_____ intrapersonal
<u> p </u> bodily/kinesthetic	_____ naturalistic	

D. Materials/Equipment needed:

- Oreos
- Chips Ahoy
- Vanilla Pudding
- Chocolate Pudding
- Gummy Worms
- Green Sprinkles
- Cups
- Spoons
- Napkins
- Computer (For PowerPoint)
- Permanent Markers

E. Essential Vocabulary

- Bedrock
- Parent Material
- Subsoil
- Topsoil
- Fertilizer

F. Accommodations for Exceptional Learners (those who have difficulty, ELL/ESL/LEP, LD, gifted, etc.)

- ESL/ELL students may choose to sit near the front where the teacher is able to guide them through the activity which requires following directions and movements

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?)

SLIDE 2:

- 1) Show students jewelry, money, and soil sample. Encourage students to pretend that it is all real.
- 2) Explain that the soil is called topsoil.
- 3) **Which of the three items is most valuable?** Vote for each item. Make a bar graph to display the number of students that chose each item. Allow students to express why they chose the one that they did.
- 4) **However, topsoil is the foundation of everything in your lives. Your home and school are built on it. Your food is grown on it. Gold and gems come from the Earth. Trees that provide paper to make money grow in the soil. People cannot survive without it!**

Transition: Today, we are going to be learning about the different layers of soil since it is such a valuable thing in our life!

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

1. SLIDE 3: Give the definition of soil.
 - a. What does soil feel like? What does it look like?
2. SLIDE 4: Explain that soil is a resource.
3. SLIDE 5: I now would like each of you to brainstorm a list of what you think soil is made of. If you are not sure, take an educated guess.
 - a. Discuss answers → Write answers on board in web
 - b. We will look more into this in a bit.
4. SLIDE 6: Explain why soil is important
 - a. Soil is important because of the minerals. All living things need minerals to survive.
5. SLIDE 7: Explain what harms soil.
 - a. Planting same type of crop
 - b. Cutting down too many trees
 - c. Wind and water
6. SLIDE 8: Explain what saves soil.
 - a. Saving resources
 - b. Strip cropping
7. Today we are going to learn about each layer or horizon of soil by using foods. As we go along, it is important that you follow directions and listen closely to what each layer holds.
8. SLIDES 9 and 10: OREO
 - a. Discuss slides
 - b. Diagram representation
9. SLIDES 11 and 12: CHIPS AHOY
 - a. Discuss slides
 - b. Diagram representation
10. SLIDES 13 and 14: VANILLA PUDDING
 - a. Discuss slides
 - b. Diagram representation
11. SLIDES 15 and 16: CHOCOLATE PUDDING/GUMMY WORMS
 - a. Discuss slides
 - b. Diagram representation
12. SLIDES 17 and 18: GREEN SPRINKLES

- a. Discuss slides
- b. Diagram representation

13. By yourself, please use a permanent marker and label your cup with the different soil layers. When you are finished, raise your hand and I will come around to check that you have it correct.
14. As you eat your soil layers, answer the questions on the board in your science notebooks.

Transition: As you finish up, please dispose of all garbage and clean up your work area using disinfectant spray, if necessary.

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

- Embedded in outline- See above

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)

- Was the student able to label their cup accurately?
- Did the student engage in the activity?
- Did the student answer the questions correctly in his/her science notebook?

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

- Now that everything is cleaned up, please use your time now or tonight to find out what the difference between “dirt” and “soil” is. Write a paragraph explaining the difference.

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.)

Overall, I thought that this demonstration went very well! I was a bit concerned with how things would go with food since we all know everyone loves things that deal with food! I was concerned with taking things step-by-step and handing out the food and then talking for a short period. Would the students listen to me or think just about the food that was sitting in front of them? However, I believe with the proper instructions of putting their food and materials down while listening to me was important. If the students were able to keep their food cups in their hands, their focus would have been on that and not on the board and myself. Using food was important to the students as they remembered the food items because they were common items to them. This could be used at the end of the day for a snack as it would not be an ideal morning demonstration due to the food

not being as healthful as it should be.

Prior to this demonstration, I would ensure that there are no food allergies. If there were, I would modify and use different foods or use other items such as paper, foam material, etc. I believe using the PowerPoint was vital as the students could see how far along we are. I believe it was essential for not only the students but for myself to do a review of each layer as we went along. This included repetition and gave the students a chance to think back and recall information so it was clear as they proceeded to their summative assessment at the end of the lesson.

I have found that having a lesson plan in front of me does not help me at all. I feel as if I do better with a small sticky note (as I did in my Lit clinical). This is because when I have everything laid out, I feel as if I can't go out of order and I need to say everything in my lesson plan.

Dealing with disruptive students can also be a challenge; however, with proper instruction and "rules," it can be handled especially in a fun, hands-on demonstration for all. If I were to change something, I would use more guided practice. Before having the students put the food in the cup, I would show them how much to put in and what it should look like. Overall, like I said, I thought it went exceptionally well!