Grade: 3rd grade

Topic: Rocks and Minerals
Lesson 2

Title: Lay*ers of the Earth (part 2)*

Objectives:

Students will make a model of stratigraphic layers with fossils in sedimentary rock. This lesson is directly related to Layers of the Earth- lesson 1. Students will continue to become more aware of the layers in Earth's surface.

Standards:

3.1.2 Participate in different types of guided scientific investigations, such as observing objects and events and collecting specimens for analysis.
3.1.3 Keep and report records of investigations and observations using tools, such as journals, charts, graphs, and computers**.**
3.1.4 Discuss the results of investigations and consider the explanations of others.
3.1.5 Demonstrate the ability to work cooperatively while respecting the ideas of others and communicating one's own conclusions about findings.
3.2.3 Keep a notebook that describes observations and is understandable weeks or months later**.**
3.2.6 Make sketches and write descriptions to aid in explaining procedures or ideas**,**
3.6.3 Explain how a model of something is different from the real thing but can be used to learn something about the real thing**.**
3.6.5 Observe that and describe how some changes are very slow and some are very fast and that some of these changes may be hard to see and/or record**.**

Materials

Scott Foresman (SF) *Science* book p. 193-196
Small and large measuring cup,
Sand
Salt
Coffee
Sugar
Soil
Small paper clip
Rubber band
Piece of crayon
Student science notebook
STC student activity book.

Activities:

Inquiry Lab

1. See pre assessment.
2. Review the vocabulary words; rock, mineral, igneous rock, sedimentary rock, metamorphic rock, soil, decay, nutrient, and loam (SF p.195) that were introduced in Lesson 1.
3. Teacher models steps of forming layers.
4. Following the student science books (SF p.196)/teacher's example, students make a model of rock layers on Earth. (Students should layer materials in the same order.)
5. Engage Ask and discuss if they have ever seen the layers of rock in an exposed cliff.
6. Explore Explore what each part of the model represents.
7. Explain Have students describe how each layer covers the layers below it.
8. Have students read about layers and kinds of rocks on p.11-12 in the STC student activity book.
9. See Post Assessment.

Assessment

Pre Assessment**:** In their science notebook, students will answer the question, "What can you learn from rock layers?"

Post Assessment: In their science notebook, students will answer the questions, "Which layer did you add first? Which layer in your model is the oldest? How do you know?"

"Where would you expect to find an older fossil-in an upper layer of rock or in a lower layer? Explain." Students will also revisit the pre assessment question (What can you learn from rock layers) and add any further explanation to their previous answers.

Further Assessment**:** *Scott Foresman Science* student workbook, page 61. (If not used in Lesson 1)
Student correctly drew picture with layers and labeled newest and oldest layers of rock. See Rubric B (SF Activity Rubric p. 82)

References:

Rocks and Minerals teacher's guide (2002). STC The National Science Foundation: Burlington, NC.

Scott Foresman Indiana Science Teacher's Edition Grade 3 (2006). Scott Foresman: Glenview, IL. Vol. 1.