

EDU 304 Field Experience Lesson Plan

PRE-INSTRUCTIONAL PLANNING:

Target Grade:

Fourth Grade

20 Students

Michigan Grade Level Content Expectations:

Science Section

Strand 1. Constructing New Scientific Knowledge

Content Standard 1.1: All students will ask questions that help them learn about the world; design and conduct investigations using appropriate methodology and technology; learn from books and other sources of information; communicate their findings using appropriate technology; and reconstruct previously learned knowledge.

Benchmark- Elementary

1. Generate questions about the world based on observation.
2. Develop solutions to problems through reasoning, observation, and investigations.
3. Manipulate simple devices that aid observation and data collection.
5. Develop strategies and skills for information gathering and problem solving.

Strand V. Using Scientific Knowledge in Earth Science

Content Standard 5.1: All students will describe the earth's surface; describe and explain how the earth's features change over time; and analyze effects of technology on the earth's surface and resources.

Benchmark: Elementary

2. Recognize and describe different types of earth materials.

Content Standard 5.3: All students will analyze effects of technology on the earth's surfaces and resources.

Benchmark: Elementary

6. Demonstrate ways to conserve natural resources and reduce pollution through reduction, reuse, and recycling of manufactured materials.

Grade Level Content Expectations

Science Processes

Inquiry Process-

S.IP.04.12- Generate questions based on observations.

S.IP.04.16- Construct simple charts and graphs from data and observations.

Inquiry Analysis and Communication

S.IA.04.12 - Share ideas about science through purposeful conversation in collaborative groups.

S.IA.04.13- Communicate and present findings of observations and investigations.

Earth Science

E.ST.E.3- Fossils provide evidence about the plants and animals that lived long ago and the nature of the environment at that time.

E.ST.04.32- Compare and contrast life forms found in fossils and organisms that exist today.

Resources Utilized:

Hatkoff, Craig, and Hatkoff, Juliana, and Hatkoff, Isabella, and Uhlich, Gerald Dr. *Knut: How one Little Polar Bear Captivated the World*. Turtle Pond Publications, 2007. Print.

Discovery Education, 2010: Garbage and Landfills.

<http://player.discoveryeducation.com/index.cfm?guidAssetId=5F8FFD07-EE8C-4E90-8F1B-BADCF82377B2&blnFromSearch=1&productcode=US>

Objectives:

1. As a result of this lesson students will understand and be able to explain why the moon appears to change in appearance in the sky over an amount of time.

2. As a result of this lesson students will be able to plot the phases of the moon using oreo cookies.

3. As a result of this lesson students will be able to describe the phases of the moon and write about the phases in a moon booklet they make themselves.

Science Process Skills:

Students will predict what will happen to the moon and ball when the light is used and moved by writing a sentence and then discussing it openly with the class.

Students will visually observe the moons phases by the teacher's demonstration using a globe flashlight and ball and will be able to recreate it in their own groups.

Students will communicate their findings and understanding of the moons phases by drawing a picture of each stage and writing a description of each phase underneath in their own "moon phase" book.

Student Knowledge:

Students should have a prior understanding of the earth and its rotation around the sun as well as being aware that the moon has different shapes and looks different in the sky during different times.

Materials:

- Oreo cookies (8 per student)
- Globe (4, one for each group)
- Ball (4, one for each group)
- Flashlight (4, one for each group)
- Pre cut construction paper in a predetermined size by the teacher (cut regular 8.5x11 in. size construction paper in half) (each student will have 10 pieces of cut paper to construct their own moon phase book.)
- Markers/Colored Pencils/Crayons/Pencil
- Computer with internet/projector access

Advance Preparation:

The teacher will make sure to have all materials ready and laid out for the moon phase demonstration. (The teacher will need volunteers to hold the globe and ball; it is the teacher's discretion on how to pick those students) The teacher will also have already cut the construction paper in advance to save time. Oreo cookies will need to be purchased ahead of time for the activity.

There are no special modifications needed for this lesson.

Safety Considerations:

The teacher will make sure the students desks are clean and to use a glove when passing out the Oreos to prevent the passing of germs. The students will be instructed to eat their cookies sitting down before or after their demonstration activity to prevent choking from motion. There no other safety considerations.

INSTRUCTIONAL PLANNING:

Introductory Activity:

The teacher will begin the lesson by asking the students if they have ever noticed that the moon keeps changing shape. It starts as a thin crescent which grows bigger every night until it is a bright full circle like ball in the sky. The teacher will ask the students if they know what makes it seem to change like this. The Earth's moon makes one orbit around the Earth one time a month, every 28 days. The same side of the moon points toward Earth all the time. We see the moon in different shapes at different times. This is called the 'phases of the moon.' The different phases have to do with the position of the moon and sun.

Activities:

- a. The teacher will read the book Knut to the students.
- b. Students will be given the opportunity to react to the story by discussing how they feel about the condition of the polar bears status and discuss ways to help and prevent the condition from getting worse.
- c. The teacher will explain that they will then be building their classroom landfill. Students will gather around as the teacher places a layer of dirt in the fish tank.

Assessment:

Students will be assessed on the attainment of their knowledge of the phases of the moon by their drawings and written descriptions of each phase of the moon in the book they create and turn in. The teacher will also be able to pre observe their understanding and correct any misconceptions half way through the lesson by how they show the moon phases on the Oreo cookie activity.