

What on Earth?

Purpose

Students will use tools, such as magnifiers and rulers, to gain more information about objects in their physical world.

Materials

For each student: magnifier, copy of Black Line Master (BLM) *What on Earth?*, pencil

For each group: yard stick or measuring tape, 4 tongue depressors

For the class: ball of string, small shovel

Activity

A. Introduction

1. Divide the class into groups of three or four students and inform the students they will be going outside to explore the earth around them. Ask students: "What are some tools we may want to take with us to study the soil?"
2. Take the class outside and have each group measure out one square meter of soil.
3. Have students mark their plot of ground by outlining it with string, securing the string at the corners with tongue depressors. When all groups have completed marking their plots, ask the students: "What type of objects do you think your plot of ground will contain?"

B. Explore and Discover

1. Have students begin their investigations at one corner of the plot and work their way across. Make sure students write down all the things they can find within the square plot of soil on the BLM *What on Earth?* Have students draw pictures of their plots on the BLM. Instruct students to record any types of grasses, weeds, insects, or rocks they can see.
2. Show students where the shovel is and allow them to dig into the soil. Have students continue to record anything else they find, such as worms, more insects, roots, rocks, plant life, etc., on the BLM.

(continued)

MEETING INDIVIDUAL



NEEDS

Have students with special needs work with a partner within their group. They can discuss their observations with their partner and with the group.

connecting across the curriculum



Mathematics

Discuss the term "perimeter" and have the students measure the perimeter of their plot of land.

Standards Link
2.2.5

Activity (continued)


C. Analyze Further


1. Pass out a magnifier to each student and have students examine the same objects they explored earlier, only this time have them use the magnifier. Ask students: “Can you see anything now that you could not see before? How does the magnifier help you observe your plot of land?”
2. Instruct students to write down any new observations and discoveries made with the magnifier on the BLM *What on Earth?*
3. Have students discuss their observations with the class and determine how the use of the magnifier helped them make scientific discoveries.
4. Have students clean up their plots and return to the classroom.

Questions for Review

Basic Concepts and Processes

During the activity and when reviewing the BLM, discuss the following questions with your students to gauge their understanding of the Standard Indicators:

 How can tools such as rulers, magnifying lenses, or thermometers help scientists discover information about objects?

 How did you use tools to help you gain additional information about your plot of soil?



Name: _____

What on Earth?

Draw your plot of soil in the box above. Then on the lines below, write about your observations. Be sure to include details about what you see, feel, observe, etc.

Observations and Discoveries:

Observations and Discoveries with Magnifier:

What on Earth?

Teacher Directions

In the box, have students draw pictures of their plots of land. Once students have investigated their plots of land, have them write down all of their observations on the BLM. Then, have students investigate the plot of land one more time, only this time, have them use magnifiers. Have students record any new observations and discoveries they made in their plot of land by using the magnifiers.

Answer Key

Answers will vary. Look for students to be able to make more detailed observations when using the magnifiers.