

Close-Up and Far Away _____

Levels



Grades K-4

Overview:

Students learn that magnifiers and telescopes are used to see things close up. (NOTE: This lesson precedes “Zoom Out” for Level II.)

Objectives:

The student will:

- use a magnifier to observe; and
- identify objects that are closer and objects that are farther away.

GLEs Addressed:

Science

- [3-4] SA1.1 The student demonstrates an understanding of the processes of science by asking questions, predicting, observing, describing, measuring, classifying, making generalizations, inferring, and communicating.
- [3] SD4.1 The student demonstrates an understanding of the theories regarding the origin and evolution of the universe by recognizing that objects appear smaller the farther away they are.
- [3-4] SD4.3 The student demonstrates an understanding of the theories regarding the origin and evolution of the universe by recognizing and using appropriate instruments of magnification (e.g., binoculars and telescopes).

Materials:

- Jenkins, S. (1995). *Looking Down*. New York: Houghton Mifflin.
- Magnifiers (one per student)
- OVERHEAD: “Moon View”
- TEMPLATE: “Snow Goggles” (Optional)
- STUDENT WORKSHEET: “Zoom”
- STUDENT WORKSHEET: “Close-Up and Far Away”

Activity Procedure:

1. Ask students how we can change the way we see things. (Students may mention magnifiers, as well as telescopes and binoculars.) As a class, discuss how magnifiers and other lenses are useful for seeing things close-up or far away.
2. Read *Looking Down* to the class and discuss.
3. Ask students to look for small objects in and around the classroom to observe. This may be done inside or outside. The objects may be living (e.g., flowers, leaves, insect, etc.) or non-living (e.g., rocks, shells, pencils, etc.).
4. Distribute the STUDENT WORKSHEET: “Zoom” and instruct students to draw what they see in question 1.
5. Distribute the magnifiers and ask students to draw the same object, using the magnifier (question 2). Explain this remote sensing tool will improve the sense of sight and allow one to “zoom-in” to see smaller details.
6. Allow students time to share and compare their two drawings. Ask students to share with the class or a partner: what they drew, how the drawings compare, and how the magnifier helped them to observe a small object.

7. Distribute the STUDENT WORKSHEET: “Close-Up and Far Away.” Guide students through completion of the worksheet. As a class, discuss. Ask students to explain their reasoning.

Critical Thinking Question: Information Processing Method. Show OVERHEAD: “Moon View.” Ask students which picture shows what they might see with their own eyes and how they think the other picture was taken.

Extension Idea: Snow goggles, or Eskimo sunglasses, can also help a person to see better by preventing snow blindness. The Inuit invented snow goggles to protect their eyes from the sun. The snow goggles work by limiting the wearer’s field of view, or amount he or she can see. Copy the snow goggle template onto cardstock and distribute the cardstock and scissors to each student so that they may make their own goggles, or pre-make the goggles for young students. (Alaska Cultural Standards E4)

Answers:

STUDENT WORKSHEET: “Zoom”

1. Answers will vary.
2. Answers will vary, but should represent the same object from 1, but magnified.

STUDENT WORKSHEET: “Close-Up and Far Away”

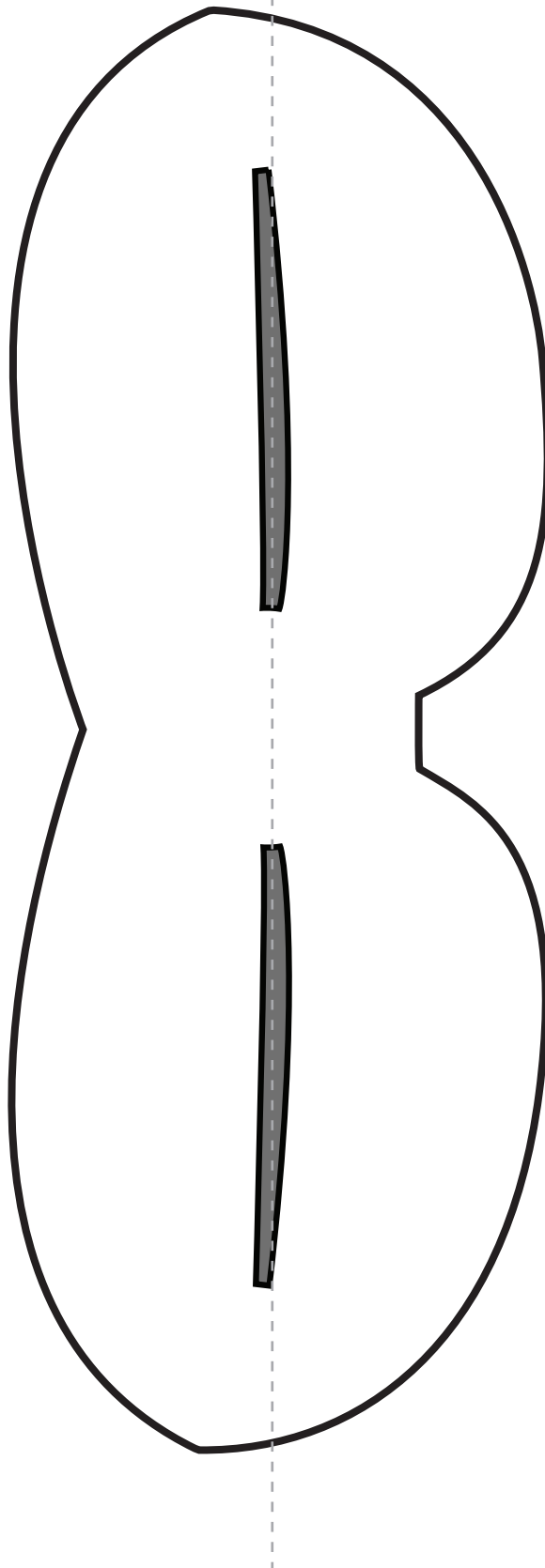
1. B
2. A
3. A

Snow Goggles Template

Levels



Directions: Cut along the black lines to make snow goggles. Fold along the dotted line to cut out eye holes.



Name: _____

Zoom

Student Worksheet

Levels



1. Draw what you see with your eyes.



2. Draw what you see with a magnifier.



Name: _____

Levels

Zoom

Student Worksheet

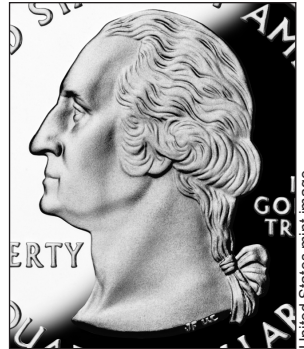


Directions: For each set of images, **circle** the picture that shows what you might see with a magnifier.

1. A.



B.



2. A.



B.



3. A.



B.



Moon View Overhead



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