

Title: Observation Optics

Objective: Explore natural objects with magnifying lenses; practice art of observation

Time: 10 minutes

Materials Needed: Magnifying lenses (one per child); variety of natural objects to look at such as leaves, rocks, bugs, shells, feathers, bark, plants, and soil

Directions:

1. Pass out a natural object to each student. Have the student make observations and share with neighbors and/or the class.
2. Pass out magnifying lenses. Provide a guided discovery of how to use the lens. Inform students that scientists use magnifying lenses as a tool to look at objects carefully and see very small details that they would not otherwise notice. Ask students why this is important for scientists.
3. Give them time to examine natural objects with the lenses. Encourage students to look at objects from a variety of distances.
4. Ask students to again share their observations with neighbors and/or the class.

Discussion Questions:

1. What could be seen with the magnifying lens that could not be seen without it? Make a chart of observations.
2. Why is observation important in science? In real life?

Variation:

1. Provide each student with a natural object. Ask the student to draw the natural object in their science journal.
2. Provide each student with a magnifying lens. Provide a reminder guided discovery of how to use the lens.
3. Ask the students to redraw their natural object in the science journal according to what they have seen with the aid of the magnifying lens. How are the drawings different? Similar?

Activity

Suggested Season: Any

Suggested Grade Level: K-1

Indoors or Outdoors: Either

Theme: Observation

Topic: Magnifying Lenses

Standards Addressed:

Science:0.1.1.2.1; 2.1.1.2.1.; 3.1.3,4.1.

Language Arts: K.I.B.; K.II.B.; K.III.A.; 1.III.A.;1.III.B.1.; 2.III.A.; 3.III.A.1-3.; 5.III.A.1-4.

Math:

Social Studies:

Background Information:

- Scientists are always making observations and must make inferences and conclusions based on their observations.
- **Observation:** any information collected with our five senses.
- **Inference:** is a statement based on your interpretation of the observed facts.
- It is important to start teaching the skill of making observations to students right away. Do not always provide the answers for the students, instead, ask for observations from the students allowing them to come up with the answers.

Additional Resources:

- *Is It Larger? Is It Smaller?* by Tana Hoban
- *Look, Look, Look* by Tana Hoban

Correlates with:

Greeting - Eye Spy

News and Announcements - What did you see?