

Grade: 6th

Topic: Cells

Title: *How Can You Make a Water-Drop Lens?*

Objective: The student uses water as a magnifier.

Standards:

6.1.2 - Give examples of different ways scientists investigate natural phenomena and identify processes all scientists use, such as collection of relevant evidence, the use of logical reasoning, and the application of imagination in devising hypotheses and explanations, in order to make sense of the evidence.

Materials:

- safety pin taped shut
- plastic dropper
- clear plastic cup
- water
- newspaper
- masking tape

Activity: Gr. 6, SF p.28.

1. Have students work in groups of 4.
2. Each group will place one drop of water in the loop at the end of the safety pin.
3. Hold the safety pin loop over the newspaper and look at the letter “e”.
4. Observe the letter. Move the pin closer and farther from the letter “e”.
5. Students are to draw what they see in their notebooks.
6. Have the students answer whether the “e” they see through the “lens” is larger or smaller than the printed “e”? How does moving the pin closer and farther from the “e” affect what you see “e”? Have the students write their answers in their notebooks.
7. Ask the students how they could use a water-drop lens to study an object?

Assessment:0-4 Scale

- 4 – Exceptional
- 3 – Expected
- 2 – Developing
- 1 – Beginning
- 0 – Non-existent

Criteria:

- 1.) Students followed instructions to create a water-drop lens. _____
 - 2.) Student observed the letter through the lens and drew their observations. _____
 - 3.) Student determined whether the letter seen through the lens was larger or smaller than the printed letter. _____
 - 4.) Student explained how moving the pin affects what is seen through the lens. _____
 - 5.) Student made an inference about how to use a water-drop lens to study an object. + _____
- TOTAL _____

$$\begin{array}{ccc} \boxed{} & \div 5 = & \boxed{} \\ \text{TOTAL} & & \text{FINAL SCORE} \end{array}$$