



Teacher Notes

Overview:

During this activity, students will visit 5 lab stations to learn more about microscopes. The stations should be completed after students have had a lesson about the basic parts of a microscope and an overview of the proper procedures for using them. Students will need at least 15-20 minutes per station. Other materials for this unit, such as station cards, student worksheets, and puzzles are available on the Biology page of the Science Classroom at <http://sciencespot.net/Pages/classbio.html>. Scroll down to the Microscope Mania section.

Objectives:

As a result of this activity students will be able to:

- Identify the basic parts of the microscope and describe the function of each.
- Demonstrate the proper procedure for viewing a prepared slide at different powers of magnification.
- Demonstrate the proper procedure for making a wet mount slide and viewing it at different powers of magnification.
- Describe the differences between low power and high power (i.e. higher power allows us to see more detail, but we see a smaller section of the specimen.)

Station Descriptions:

Station 1: Solve the Mystery

Students try to identify 24 mystery pictures. Mystery pictures may be found on the websites at <http://sciencespot.net/Pages/kdzbio.html> or printed from the Havana Junior High Mystery Pictures webpage at <http://mason.k12.il.us/havanajh/mystery/>. The page includes a link to an answer key at the bottom!

Materials Needed: Set of 24 mystery pictures and/or computers with Internet access

NOTE: A set of 24 cards with mystery pictures and clues for each is available in the Microscope Mania section of the Biology Classroom at <http://sciencespot.net>. I print my cards on photo paper and laminate them to keep them from smudging.

Extension Idea: I have a microscope camera connected to my computer. After students have completed the mystery picture activity, they are allowed to try to capture digital pictures of interesting objects. The best ones are featured on our Mystery Pictures website or printed for display in the hallway.

Station 2: Make It Simple

Students use glass slides and drops of water to create a simple lens to view the letter "e". The activity challenges students to compare how the size of the water drop affects the magnification. Students may also use hand lenses and compare the magnification to the water drop lens.

Materials Needed: Glass slides, eye droppers, small cups of water, ruler, and hand lenses.

Extension Idea - I found several different sizes of "bug jars" at the local school store and Toys R Us. The clear jars have a lid with a magnifying glass in the cover. Students have enjoyed using these "bug jars" to view pond water samples, preserved bug specimens, and anything else they think would be cool to see close up.

Station 3: Select A Slide

Students will learn how to view prepared slides under different powers of magnification. After this activity, students should be able to describe differences between low and high power, i.e. higher power allows us to see more detail, but we see a smaller section of the specimen.

Materials Needed: Prepared slides and microscopes

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