

Lesson: What Is It?

Time for Lesson: Approx. 20 minutes

Grade Level: 7-12

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Developed: 6-22-04

Area: Intro. Course, Chemistry, or
Physics

Background:

This lesson is in the format of a recognition game. It consists of different objects being viewed at different magnifications under the microscope. The goal of the students is to correctly guess the object at the most powerful magnification. The primary goal of this lesson is for students to begin to see the differences in objects when you starting looking at them at a more microscopic level.

State Requirements:

KY Learner Goal:

6. Students shall develop their abilities to connect and integrate experiences and new knowledge from all subject matter fields with what they have previously learned and build on past learning experiences to acquire new information through various media sources.

Academic Expectations:

[Academic Expectation 1.3](#)

Students make sense of the various things they observe.

[Academic Expectation 2.9](#)

Students understand space and dimensionality concepts and use them appropriately and accurately.

Program of Studies:

S-HS-SI-3

Students will use equipment (e.g., microscopes, lasers), tools (e.g., beakers), techniques (e.g., microscope skills), technology (e.g., computers), and mathematics to improve scientific investigations and communications.

Procedures:

To begin, separate the class into groups. This may be done individually as well. This is at the teacher's discretion. Each team will have one pencil and paper to record the group's answers.

Using a projector or solely the computer screen, begin the **What Is It?** Powerpoint presentation. The rules are in the presentation for the students to see. To restate them here, basically there will be 5 different objects to be viewed. Each object has three different pictures of it taken while under the microscope at different magnifications. By clicking on the Object in the Contents screen, you will bring up a picture of an object at

the highest magnification. Allow the groups to write down their guesses. Then click the Next link and you will see the same object but at a lower magnification. Then click the Next link and you will see the third photo of the object and at its lowest magnification. At this point, have the groups reveal their answers and then click on the Answer link. This will bring up the answer and a link back to the Contents page. Award each group one point for each correct guess. That allows a total of 3 points maximum per object and a total of 15 points for the entire round.

Student Assessment:

This is not meant as much for true assessment as it is as a fun lead in for microscopes and microscopy. The point scheme to keep points is laid out above in the procedures.

Extension:

1. Have the students use microscopes to draw common objects at the different magnification powers.
2. Have them create their own pictures for What Is It? using a QX3 or MIC-D microscope.