

MAGNIFICATION

MICROSCOPE
LESSON 3

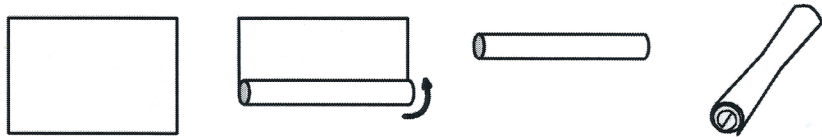
How much does your microscope magnify a picture? The box says 20X-40X, which means it makes things look twenty to forty times as big as they really are. But your eye is also a lens and adding another lens changes things. Let's explore this.

PART 1: The Hole in Your Hand Experiment

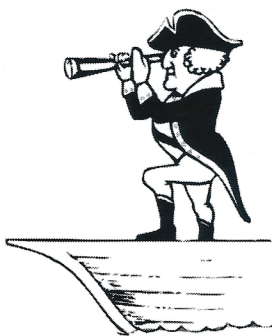
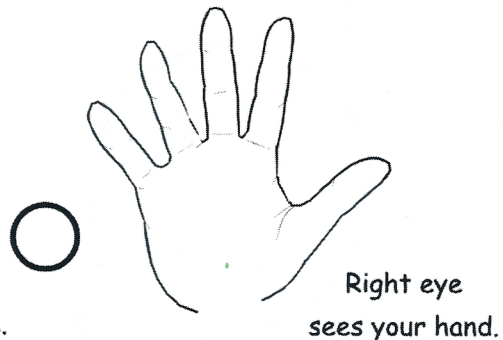
Before we begin working with the microscope, you will need to master the skill of using your two eyes to look at two different things at the same time.

WHAT YOU NEED: A piece of paper.

WHAT TO DO: Roll your piece of paper into a tube to look through.



Hold the tube up to one eye and look at something across the room. Meanwhile, put your hand in front of your other eye, touching the tube.



Washington crossing the Delaware, doing the "Hole in your Hand" experiment.

Keep looking and soon the hole will look like it goes right through your hand! Once you can easily see this, you will be ready to try Part 2.

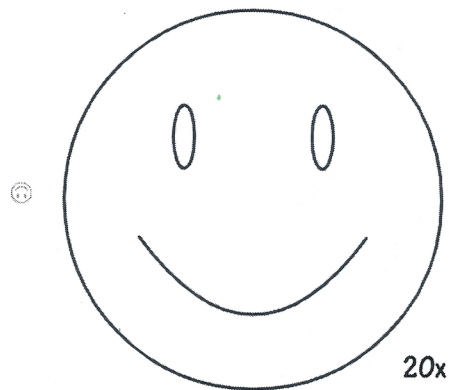
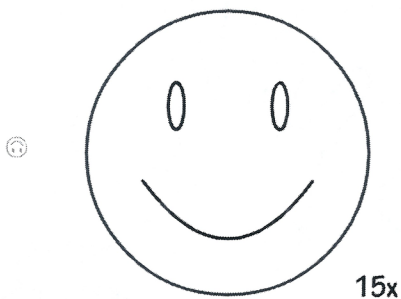
Weird Challenge

Try to poke something through the hole in your hand!

PART 2: Your Microscope's Magnification

Choose a pair of faces. A tiny face is just to the left of each bigger face. Focus your microscope on the tiny face using the microscope's maximum magnification (zoom wheel turned all the way to the right). Then, OPEN BOTH YOUR EYES. Your left eye will see the tiny face in the microscope. Your right eye will see the larger face.

Using both eyes at once, it is possible to see both images at once. Check each pair of faces this way. Match up the images' edges. When it looks like the microscope image matches the size of the larger image, you will know your microscope's maximum magnification.



RESULTS: My pocket microscope has a maximum magnification of ____x.

Repeat the experiment for the microscope's minimum magnification. Turn the zoom wheel all the way to the right and refocus.

My pocket microscope has a minimum magnification of ____x.