

## Chapter 15

Use with Section 1

## ENRICHMENT

## ● Cells: The Units of Life

## Using the Microscope

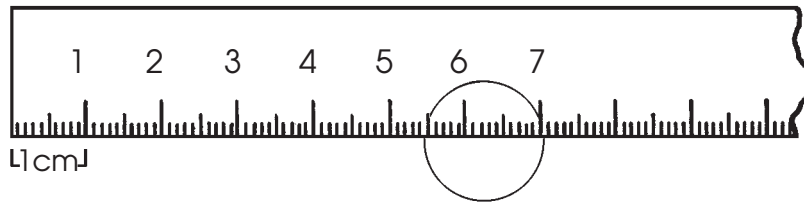
Use the information below to complete the table and answer the questions.

There are many different kinds of microscopes. A magnifying glass is a simple microscope. The term *microscope* commonly refers to a compound microscope. These microscopes are called compound because they are made of several glass lenses in a tube.

The total magnifying power of a microscope is the product of the magnifying power of the lens in the eyepiece and the magnifying power of the lens in the objective. Most compound microscopes can magnify a specimen up to 1000 times its real size.

Microscopes allow you to see fine details. Spaces between objects that are closer together than 0.1 mm can be seen. The ability of a microscope to separate very small distances is called resolving power. If the resolving power of the lens is not good, the image will appear blurred.

When you look into the eyepiece of a microscope, the circular area you see is the field of view. When a ruler is placed across the opening on the stage, the field of view can be measured in millimeters.



	Eyepiece lens	Objective lens		Total	
		Low	High	Low	High
<b>Microscope 1</b>	10x	5X	40X	Low	High 400X
<b>Microscope 2</b>	8x	10X	60X		
<b>Microscope 3</b>		10X		50X	300X

1. What is the purpose of a microscope? \_\_\_\_\_  
\_\_\_\_\_
2. How do you find the total magnifying power of a microscope? \_\_\_\_\_  
\_\_\_\_\_
3. What would cause an image to appear blurred? \_\_\_\_\_  
\_\_\_\_\_
4. What is the width of the field of view shown above? In centimeters? \_\_\_\_\_ In millimeters? \_\_\_\_\_