Name:	Date:	Class:

Field of View Student Activity Sheet

A. Begin using low power. Put a clear plastic ruler across the hole in the stage. Look through the microscope and find the ruler's millimeter (mm) marks. Count the number of mm that fit *across* the field of view. (Note: *Field of view* is a term that refers to "everything you see" when looking through the eye piece of a microscope.)

- Measure: _____ mm (all measurements should go to three digits)
- Now multiply by 1000 to convert mm to micrometers (µm). _____ µm.

This is the size of your field of view.

B. Move to medium power.

- Count the number of mm that fit across the field of view. Be precise!
  Measure _____ mm
- Now multiply by l000 to convert mm to micrometers (µm): _____ µm.

What can you say about the relationship between the *degree* of magnification and the *size* of your field of view?

C. Move to high power.

- Notice that field of view is now *less* than a millimeter across. In order to calculate the size of your field of view, you need to use this formula:

$$\frac{\text{size of the field on low power, in µm} \times \text{total magnification on low power}}{\text{Total magnification on high power}} = \text{size of the field of view on high power}$$

$$\frac{\text{size of the field on low power, in µm} \times \text{total magnification on low power}}{\text{Total magnification on high power}} = \text{_____ µm.}$$

Questions:

1. Using whatever magnification power is most convenient, estimate the width of a newspaper letter "e", in µm, by comparing it to the overall size of the field of view.

Answer: _____ µm

2. Why do you think it is important to know the size of the field of view?

