

Microscope Lab 6: Determining the size of a microscopic specimen

From now on you will need to make sure all your drawings are drawn to scale to be more representative of your specimen.

To make your drawings to scale:

1. Determine the diameter of your circle representing the field of view. Be sure to measure it in metrics (centimeters are fine.)
2. Recall the actual size of your field of view in micrometers (μm).
3. Divide the number of micrometers by the diameter of the circle representing the field of view. By doing this, you determine the scale for your drawing.
4. ie: your circle representing the field of view has a diameter of 8 cm. Your actual field of view in micrometers (μm) is $425\mu\text{m}$.

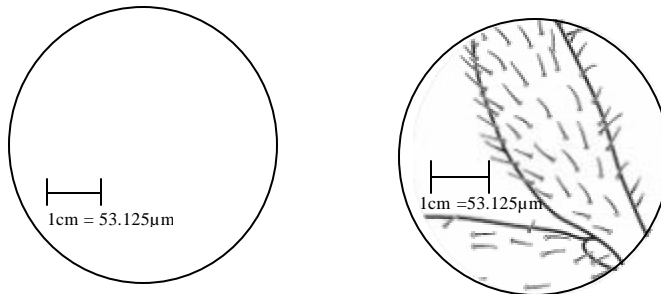
$$\text{scale} = \frac{\text{Your actual field of view in micrometers } (\mu\text{m})}{\text{diameter of your circle representing the field of view (cm)}}$$

$$\text{scale} = \frac{425\mu\text{m}}{8\text{cm}}$$

$$\text{scale} = 53.125\mu\text{m/cm}$$

This means that for each centimeter on your circle representing the field of view you are representing $53.125\mu\text{m}$.

5. Draw a line in your circle representing the field of view for your drawing that is 1cm in length. Mark that it is equal to the μm you calculated it to represent.
6. Make your drawing. Be sure to draw the structure as filling 1/2 of the circle representing the field of view if it did in your actual field of view. This will ensure that your scale remains accurate.



7. Remember to then complete your drawings according to the microscope drawing rules.
8. Observe the fruit fly, housefly leg, spiderling, chicken louse, mite, and tick.
 - a. determine the length of the entire specimen of the chicken louse in μm using scanning power.
 - b. determine the length of the leg of the mite in μm using high power.
 - c. determine the length of the abdomen of the spiderling in μm using scanning power.
 - d. determine the length of the biting structures of the tick in μm using scanning power. Make a scale drawing of this organism under scanning power.
 - e. determine the length of the body of the fruit fly (trunk only not the head, wings, legs) in μm using scanning power. Make a scale drawing of this organism under scanning power.
 - f. determine the length of the leg of the house fly in μm using low power. Make a scale drawing of this organism under low power.