

MICROMETER AND SIZE ESTIMATION

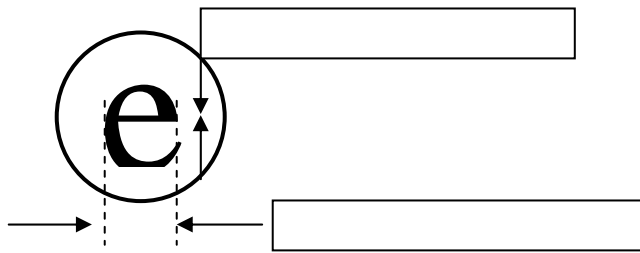
1. Obtain a micrometer, one for each pair of students.
 - Micrometers are devices used to measure microscopic lengths. There are two types available in the lab. One type fits inside the ocular lens (eyepiece) and the other is on a slide. You may use either type.
 - Using a micrometer, measure the diameter of the field of view using the scanning, low and high power objectives. You may note these below, but you must be sure to record them in your lab notebook! You will be using this measurement throughout the year to estimate the size of cells and other objects you observe through the microscope. Remember to include units for all of the measurements below (mm or μm).

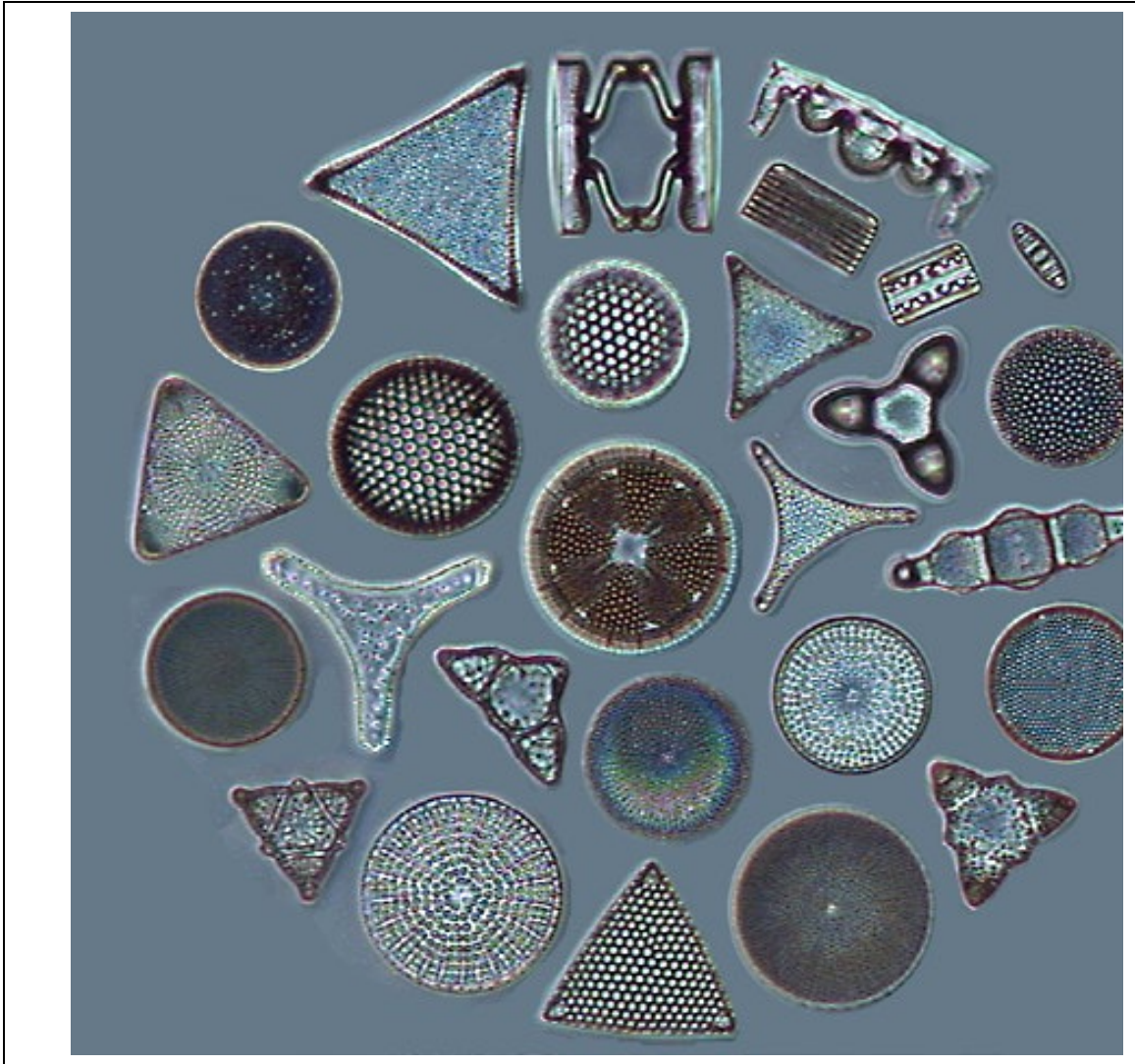
The diameter of the field of view at 40x is _____

The diameter of the field of view at 100x is _____

The diameter of the field of view at 400x is _____

- Now that you know that diameter of the field of view, return to your letter “e” slide and estimate the size (diameter) of the letter “e”. An estimate is an approximation; it is not exact. In the example (figure) below, the diameter of the letter “e” is approximately half the diameter of the field of view. If diameter of the field of view is 4 mm, then the diameter of the letter “e” would be approximately 2 mm. Next, estimate the thickness of the “bar” in the letter “e”. You will probably want to use a different magnification (i.e., different objective lenses for these two estimates. (Remember to include units.)





Pond water: These are diatoms found in a water source from a lake nearby. The total magnification is 400X. Draw and estimate the size of two different diatoms in the pond water.

