**Microscopy Lab:**

*Estimating Size of Specimens under the Microscope*

**Purpose:** To determine an approximate field of view diameter for each of the objective lenses on our microscopes in order to calculate the approximate size of a specimen.

**Part 1: LOW POWER DIAMETER**

1. Place the edge of a clear ruler on the microscope stage. Place the ruler so that when viewed through the microscope eyepiece, the ruler is filling half of the diameter of the field of view. Like this:



1. With low power only, focus on the ruler so that the millimeter lines become clear. Remember to start with the course focus before switching to the fine focus adjustment.
2. On a ¼ sheet of white paper, draw the FOV circle and the millimeter marking lines observed in the FOV. Follow the rules for drawing.
3. Tape your ¼ sheet of paper into your lab book.
4. Show your teacher for a **stamp** in your lab book.

**Part 2: LOW POWER SPECIMEN**

1. Place a prepared specimen slide (likely *Diatom*, *Parameciu*m or *Amoeba*) on the microscope stage. With low power only, focus on the specimen so that it becomes clear. If there are multiple specimens visible in the low power field of view, just pick ONE. Remember to start with the course focus before switching to the fine focus adjustment.
2. On a ¼ sheet of white paper, draw the FOV circle and the ONE specimen observed in the FOV. Follow the rules for drawing.
3. Tape your ¼ sheet of paper into your lab book.
4. Show your teacher for a **stamp** in your lab book.

**Part 3: HIGH POWER SPECIMEN**

1. Zoom into the same ONE specimen as above by switching to medium power. Focus on the specimen so that it becomes clear. Remember to start with the course focus before switching to the fine focus adjustment.
2. Zoom even further on the ONE specimen as above by switching to high power. Focus on the specimen so that it becomes clear. Remember to start with the course focus before switching to the fine focus adjustment.
3. On a ¼ sheet of white paper, draw the ONE specimen observed in the FOV. Do NOT draw the FOV circle. Follow the rules for drawing.
4. Tape your ¼ sheet of paper into your lab book.
5. Show your teacher for a **stamp** in your lab book.

**Self check for each drawing:**

* Descriptive title indicating what is being drawn
* If relevant, title includes scientific name of specimen with conventions for capitalization and italics
* Title includes “viewed at…” microscope magnification
* Title includes “drawn at…” drawing magnification
* Drawing magnification is accurate and includes the correct precision of digits
* Specimen is drawn accurately, with clear lines and no shading
* Specimen fills at least ½ of page
* Drawing is done in pencil on unlined white paper
* If needed, a ruler has been used to draw a straight, horizontal lines to the right of the side of the drawing for labels.
* If multiple labels are needed, the labels form an aligned, vertical list.
* If needed, all labels are printed (not cursive).
* Scale bar is drawn with a ruler, adjacent to specimen drawing
* Scale bar is labeled with the correct size for the sample, including unit and correct precision of digits