

## Field of View (FOV) Calculations

Step 1 - Measure the field of view under low power using a ruler (mm)

Step 2 - Convert the measurement into micrometers  
1 mm = 1000  $\mu$ m

Step 3 - Convert the field of view measurement using the relationship between the different magnifications (ex medium power)

$$\frac{\text{Mag}_{\text{low power}}}{\text{Mag}_{\text{med power}}} = \frac{\text{FOV}_{\text{med power}}}{\text{FOV}_{\text{low power}}}$$

Solve for FOV<sub>med power</sub> ?

$$450\times \frac{40\times}{100\times} = \frac{\text{FOV}}{4500\text{ mm}}$$

$$1800\text{ }\mu\text{m} = \text{FOV}_{\text{mp}}$$



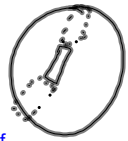
Nov 1-8:15 AM

## Estimating Size of Specimen

Step 1 - Estimate the number of widths or lengths that can fit across the field of view  
-for our specimens we can use a ruler and determine exactly

Step 2 - Divide the calculated FOV by the number of widths or lengths

Step 3 - Make sure to include the proper unit



length ~ 3 times

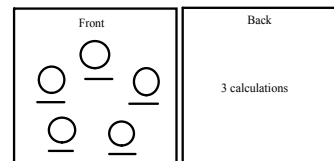
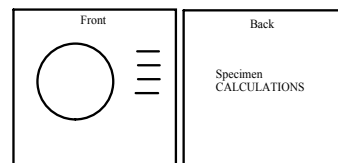
$$\frac{1800\text{ }\mu\text{m}}{3} = 600\text{ }\mu\text{m}$$

Nov 1-8:25 AM

## Assignment - Biological Drawings

- Specimens have been uploaded onto the schoology photo album  
Day 1 specimen, Mitosis stages
- Draw 1 large biological drawing of a specimen
  - title
  - labels
  - magnification
  - calculate dimensions of specimen
  - add actual image (print out and attach - grayscale)
- Draw 5 cells (1 from each cell cycle stage) from onion root tip or whitefish blastula slides
  - identify stage and magnification
- Calculate the sizes of a sperm cell, a plant cell, an animal cell

Nov 1-8:30 AM



Nov 1-8:41 AM