Microscope Lab 2: Fields of View, Resolution

Field of View:

The **field of view** is the area seen through a microscope.
The area of the slide that you see in your field of view under the microscope changes as you vary the objective lenses. As you increase magnification, the area that is observable (your field of view) decreases.

1. Obtain one of the slides that Mrs. Donley has made with dots on it.
2. Count and record the number of blue dots that you can observe under scanning power. _____
3. Count and record that number of blue dots that you can observe under low power. _____
4. Count and record that number of blue dots that you can observe under high power. _____
5. How did the number of dots observed change as you increased the objective lens strength.

   _____

   _____

6. Determine how much greater the field of view is from one power to another for your microscope. Calculate this for the difference in field of view between scanning power and low power, scanning power and high power, low power and high power with the following equation:

$$\text{\# of times greater the field of view is at the lower objective lens} = \frac{\text{The higher powered objective lens magnification}}{\text{The lower powered objective lens magnification}}$$

ie: if the lowest powered lens was a 60X objective lens and the higher powered objective lens was 180X:

$$\text{\# of times greater the field of view is at the lower objective lens} = \frac{\text{The higher powered objective lens magnification}}{\text{The lower powered objective lens magnification}}$$

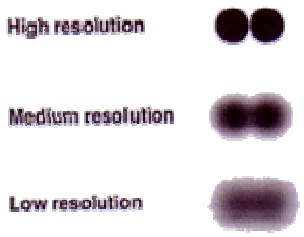
$$\text{\# of times greater the field of view is at the lower objective lens} = \frac{180\ X}{60X}$$

$$\text{\# of times greater the field of view is at the lower objective lens} = 3$$

Show all of your work here:

Resolution:

Resolution is the ability to tell two points apart as separate items; the shortest distance between two points that can still be distinguished. It is the capacity to show details clearly. Resolution allows the viewer to see two objects that are very close together as two objects rather than as one.



(Make dry mount slides for this section.)

1. How close can you get two dots together on a piece of paper and still see them as separate entities under low power? Affix final product here:

2. How far apart can you make them and still be able to see them under scanning power? Affix final product here:

3. Write "Mrs. Donley" small enough on a piece of paper to be visible under scanning power. Affix final product here: