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## Organelles and Microscopes Quiz

Bank:

Diaphragm	Objective Lenses (low/med/high) ✓	Ocular Lens ✓
Stage ✓	Revolving nosepiece	Base ✓
Fine Focus ✓	Coarse Focus ✓	Arm ✓
	Light source ✓	
	Clips ✓	

### Communication:

FANTASTIC

- 1) You have been given a slide with a dead fly on it and are eager to have a close look at it. Explain all the steps you would take from the point of getting the microscope from the cupboard to viewing the slide at the highest power. Make sure to use the proper terminology (see your word bank!).

First I would grab the microscope by the arm and the base and plug it in. Next I would turn the light source on and clip in the slide <sup>on the stage</sup> using the clips. Then I would turn the revolving nose piece to the lowest objective lense and look through the ocular lense. I would next use the coarse focus to see it better. Once I have it clear I would move up to the medium, then high objective lense and use the fine focus to make it clear.

- 2) What is the magnification of the following: show how you calculate it

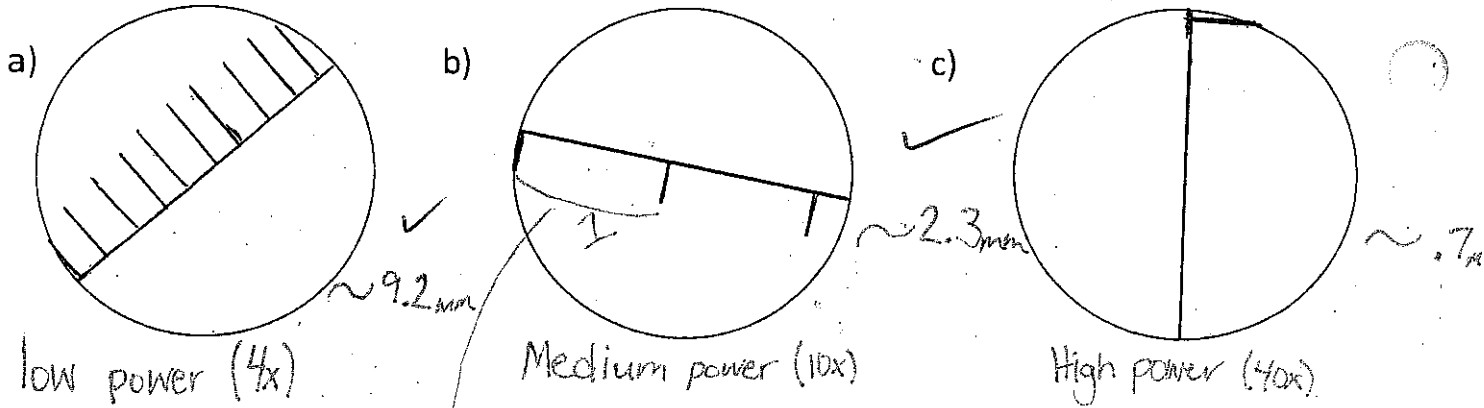
a. Objective lens of 50x  
Ocular lens of 10x

$$50 \times 10 \\ = 500x$$

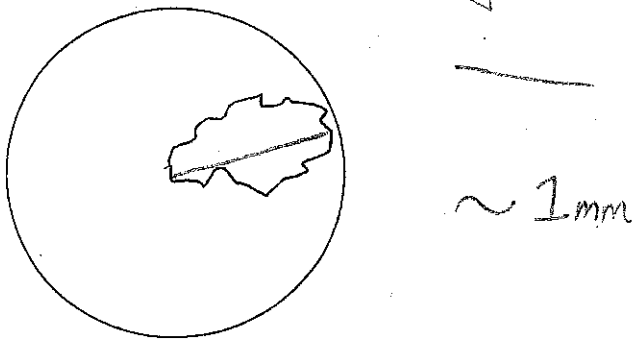
b. Objective lens of 60x  
Ocular lens of 20x

$$60 \times 20 \\ = 1200x$$

3) The following are views through a microscope of a clear plastic ruler (on the millimetre side), what is the field of view for each?



4) The following is what you see when looking at a piece of finger nail through the microscope. If it takes up about half the screen as seen, and the diameter is that of question 3b, how long is the piece of nail?



5) Explain how you might know if you are looking at an animal or a plant cell under our microscopes?

Animal cells have a cell membrane and the shape isn't perfectly circled. Where as the plant cell has a cell wall which makes the cell a rectangle shape.

Using the word bank below label 4 different parts of the cell below and indicate the function of the organelles you chose to label.

Cell Membrane	Ribosomes	Vacuole	Nucleus
Cell Wall	Mitochondria	Centriole	Lysosome
Rough E.R.	Chromosome	Golgi Bodies	Cilia

