Home Learning Instructions

Subject: Science – KS3 group	Week: 7 (19/10/2020)

Objectives:
- To learn how a microscope works.
- Find out how to make up a microscope slide.
- Calculate the magnification when using a microscope.

Learning activities (in order to be completed):

1. Watch the first 10 mins video on cells –
   The video shows you how to prepare a microscope slide for an animal and plant cell.
   Write a paragraph on both methods including diagrams.
   https://www.youtube.com/watch?v=UD6G1OOIabo

2. Read the following information on using microscopes on BBC bitesize.
   https://www.bbc.co.uk/bitesize/guides/z3vypbk/revision/2

   Learn the labels on the diagram of the microscope and write a list of instructions on how to use a microscope.

3. A microscope has 2 lenses and an objective lens and an eyepiece lens.

   We find the total magnification by multiplying the 2 valves together.
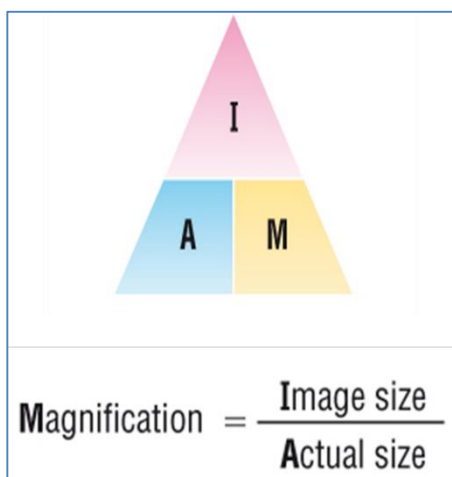   Eg
   Low Power = 4 X 10 = 40 X

   Copy this table and fill in the missing numbers-

	Objective lens	Eyepiece	Total magnification
Low Power	4X	10X	40X
Medium Power	10X	10X	
High Power	40X	10X	

4. Try completing the Extension Activity – Complete the worksheet on magnification.

Magnification

$$\text{Magnification} = \frac{\text{Image size}}{\text{Actual size}}$$

Step 1)

Measure the image size using a ruler in millimetres (mm)

Step 2)

Convert the millimetres (mm) into micrometres (µm) (multiply by 1000)

Step 3)

Divide your answer by the actual size

Question 1
This is a fly. Its actual eye size is 1,000µm. What is the magnification?
1) Length of eye is _____ mm
2) _____ mm x1000 = _____ µm
3) Image size = _____ µm
4) Magnification = Image ÷ Actual
   Magnification = _____ µm ÷ _____ µm
   Magnification = _____
   The picture shows the eye magnified (zoomed in) by _____ times.

Resources:

See above
Extension Activity - Magnification

Key vocabulary:
Objective lens
Eyepiece lens
Stage

Clip   Focusing knob   Arm   Light source   Magnification
When work has been completed, please send to Cullen.j2@windsorpark.staffs.sch.uk using your school email account.