

Microscope tasks



When you have set up your microscope correctly using the instructions provided, complete the following tasks:

1. Looking at hair

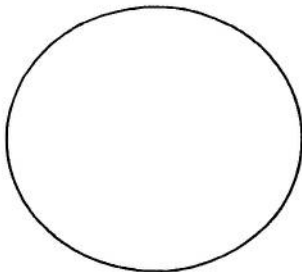


Carefully remove **one** strand of your hair. If necessary, cut the hair to fit onto a microscope slide. Place a coverslip over the hair and secure the slide onto the microscope stage using the stage clips.

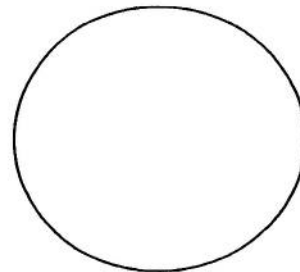
View the hair under the low power objective lens (X4)

Now change to the medium power objective lens and view the hair again

The area that you see when you look down the microscope is called the **field of view**. In the space below, draw what you see when you look at the hair.



X 4 objective lens



X 10 objective lens

2. Measuring the field of view

Now take a clear, plastic ruler and place it across the microscope stage within the field of view.

Focus on the ruler under low power (X4) and estimate the diameter of the field of view (in mm). Do the same at medium power.

Field of view (low power)mm

Field of view (medium power)mm



What happens to the field of view as the magnification is increased?

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Complete the following:

When a higher is used, the specimen appears in more but less of the specimen is seen. The field of view is from a much part of the specimen.

3. Magnification

To calculate the total magnification of the image, it is necessary to take into account both the eyepiece lens and the objective lens.



Total magnification = eyepiece lens magnification X objective lens magnification

On your microscope, the eyepiece lens magnification is printed on the side of the **ocular tube**.

What is it? X

Complete the table below:

	X4 (low power)	X10 (medium power)	X40 (high power)
Total magnification			

Now remove the slide from the microscope stage.

4. Inversion of the image

Take a piece of plain paper and write the letter 'b' on it – about normal handwriting size.



Cut around the letter 'b' and place the small piece of paper onto a microscope slide. View this under low power (X 4).

What do you notice about the letter 'b'?

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What does this tell us about the microscope?

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5. Observing other things

There are a variety of other specimens that you may like to look at under your microscope. Take time to investigate these and then when you are told to, put your microscope away correctly and carefully.