

Microscopy

1. Complete the following paragraph using the words below.

small

resolution

detail

magnify

magnification

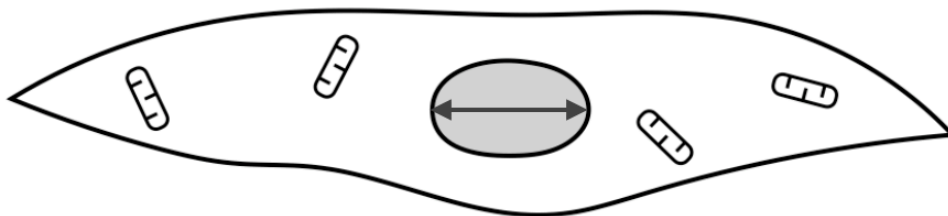
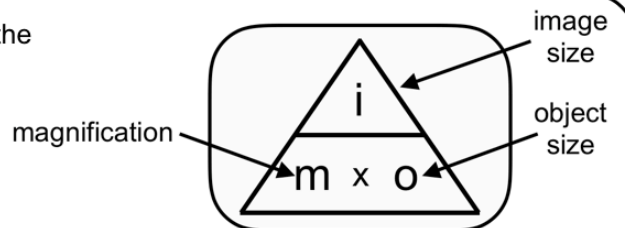
Light microscopes allow us to _____. This means that the image is much larger than the object we are looking at. Light microscopes have two main disadvantages. Firstly, they have a limited _____. This means that they cannot view very _____ structures inside a cell. Secondly, light microscopes have a limited _____. Because of this, images can appear blurred and we cannot make out fine _____.

2. Explain why electron microscopes are more useful than light microscopes for viewing details inside cells.

3. If we are shown an image from a microscope, we can calculate the magnification. To do that, we use the triangle on the right.

a. The diagram below shows a muscle cell.

Use a ruler to measure the length (in mm) of the nucleus shown.



b. The actual length of the nucleus is 0.01 mm. Determine the magnification.