

AQA, OCR, Edexcel

A Level

A Level Biology

**Microscopy and Studying Cells
Answers**

Name:

M M E

Mathsmadeeasy.co.uk

Total Marks: /22

Answer	Marks
<p>1.</p> <p>a) i) -Uses electrons instead of a beam of light - Electron microscopes have a higher resolving power -Light microscope can view living samples</p> <p>ii) SEM – scanning electron microscope TEM – transmission electron microscope</p> <p>iii) Advantages of SEM: -Create 3D images -Can be used on thick specimens</p> <p>Advantages of TEM: -Greater resolving power -Produce higher quality images</p> <p>Disadvantage of SEM: -Giver lower resolution specimens -Artefacts can affect the final image</p> <p>Disadvantages of TEM: -Only be used on thin specimens</p> <p>b) i) Resolution is the ability to distinguish between two points that are close together; it is the detail of the image -Magnification is how much bigger the image is than the specimen</p> <p>ii) $600\text{mm}/0.6\text{mm} = 1000$</p>	<p>2 marks</p> <p>2 marks</p> <p>6 marks</p> <p>2 marks</p> <p>2 marks</p>
<p>2.</p> <p>a) i) Cold – to prevent enzyme activity Buffer – prevents change in pH Isotonic – prevents osmosis from occurring - All to prevent damage to the organelles</p>	<p>4 marks</p>

Visit <http://www.mathsmadeeasy.co.uk/> for more fantastic resources.

<p>b) i) It must be spun at a higher speed</p> <p>ii) – Nucleus - Mitochondria - Ribosomes</p>	<p>1 mark</p> <p>3 marks</p>
--	------------------------------