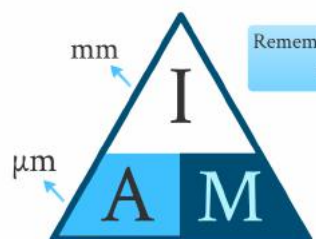
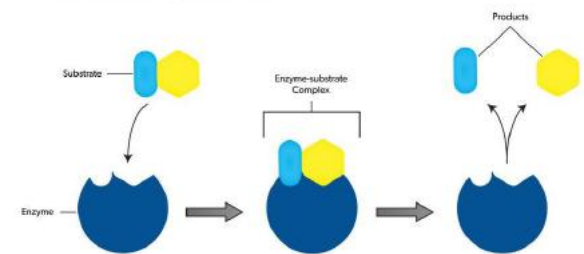
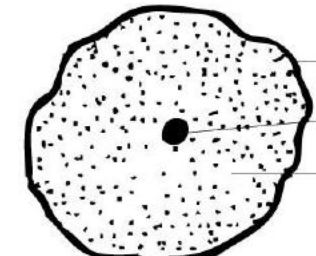


Section A: Key Vocabulary	
Tier 3 vocabulary	Definition
Methylene Blue (n)	The stain used in microscopy to see the nucleus of an animal cell.
Iodine solution (n)	The stain used in microscopy to see the plant cell nuclei.
Crystal violet (n)	The stain used in microscopy to see bacterial cell walls.
Magnification (n)	How many times bigger an object is in an image, than in real life.
Resolution (n)	The smallest distance between two points that can be seen as separate entities.
Enzyme (n)	Biological catalyst-it speeds up reactions without being used up.
Substrate (n)	The molecule that an enzyme acts upon.
Active Site (n)	The region of the enzyme where the substrate binds.
Lock and Key Hypothesis (n)	A model that explains the specificity of enzymes.
Denature (v)	The shape of the enzyme is changed so that it can no longer catalyse a reaction.
Tier 2 vocabulary	Definition
Observe (v)	To notice something.
Technique (n)	Skill or ability in a particular field.
Demonstrate (v)	Give a practical exhibition and explanation of how something works.
Specimen (n)	An individual animal, plant, piece of a mineral, etc. used as an example of its species or type for scientific study or display.
Utilise (v)	Make practical and effective use of.
Catalyst (n)	A substance that increases the rate of a chemical reaction without itself undergoing any permanent chemical change.
Evaluate (v)	Form an idea of the amount, number, or value of; assess.
Portable (n)	Able to be easily carried or moved, especially because being of a lighter and smaller version than usual.

Section B: Microscopes	
Comparing microscopes	
Light microscope	Electron microscope
Cheap	Expensive
Small and portable	Large and difficult to move
Simple to prepare a sample	Sample preparation is complex
Natural colour of sample seen unless staining used	Black and white images produced; false colour can be added
Specimens can be living or dead	Specimens are dead
Resolution up to 0.2 μm	Resolution up to 0.1 nm
Focusing a microscope	
<ol style="list-style-type: none"> 1. Select the lowest magnification. 2. Move the objective lens as far as possible from the slide. 3. Use the coarse-focus knob to bring the object in focus. 4. Use the fine-focus knob to bring the image into sharp focus. 	
Writing a good conclusion	
The conclusion summarises whether the results support or contradict the original hypothesis. Include data and relate this to scientific explanations.	
P-Point E-Evidence E-Explain L-Link	

Section C: Diagrams
Calculating Magnification
 <p>Remember to convert mm into μm by dividing by 1000</p> $\text{Actual size} = \frac{\text{Image size}}{\text{Magnification}}$
Enzymes-lock and key hypothesis
<p>The Lock and Key Mechanism</p>  <ol style="list-style-type: none"> 1. The enzyme has an active site that is specific to the shape of the substrate. 2. The substrate fits into the active site like a key in a lock. 3. The enzyme catalyses a reaction and new products are formed.
Animal cell under the light microscope
 <p>plasma membrane nucleus cytoplasm</p>