



Year 9 is part of Key Stage 4, in Science. The course starts with an introductory module that introduces learners to the scientific method and how to process data. All material studied in this year can be examined at GCSE level in year 11.

TERM	UNIT	WHAT WILL YOU BE LEARNING?	ARE YOU PREPARED FOR LEARNING?
1	<i>Introduction Module B1.1 Cell structures</i>	<p>In the introduction module you will learn about the scientific method. How to collect, record and process data. All of these skills are essential for the practical aspect of your course and also for examination questions based on practical techniques. It is important that you follow the rules given so that you learn to present graphs etc properly.</p> <ul style="list-style-type: none">• Using a light microscope• Making and staining slides• Calculating magnification• Electron microscopes• Different types of cells• Sub cellular structures	<p>Your exercise book will be clearly presented and all work will be complete.</p> <p>Practical work will be written up and evidence of required practicals will be kept in your progress folder.</p> <p>You will come to lesson with stationery, books and relevant homework.</p> <p>Are you using a revision guide to support your studies.</p>
2	<i>B1.2 What happens in cells and what do cells do</i>	<ul style="list-style-type: none">• The structure of DNA Protein synthesis• What is an enzyme• How enzyme activity is affected by temperature, pH, substrate concentration and enzyme concentration.	

3	<i>B1.3 - Respiration</i>	<ul style="list-style-type: none"> • Aerobic Respiration • Anaerobic Respiration • The importance of and how to test for the presence of: • Sugars, their importance and how to test for them. • Proteins, their importance and how to test for them. • Fats, their importance and how to test for them 	
4	<i>B1.4 - Photosynthesis</i>	<ul style="list-style-type: none"> • The process of photosynthesis. • The effect of changing light intensity, carbon dioxide concentration and temperature on the rate of photosynthesis 	
5	B2.1 – Supplying the cell	<ul style="list-style-type: none"> • Diffusion • Active transport • Osmosis • Mitosis • Stem cells 	
6	B2.2 – The challenges of size Revision and Mock Exam	<ul style="list-style-type: none"> • Surface area to volume ratio • Specialised exchange surfaces (lungs, small intestine) • Structure of the blood and blood vessels • Structure of the heart • Roots and root hair cells • Xylem and Phloem • The structure of the leaf • Transpiration and the factors that affect the rate of transpiration. 	
<p>At the end of each module students are set revision exercises to complete before taking a test. At the end of each section there will be a synoptic test covering all material studied. At the end of the year there will be a mock examination on all material studied so far.</p>			