

Subject: Science – Long Term Planner

Year: 7



HT	Concept(s)	Description	Formative assessments	Summative assessment	Links to GCSE & A Level requirements
Autumn 1	Introduction and assessment of basic skills in Science for transition to KS3 from primary school	Introduction to Science and safety procedures. Based around an investigations into tea bags and incorporating all skills needed for Scientific experimentation and using fair testing.	Throughout the topic, students will be assessed on their skills in investigations and working as a Scientist including concluding, data handling, planning etc.	Students will complete their baseline test to check skills and knowledge from KS2 through a written test.	All skills practiced in this unit are ones that are applicable to the required practicals at GCSE and A-Level and are ones which will be examined.
Autumn 1/2	Cells	Looks at the basic life processes in all living things including respiration & photosynthesis. Analysis of cell types and their structures and adaptations.  Students learn how to use microscopes and Scientific models effectively to describe microscopic life.	Completion of Doodle quizzes and activities to check learning as well as in class assessment.	Written test on all learning at the end of the topic.	Provides the foundation for starting GCSE Biology course. Developing ability to answer long answered questions in the GCSE exams.
Autumn 1/2	Particles	Students study the properties of the states of matter, the way these change and the kinetic theory behind particle behaviour. They will also look at methods for separating substances  Through this topic they will work on data handling skills, investigative skills & how to analyse and draw conclusions.	Students complete key word definitions and level ladder at the start and end of the topic to gauge progress.	Doodle assessment test at the end of unit. Including two long answered questions to develop literacy skills in the end of unit tests.	Provides the foundation for starting GCSE Chemistry course.

<b>Spring 1/2</b>	<b>Forces &amp; Magnets</b>	<p>Students identify and describe the key forces involved in movement. They complete calculations to work our resultant forces and complete investigations into the effects of forces on motion in different circumstances. They also learn to calculate speed and use three-part formulae.</p> <p>Students look at how magnetic fields are formed and how they can be used in navigation &amp; industry as well as in the animal kingdom.</p>	Doddle quizzes, level ladders and questioning throughout learning.	Written assessment at the end of the topic to check progress and intervene where this is required.	Provides the foundation for starting GCSE Physics course. Developing scientific enquiry skills with an investigation on electromagnets.
<b>Spring 1/2</b>	<b>Simple Chemical reactions &amp; The Ph Scale</b>	<p>Students learn about simple chemical reactions, this includes the use of chemical equations, identification of substances and use of the periodic table &amp; elements within it.</p> <p>They will also learn about the Ph scale, acids and alkalis through investigating the use of indicators, completing neutralisation reactions and identification of unknown fluids.</p>	Doddle to complete a baseline assessment at the start of unit. Assessment for learning tasks during the module based around level ladders.	Written assessment at the end of the topic to check progress and intervene where this is required.	Provides the foundation for starting GCSE Chemistry course. Use of key concepts and skills.
<b>Summer 1/2</b>	<b>Reproduction</b>	Students learn about fertilisation and reproduction in animals and plants. This encompasses the structures within nuclei, basic genetic diagrams and the structure and cycles of reproductive organs and fertility.	Assessment for learning tasks during the module based around doddle intervention.	Written assessment at the end of the topic to check progress and intervene where this is required.	Genetics in Biology GCSE is a broad topic and one which can take students towards many career paths.
<b>Summer 1/2</b>	<b>Circuits &amp; Electromagnets</b>	Students will build simple series and parallel circuits to investigate their properties and the behaviour of current, voltage and electrons within a circuit. Students also build electromagnets and investigate strength and capacity of them to attract magnetic materials.	Completion of level ladders to assess at start and end of topic. Literacy tasks throughout the topic and homework opportunities to apply learning,	Doddle assessment to check understanding and application of learning.	The electronics topics at GCSE and A-level are supported by this topic and this could also be used in systems and control technology and programming courses.
<b>Summer 1/2</b>	<b>Environment &amp; Biodiversity</b>	Students look into the development and maintenance of habitats and microhabitats. They will learn how to sample species of animals and plants and how to identify them. Students will investigate the competition between species and impact that humans have on biodiversity & survival of plants & animals.	Students will complete Doddle tasks and homework tasks which will be assessed to check progress.	There will be a final assessment of all learning throughout Year 7 in the form of a written exam at the end of term to assess and prepare for Year 8..	This topic informs students and teaches them many key points that are important in GSCE Chemistry and Biology; in particular the environmental impacts.