

Curriculum Overview

Subject: Science

Year Group: 7



Students are introduced to the importance of Science in the world around them. Students will develop the powerful knowledge needed to go beyond the common understanding of science to a deeper, more rounded world view. With a focus on key concepts, apparatus and techniques students will develop the subject disciplinary knowledge needed to think, write, communicate and relate scientific ideas to the wider world. Students will follow the national curriculum and have opportunities to undertake open ended investigations in term 2 developing analytical and rational thought processes.

TERM 1	TERM 2	TERM 3
<p>KNOWLEDGE/SKILLS</p> <p>Biology: Cells, reproduction, pollination, diet, digestion, diffusion.</p> <p>Chemistry: Safety in the laboratory, drawing and handling apparatus, Periodic table, elements, compounds, metals/non-metals.</p> <p>Physics: Forces, friction.</p> <p>Skills:</p> <ul style="list-style-type: none"> • Development of scientific thinking (modelling). • Experimental skill and strategies (risks and variables) • Analysis and evaluation (graphing) • Use of scientific vocabulary, units and symbols. 	<p>KNOWLEDGE/SKILLS</p> <p>Biology: Skelton, muscles, respiration.</p> <p>Chemistry: Bunsen burner licence, experimental planning and procedures.</p> <p>Physics: Forces, speed, magnetism, pressure, electrostatic charge.</p> <p>Skills:</p> <ul style="list-style-type: none"> • Development of scientific thinking (modelling). • Experimental skill and strategies (risks and variables) • Analysis and evaluation (graphing) • Use of scientific vocabulary, units and symbols. 	<p>KNOWLEDGE/SKILLS</p> <p>Biology: n/a</p> <p>Chemistry: States of matter, density, concentration, mixtures, separating mixtures, distillation, chromatography, dissolving, evaporating.</p> <p>Physics: Energy transfers, doing work, fuels, sound.</p> <p>Skills:</p> <ul style="list-style-type: none"> • Development of scientific thinking (modelling). • Experimental skill and strategies (risks and variables) • Analysis and evaluation (graphing) • Use of scientific vocabulary, units and symbols.
<p>KEY ASSESSMENTS</p> <p>Half term 1: Baseline test, cells LWQ</p> <p>Half term 2: Cheese sandwich journey LWQ, End of term 1 test</p>	<p>KEY ASSESSMENTS</p> <p>Half term 1: Forces test, open ended investigations and variables LWQ</p> <p>Half term 2: Respiration LWQ, End of term 2 test</p>	<p>KEY ASSESSMENTS</p> <p>Half term 1: Particle model LWQ, Explaining Physical changes test</p> <p>Half term 2: Sound LWQ, End of term 3 test</p>

Extended reading suggestions and external resources:






KS3 Bitesize Science <https://www.bbc.co.uk/bitesize/subjects/zng4d2p>

Oak National Academy Lessons <https://classroom.thenational.academy/subjects-by-key-stage/key-stage-3/subjects/science>

Chase High Youtube Playlists <https://www.youtube.com/channel/UCSK4lmJfi5sPH4UBp7cZtyQ>

We actively encourage students to read and research about the wider Scientific word - Planet Earth and Perfect Planet both on BBC iPlayer are examples of where students can engage with Science from the safety and comfort of their own homes.

Science Year 7 Assessment Criteria

	Bronze (CuSn) 	Silver (Ag) 	Gold (Au) 	Platinum (Pt) 
Development of Scientific thinking (modelling)	I can recognise some key features of a model. I can draw a basic diagram of a model.	I can recognise all key features of a model. I can draw a detailed diagram of a model.	I can make comparisons between different models. I can list the functions of all parts of the model.	I can describe the limitations of models. I can make detailed comparisons between different models.
Experimental skills and strategies (Risk and variables)	I can identify limited safety requirements for students in the lab. I can recognise some hazard symbols. I can follow a basic method to gain results. I have a limited understanding of variables.	I can write a basic risk assessment. I can recognise all hazard symbols. I can write a basic method but may not give valid results. I can identify the independent and dependant variables within an experiment.	I can suggest ways of reducing the risk in a practical. I can write a detailed method which lead to valid results but I need scaffolding. I can identify my independent/dependant and some control variables.	I can explain the effects of the chemical hazards on humans and the environment. I can suggest improvements to an existing method. I can write my own method independently. I can identify all variables within an experiment.
Analysis and evaluation (graphing)	I can complete bar charts. I can read bar charts.	I can construct a bar chart. I can read trends from simple bar charts and line graphs.	I can complete line graphs. I can identify values from a line graph.	I can construct a line graph (SPLAT). I can make comparisons between 2 lines on one graph.
Use of Scientific vocabulary, units and symbols	I can use limited key words. I can recognise some SI units.	I can use basic key words. I can select the correct SI units from a bank.	I can confidently use key words to express myself. I can identify the correct SI units without support.	I can use keywords to make links between different scientific ideas. I can convert between different units.