

Long Term Plan: Design and Technology Year 9

Tterm	Unit title	Key knowledge/ Content to learn and retain	Essential skills to acquire (subject & generic)	Anticipated misconceptions	Links to previous KS	Links to future KS	Opportunity for stretch for high prior attainers	SMSC & British Values	Cultural Capital	Career Link
One	Building a Moving Toy	<p>The design, make, evaluate cycle</p> <p>The use of CAD/CAM</p> <p>Properties of common materials</p>	<p>Designing a product for an intended user</p> <p>Accurate measuring and cutting</p> <p>Coping sway and shaping skills</p>	<p>The difference between CAD and CAM</p> <p>Students may confuse “hard” with “strong” and “ductile” with “malleable”</p>	<p>Students will have explored various common resistant materials as part of the upper KS2 programme of study, as well as simple electrical circuits.</p> <p>In Year 7, students practiced the design, make, evaluate cycle; as well as an introduction to material properties</p> <p>In Year 8, students will have explored the simple electrical circuits and the</p>	<p>As a fundamental introductory course, the key stage three programme of study lays the foundation for future study of either a Design and Technology or Engineering qualification at GCSE</p>	<p>Consider different materials that could be used for the casing of their product and justify the uses of the material chosen.</p>	<p>Different products for different target clients, including potential users from all backgrounds and how this affects their needs</p>	<p>Exploration of different designers and materials that students may not have encountered before</p>	<p>As an introductory course, the KS3 technology programme of study lays the foundations for a wide range of STEM field careers.</p>

					construction of these using solder.					
Two	Programming a Product	<p>Common electronic components</p> <p>Drawing circuit diagrams</p> <p>The use of solder and a soldering iron</p> <p>The use of different components within a circuit</p> <p>How a simple computer programme works.</p>	<p>Interpret circuit diagrams</p> <p>Accurate and safe use of a soldering iron</p> <p>Evaluating products against a given criteria</p> <p>Write a simple computer programme using a drag and drop language</p> <p>Using crumble to assemble simple programmes</p>	<p>The difference between a battery and a cell.</p> <p>The circuit diagrams of a number of components are similar and easy to confuse so will require explicit teaching and practice</p> <p>The different uses of each command within the crumble programming language</p>	<p>Students will have explored various common resistant materials as part of the upper KS2 programme of study, as well as simple electrical circuits.</p> <p>In Year 7, students practiced the design, make, evaluate cycle; as well as an introduction to material properties</p> <p>In Year 8, students will have explored the simple electrical circuits and the construction of these using solder.</p>	<p>As a fundamental introductory course, the key stage three programme of study lays the foundation for future study of either a Design and Technology or Engineering qualification at GCSE</p>	<p>Students could be challenged to programme more advanced features into their product.</p>	<p>Different products for different target clients, including potential users from all backgrounds and how this affects their needs</p>	<p>Exploration of different designers and materials that students may not have encountered before.</p> <p>The use of programmable products across a wide range of sectors, including both everyday and more niche uses</p>	<p>As an introductory course, the KS3 technology programme of study lays the foundations for a wide range of STEM field careers.</p>
As a rotation subject at KS3, Design and Technology is taught for 1 full term, before students rotate into another technology subject.										