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	The design, make, evaluate cycle The use of CAD/CAM Properties of common materials	Designing a product for an intended user Accurate measuring and cutting Coping sway and shaping skills	The difference between CAD and CAM Students may confuse "hard" with "strong" and "ductile" with "malleable"	Students will have explored various common resistant materials as part of the upper KS2 programme of study, as well as simple electrical circuits. In Year 7, students practiced the design, make, evaluate cycle; as well as an introduction to material properties In Year 8, students will have explored the simple electrical circuits and the	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	Consider different materials that could be used for the casing of their product and justify the uses of the material chosen.	Different products for different target clients, including potential users from all backgrounds and how this affects their needs	Exploration of different designers and materials that students may not have encountered before	As an introductory course, the KS3 technology programme of study lays the foundations for a wide range of STEM field careers.

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