



Overview	<p>In Year 9, students build on their knowledge gained from previous years to design, make, analyse and evaluate products. Through a range of projects, students use their design, practical and problem-solving skills to design and make solutions to the different design briefs. We introduce a range of new skills and relate all our learning to industry. Projects covered over the duration of the year are not necessarily in this order.</p> <p>Each project lasts for 10-14 lessons depending on the length of the term.</p>
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Autumn Term	<p>Practical Project - Mobile Phone Passive Speaker</p> <ul style="list-style-type: none"> ■ Idea Generation – using the techniques learning in the previous term (Biomimicry, morphology, and client profiles to create a unique passive phone speaker design) ■ Working with Tools and Machinery (Learning how to use hand tools and workshop machinery) ■ Health and safety (Learning the H&S Rules and safety precautions and PPE to work safely in the workshop) ■ Materials (Man-made boards- Plywood) Understanding how manmade boards are used in modern manufacturing Processes (Ikea- flat packed furniture) ■ Learning the order in which the phone speaker/holder will be made. Marking out – Sawing – Filing – Sanding – Drilling – Assembly - Finishing 	Assessment
		<p>Practical skills</p> <p>Quality of making</p> <ul style="list-style-type: none"> ■ Accuracy of Design ■ Working safely and Independently ■ Time management

Spring Term	<p>Creative Project – Sustainable Living</p> <ul style="list-style-type: none"> ■ Client profiles - Using peoples’ needs and wants to help design help inspire creative and unique design ideas for different target markets. ■ Sustainability and the 6Rs – Understanding different methods used for sustainable living (looking at infinite power sources) Understanding what the 6 Rs are (recycle, reuse, refuse, rethink, repair, reduce) and the impact it has on our society. ■ Brainstorming and specification writing ■ Isometric drawing Learning this drawing technique. ■ Idea Generation - Shown how to sketch and present design ideas using pencils, fine liners, and pencil crayons in Isometric. ■ Developing Drawing, rendering, shading and fine-lining techniques. 	Assessment
		<p>Design skills</p> <ul style="list-style-type: none"> ■ Isometric drawing ■ Presentation and colour ■ Creativeness of Design ■ Complexity of design ■ Drawing technique ■ Annotation ■ User centred design

Summer Term	<p>Computer Aided Design Project – TinkerCAD Teleportation Pod</p> <ul style="list-style-type: none"> ■ How CAD & CAM is used in Industry on a larger scale for batch/mass production. ■ Advances in Technology – Looking at latest technology that has resulted in advances in different industries (Medical, entertainment, food etc)(extended writing task) ■ Work planes- drawing on different levels and adding/removing shapes ■ Shape manipulation – editing size, colour, and fillets. ■ Extruding shapes and text ■ Mirroring - duplicating a shape with mirroring function ■ Aligning – Aligning shapes vertically and horizontally ■ Arraying – duplicating shapes in a grid or circular layout. ■ Removing shapes – removing shapes to create a hole or negative space ■ Dimensioning – adding correct dimensions to have accurate proportions. ■ Changing colours – editing shapes/design to create a more realistic look. 	Assessment
		<p>Design skills</p> <ul style="list-style-type: none"> ■ Creativeness of Design ■ Complexity of design ■ Range of skills used <p>Extended writing</p> <ul style="list-style-type: none"> ■ Compare and contrast ■ Vocabulary ■ Spelling and Grammar

Useful Resources for Supporting Your Child at Home:	Homework:
<p>Teams – all teaching resources can be found here.</p> <p>Tinkercad.com – To access the CAD program and practise.</p> <p>Technology student.com – All things Design</p> <p>How it's made on YouTube – understanding manufacturing processes.</p>	<p>Students are expected to come prepared to design lessons with the correct drawing and writing equipment.</p> <p>Homework is always recorded on Teams.</p> <p>Homework varies from research, written or design tasks that requires no more than 30 minutes to complete.</p>