

Curriculum implementation for Core Design and Technology – Year 9



A well sequenced and logical curriculum that builds knowledge and skills over time.

Assessment centred around the KS3/4 curriculum Principles of Knowledge, design, make and evaluate, some NEA and exam theory principles added for each project.

Students have taken a mini options and will study 2 out of the 3 disciplines. Feb half term change over.

Year 9 Design Technology	Topics/Units to be taught Each unit below is taught over a block. Students experience a rotation system through the projects.	Making skills to be developed (health and safety)	Assessment	Prepares the way for....	Wider Curriculum Links (other curriculum areas, industry, big characters, real life, trips, guest speakers)
Accessories box overview:	Students are to design and make an accessories box using a range of skills.				
19 weeks teaching total This project is 8 weeks. 2, 100 minute lesson per fortnight.	<p>Knowledge:</p> <ul style="list-style-type: none"> • Biomimicry • Inspiration • Ergonomics • Anthropometrics • Health and safety <p>Design:</p> <ul style="list-style-type: none"> • Designing using inspiration • Development using ergonomics and anthropometrics <p>Make:</p> <ul style="list-style-type: none"> • Finger joint box with a pewter handle <p>Evaluate:</p> <ul style="list-style-type: none"> • Peer feedback to inform suggested improvements <p style="background-color: #90EE90;">CHALLENGE TASK: Jewellery research</p>	<ul style="list-style-type: none"> • Marking out 20 and 30mm fingers. • Coping saw and scroll saw • Drilling • Sanding/ Sanding machine • Router • Pillar/Bench drill • Filing • CAD/CAM • Pewter casting • Decoupage 	<p>This unit has 2 formal assessment areas:</p> <ul style="list-style-type: none"> ➤ A02a Design ideas ➤ A02e – Making skills <p>Throughout the project, students will be given verbal feedback on their progress.</p> <p>At assessment points students will receive a highlighted success criteria. Green is achieved and red is next steps. Students will feedback from a teacher led question which identifies common mistakes. Written in green pen. The end of unit test is a gauge of knowledge acquired within that unit.</p>	<ul style="list-style-type: none"> • Improved workshop knowledge and understanding of working practically. • Improved Knowledge, understanding and practice of Health and Safety. • Improved Independence • Some NEA practice pages 	<ul style="list-style-type: none"> • English – Written explanations of work. • Self/peer assessment. • Maths- Using measurement with precision and with tolerance. • Maths - Ergonomics and anthropometrics
Pinball machine This project is 7 weeks. 2, 100 minute lesson per fortnight.	<p>Knowledge:</p> <ul style="list-style-type: none"> • Motion • Levers • Linkages • Cams and pulleys <p>Design:</p> <ul style="list-style-type: none"> • Final design using CAD software • Orthographic projection • Development of design through modelling <p>Make:</p> <ul style="list-style-type: none"> • Cardboard prototype which is fully working <p>Evaluate:</p> <ul style="list-style-type: none"> • Testing and user evaluation <p style="background-color: #90EE90;">CHALLENGE TASK: Producing and orthographic view using AutoCAD.</p>	<ul style="list-style-type: none"> • Craft knives and safety rules • Hot Glue guns • Drilling 	<p>This unit has 2 formal assessment areas:</p> <ul style="list-style-type: none"> ➤ A01 – Research and investigate ➤ A02B – Design and develop <p>Throughout the project, students will be given verbal feedback on their progress.</p> <p>At assessment points students will receive a highlighted success criteria. Green is achieved and red is next steps. Students will feedback from a teacher led question which identifies common mistakes. Written in green pen. The end of unit test is a gauge of knowledge acquired within that unit.</p>	<ul style="list-style-type: none"> • Understanding mechanical systems including motion, levers, linkages. • Some NEA practice pages 	<ul style="list-style-type: none"> • English – Written explanations of work. • Self/peer assessment. • Maths- Using measurement with precision and with tolerance. • Maths – Related to ratio and speed, distance and time • Science – Mechanisms and movement
Crazy creature This project is 4 weeks. 2, 100 minute lesson per fortnight.	Students are to use Polymorph to create a keyring and design and make the packaging to accompany this.				
This project is 4 weeks. 2, 100 minute lesson per fortnight.	<p>Knowledge:</p> <ul style="list-style-type: none"> • Alessi • Phillippe Starck • Smart materials • Modern Materials • Papers and boards 	<ul style="list-style-type: none"> • Polymorph heating up • Craft knives and safety rules • Hot glue gun • Vacuum forming 	<p>This unit has 3 formal assessment areas:</p> <ul style="list-style-type: none"> ➤ A01 – Research and investigate ➤ A02a – Design and develop ➤ A03 – Evaluate 	<ul style="list-style-type: none"> • Understanding on smart materials and composites and technical textiles 	<ul style="list-style-type: none"> • English – Written explanations of work. • Self/peer assessment. • Maths- Using measurement with

	<ul style="list-style-type: none"> Blister packaging Composites <p>Design:</p> <ul style="list-style-type: none"> Designing packaging nets with appropriate packaging symbols. <p>Make:</p> <ul style="list-style-type: none"> Polymorph creature with appropriate packaging <p>Evaluate:</p> <ul style="list-style-type: none"> Evaluate outcome against the specification and suggest improvements <p>CHALLENGE TASK: Vacuum forming</p>		<p>Throughout the project, students will be given verbal feedback on their progress.</p> <p>At assessment points students will receive a highlighted success criteria. Green is achieved and red is next steps. Students will feedback from a teacher led question which identifies common mistakes. Written in green pen. The end of unit test is a gauge of knowledge acquired within that unit.</p>	<ul style="list-style-type: none"> Knowledge on papers and boards NEA practice pages 	<p>precision and with tolerance.</p> <ul style="list-style-type: none"> Maths - Nets
Food	Students will be continuing to develop knowledge and understanding of food preparation and nutrition. Students will be given the opportunity to develop their knowledge from year 8, building on skills as well as learning new ones.				
<p>19 weeks</p> <p>2, 100 minute lesson per fortnight.</p>	<p>Knowledge:</p> <ul style="list-style-type: none"> Protein Eatwell guide Nutrients Seasonality Provenance Dietary needs Gelatinisation Food allergy Food intolerance Lacto vegetarian Ovo vegetarian Vegan <p>Design:</p> <ul style="list-style-type: none"> Own menu based on individual needs <p>Make:</p> <ul style="list-style-type: none"> Spaghetti Bolognese Moroccan chicken with caus caus French Apple tart Mac and cheese OR Croque Monsieur Thai curry <p>Evaluate:</p> <ul style="list-style-type: none"> Sensory evaluation for each practical dish <p>CHALLENGE TASK/S: TBC</p>	<ul style="list-style-type: none"> Fine motor skills Using ovens safely Using a blender safely Being safe in the classroom/Kitchen Use of Knives correctly. (Chopping skills) Re-cap of coloured chopping boards Frying Pasta maker 	<p>This unit has three formal assessment areas:</p> <ul style="list-style-type: none"> A02e Making skills (Veg tart only) A03f Evaluating using sensory analysis and suggesting where improvements to the dish is needed End of unit test on knowledge <p>Throughout the project, students will be given verbal feedback on their progress.</p> <p>At assessment points students will receive a highlighted success criteria. Green is achieved and red is next steps. Students will feedback from a teacher led question which identifies common mistakes. Written in green pen. The end of unit test is a gauge of knowledge acquired within that unit.</p>	<ul style="list-style-type: none"> Improved kitchen knowledge and understanding. Improved knowledge and understanding of practical skills/precision. Improved Knowledge, understanding and practice of Health and Safety. Improved Independence. 	<ul style="list-style-type: none"> Science - in food Geography - Seasonality of Food Maths - calculating recipes English -reading of text