



Curriculum map – Design & Technology Y7

YEAR 7	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
TOPIC(s)	Resistant Materials – Toy Project Analysis Research – Timbers/ Products/ Wood Joints (Practical)	Resistant Materials – Toy Project Specifications Design Skills Ideas	Resistant Materials – Toy Project Ideas development CAD Sketchup Health & Safety Manufacturing	Resistant Materials – Toy Project Manufacturing Evaluation	Electronics – Steady Hand Game Inputs/ Outputs, Electronic Components & Circuit design. Product Design & Development	Electronics – Steady Hand Game Manufacturing Evaluation
What students will know	Students will know how to reformulate design problems. Understand design developments in technology and impact on society and the environment. Understand the properties of materials	Students will learn about different timber joining methods and their applications as well as methods of manufacture. Students will learn how the work of past and present designers can influence new ideas. Students will learn the importance of design specifications and why they are used.	Students will learn what is meant by the terms oblique, isometric and orthographic drawing. They will also learn about the communication of ideas and the importance of rendering.	Students learn about the different uses for a variety of tools and equipment as well as the importance of health and safety and quality control in manufacturing.	Students learn about inputs and output devices and how more complex electronic systems are used in products.	Students learn how to manufacture simple circuits develop their understanding of electrical current

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What students will be able to do	<p>Students will be able to produce a design brief and break down a task using a spider diagram as well as explain the meaning of technology key words (ACCESSFM).</p> <p>All will be able to use ACCESSFM to analyse products and describe them against criteria.</p>	<p>Select from and use specialist tools processes equipment and machinery.</p> <p>Analyse the work of past and present professionals.</p> <p>Develop specifications to inform design ideas</p> <p>Develop creative and technical expertise using annotated 3D modeling and digital presentations. Oblique/isometric and rendering.</p>	<p>Develop creative and technical expertise using annotated 3D modeling and digital presentations. Oblique/isometric and rendering.</p>	<p>Students will be able to select from and use specialist tools, techniques, processes, equipment and machinery precisely to manufacture their product.</p> <p>All will be able to produce diagrams to explain how their product was manufactured, with the inclusion of safety and quality checks.</p>	<p>Identify input/ outputs</p> <p>Identify different electronic components and their circuit symbols</p> <p>Design basic circuits</p>	<p>Students select from and use specialist tools, techniques, processes, equipment and machinery precisely to manufacture circuits using electronic components and tools and equipment.</p>
Assessment	<p>Combination of formative self and peer, teacher led assessment activities.</p> <p>Written Self Assessment of Task analysis + HPL</p> <p>Baseline Test (Teacher assessed)</p>	<p>Combination of formative self and peer, teacher led assessment activities.</p> <p>Written Self-Assessment of the Design criteria + HPL</p> <p>Summative end of unit assessment against Research/Analysis descriptors using assessment framework (Teacher & Self Assessed)</p>	<p>Formative self and peer assessment activities.</p> <p>Self Assessment of Development of design ideas + HPL</p> <p>Summative end of unit assessment against design descriptors using assessment framework (Teacher & Self Assessed)</p>	<p>Formative self and peer assessment activities.</p> <p>Self Assessment of Planning+ HPL</p> <p>Self assessment of Evaluation + HPL</p> <p>Summative end of unit assessment against Manufacturing descriptors using assessment framework (Teacher & Self Assessed)</p>	<p>Formative self and peer assessment activities.</p> <p>Summative end of unit written assessment test – Electronic components (Teacher & Self Assessed) 15 marks</p>	<p>Formative self and peer assessment activities.</p> <p>Summative end of unit assessment against Manufacturing descriptors (Teacher & Self Assessed)</p>

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Tier 3 vocabulary	Specification Target Market: Aesthetics Sustainability Ergonomics: Function Analysis Quality Control	Softwood Hardwood Evergreen Deciduous Lap Joint Dowel Joint Butt Joint	Isometric Oblique Orthographic Rendering Annotation CAD/CAM	Processes Tenon Saw Belt Sander Pillar Drill Dowel Tolerance Evaluate	Components Light Emitting Diode Resister Circuit Input Output Process	Solder Soldering Iron Copper Insulator Conductor
Extended reading opportunities	www.technologystudent.com	Hardwoods & Softwoods https://technologystudent.com/pdf14/posterwoods2.pdf	Shading Techniques https://technologystudent.com/despro_flash/graphics_shade1.html	Quality Control https://technologystudent.com/prddes1/qual2.html	Electronic components https://technologystudent.com/elec1/comps1.htm	Soldering https://technologystudent.com/pcb/solder1.htm
Beyond the classroom (Wider reading / Trips)	https://www.youtube.com/watch?v=C139sMly6mE	https://www.youtube.com/watch?v=-f7tTNRH_04	https://www.tinkercad.com/	https://www.youtube.com/watch?v=r9vp1q1L2ro	https://www.youtube.com/watch?v=6UTOTgbJ_8E	https://www.youtube.com/watch?v=-0ITOd3DC7w