

Year 9 Curriculum Plan – D&T, RMT

YEAR 9

SUBJECT D&T / RMT

LEARNING PROGRAMME



TOPIC	LEARNING OBJECTIVES	KEY VOCABULARY	LEARNING SEQUENCE	LINKED LEARNING	HOME LEARNING
Option Talk	<ul style="list-style-type: none"> ▪ Understand what is required in the D&T GCSE 		Watch a short presentation and ask questions.		
Earbud Wrap (3D CAD / CAM Inc. biomimicry and design iterations.)	<ul style="list-style-type: none"> ▪ Understand the advantages and disadvantages of using computer aided design (CAD) & computer aided manufacture (CAM). ▪ Understand how CAM equipment can be used in a variety of applications: CNC embroidery, vinyl cutting, CNC milling/routing, laser cutting and 3D printing. ▪ Be able to produce a CAD image and 3D CAM model of a sketched idea. 	<ul style="list-style-type: none"> • Computer aided design • Computer aided manufacture • Computer numerically controlled • Laser cutter • Vinyl cutter • 3D Printer • CNC milling machine • CNC embroidery machine • Tinker CAD • 2D Design • Google sketch up • Specification • Biomimicry • STL. File • Styrofoam • Manufacturing plan • Iteration 	<ol style="list-style-type: none"> 1. Set up account & complete the 4 lessons on Tinker CAD. 2. Write a 'Specification' based on the wants and needs of your client. 3. Sketch at least 5 ideas, these should include foam packaging ideas. (Use the 3D shapes, thick and thin lines, shadow and biomimicry) 4. Re-produce your favourite idea on Tinker CAD and send it to the task on 	Y7 2D Design (CAD) Y7 Presenting ideas Y8 Prototypes	<p>Sign up to a Tinker CAD account (using your school email address) and complete the 4 introductory lessons.</p> <p>Complete your 5 ideas</p> <p>Complete your Tinker CAD file.</p>

			<p>Firefly '3D Print'</p> <ol style="list-style-type: none"> 5. Produce the foam packaging idea on Tinker CAD and send it to the task on firefly 'Foam packaging' 6. Produce the white sleeve on Word or Publisher. 7. Take 3 photo's of the finished product, print off the pictures and glue them into your book. <p>Extension Task: Produce a table to show how the project was manufactured.</p>		<p>Complete your Tinker CAD Foam Packaging file.</p> <p>Revise for the class test</p>
<p>Product analysis including scales of production</p>	<ul style="list-style-type: none"> ▪ Understand the 3 different scales of production 	<ul style="list-style-type: none"> • One off production • Batch production • Mass production 	<ol style="list-style-type: none"> 1. Find and write down the Key 	<p>Year 8 Design Considerations</p>	<p>Revise for class test</p>

	<ul style="list-style-type: none"> Be able to produce a 'Product Analysis' and explain why it is important 	<ul style="list-style-type: none"> Anthropometrics Ergonomics Product analysis Mahogany Plywood Laser cutter Scroll saw PVA Varnish Dimensions Permanent / Non-permanent joints 	<p>Words and definitions.</p> <ol style="list-style-type: none"> Test out all the passive speakers to see which work well. Choose your favourite design and answer the questions provided. 	Y9 Ear bud & packaging using CAD/CAM	Extended Reading & Writing tasks
Sustainability.	<ul style="list-style-type: none"> understand how people and products effect the environment 	<ul style="list-style-type: none"> Sustainability Rethink Reuse Recycle Repair Reduce Refuse Carbon footprint Life cycle analysis Fair Trade Forest Stewardship Council 	<ol style="list-style-type: none"> Complete the 'Big Picture' hand out 	Year 9 Product development. (Market Pull / Technology Push)	<p>Revise for class test</p> <p>Extended Reading & Writing tasks</p>
Renewable energy.	<ul style="list-style-type: none"> Be able to name and understand the 6 different methods of producing renewable energy 	<ul style="list-style-type: none"> Biomass Tidal power Geothermal Wind power Hydroelectric Solar power 	<ol style="list-style-type: none"> What products use energy in your home? What might products might look like ion the future? 	Year 9 Sustainability	<p>Revise for class test</p> <p>Extended Reading & Writing tasks</p>
Extended Reading & Writing task.	To be able to read an article on how a different culture has influenced design ideas	<ul style="list-style-type: none"> Fashion Architecture Furniture 	Use the websites provided to find & read an article then write a two-paragraph	Links to the world of Science, Technology, Engineering & fashion.	Write a two-paragraph report about your chosen article.

	and write a short report on it.	<ul style="list-style-type: none">▪ Toys in different cultures▪ Recipes▪ Signs▪ Garden design▪ Vehicles	<p>explanation \ report about it, including both good and bad points with a conclusion.</p> <p>The types of design you could look at could be:</p> <ul style="list-style-type: none">▪ Fashion▪ Architecture▪ Furniture▪ Toys in different cultures▪ Recipes▪ Signs▪ Garden design▪ Vehicles		
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