Curriculum Assessment Map: Year 7 Design & Technology

	Rotation 1	Rotation 2	Rotation 3	Rotation 4
Topic	Laser cut Wrap and Packaging	Food – Healthy Eating	Monster and Emoji cushions	STEM - RAF Glider Challenge
Key Learning & Skills	• To explore existing products which relate to the chosen product. • To design a product to meet the Specification set, considering the primary user needs, manufacturing processes and material constraints. • Design a range of ideas in 2D, working to a scale of 1:1. • To produce a number of design iterations working to a final solution. • Learn how to use 2D design software, Computer Aided Design (CAD). • Learn how to manufacture products using the Laser Cutter, Computer Aided Manufacture (CAM). • Learn about Plastics, focusing on Acrylic. • To work safely in a workshop, following all health & safety procedures. • To learn how to use the basic model making tools. • To evaluate design ideas, development and final outcomes against the Specification.	• Identify hazards in a food room. • Safety when using specialist equipment including bridge and claw when using sharp knives. • Eatwell Guide – learning about different food groups and key nutrients and their functions. • Rubbing in skills when making a fruit crumble. • Knife skills and use of different parts of the cooker when preparing and cooking gnocchi bake, pizza and Bolognese / chilli. • Evaluating products to improve future outcomes.	• Identify health and safety hazards within the Textile Studio. • Explore a range of Textile products relating to the chosen product, using ACCESSFM • Design a range of ideas in 2D, with a focus on developing rendering skills • Learn how to design and create a basic paper pattern. • Hand sewing skills- learn the different types of stitches • Learn how to manufacture products using Computer Aided Manufacturing (CAM) such as the embroidery machine. • To evaluate design ideas and final prototype against the Design Specification.	• Identify health and safety hazards in a workshop environment • Explore the Forces element of Physics to gain an understanding of key forces of flight • Explore key forms of wing and their advantages and disadvantages. • Create own wing designs based of findings from explore work gained in wing research • Create a template of a glider and its key components using the project specification and constraints • To learn how to use basic model making tools • To create prototypes of gliders using modelling materials • Test gliders and record distances • Engineer changes and features to enhance glider performance
End points	**EXPLORE** • Explore a range of materials, focusing on Polymers, Card/Board. • Analyse existing products, considering the primary user needs. • Health & Safety standards in the workshop/kitchen and demonstrate good working practice. • Understanding the importance of Textiles in everyday life • Know about the Eatwell guide and healthy eating **CREATE** • Identify and solve their own design problems, creating solutions to real life problems. • Design products using 2D sketches, avoiding design fixation. • Develop design ideas using an iterative design approach. • Use 2D Computer Aided Design software to generate final solutions, suitable for digital output. • Use digital outputs to create high quality prototypes. • Use basic hand tools and traditional skills to model ideas in a range of materials, focusing on Polymers, card/board, textile fabrics. • Learn a range of basic working skills and using the cooker			

Curriculum Assessment Map: Year 7 Design & Technology

	EVALUATE • Evaluate existing products. • Analyse design solutions, listing positives and negatives against the design specification. • Test final outcomes, identifying strengths and weaknesses. • Star profiles and evaluate outcomes in Food against the specification			
Informal (*formative*) Assessment	Ongoing verbal feedback Whole class feedback Peer and self-assessment GRIT tasks DIRT	Ongoing verbal feedback Whole class feedback Peer and self-assessment GRIT tasks DIRT	Ongoing verbal feedback Whole class feedback Peer and self-assessment GRIT tasks DIRT	Ongoing verbal feedback Whole class feedback Peer and self-assessment GRIT tasks DIRT
Formal (*summative*) Assessment	Project booklets and practical tasks are assessed using the D&T KS3 Criteria – EXPLORE, CREATE, EVALUATE. Breakdown of the 20 marks: Explore – 5marks Create – 10 marks Evaluate – 5 marks End of project Test, 20 marks.	Project booklets and practical tasks are assessed using the D&T KS3 Criteria – EXPLORE, CREATE, EVALUATE. Breakdown of the 20 marks: Explore – 5marks Create – 10 marks Evaluate – 5 marks End of project Test, 20 marks.	Project booklets and practical tasks are assessed using the D&T KS3 Criteria – EXPLORE, CREATE, EVALUATE. Breakdown of the 20 marks: Explore – 5marks Create – 10 marks Evaluate – 5 marks End of project Test, 20 marks.	Project booklets and practical tasks are assessed using the D&T KS3 Criteria – EXPLORE, CREATE, EVALUATE. Breakdown of the 20 marks: Explore – 5marks Create – 10 marks Evaluate – 5 marks End of project Test, 20 marks.

Curriculum encompassing literacy, careers and enrichment as well as interconnectivity with other subjects

Curriculum Assessment Map: Year 8 Design & Technology

	Rotation 1	Rotation 2	Rotation 3	Rotation 4
Topic	Pewter Casting	Food from around the world	Textile stationary storage	STEM - Speed boat
Key Learning & Skills	• To learn about Ferrous, non-Ferrous and Alloys. • Design a product in 2D and 3D to meet the Specification set. • Create a final design on Computer Aided Design (CAD), suitable for manufacturing on the Laser cutter (Computer Aided Manufacture). • Learn about manufacturing processes including casting. • To learn how to use the basic hand tools to cut, shape and smooth Pewter (Metal). • To work safely in a workshop, following all health & safety procedures. • To learn how to achieve a high-quality polished finish on the chosen material. • To evaluate design ideas, development and final outcomes against the Specification.	• To revisit the Eatwell Guide to ensure key nutrients and their functions are understood. • To be aware of The School Food Standards and to apply this knowledge to making healthy food suitable for the school canteen (Curry, Pizza from scratch, Stir-fry and Jambalaya. • To further develop practical skills by using a wider range of techniques in each practical lesson. • Recognise several special dietary requirements and adapt foods to suit these diets. • Develop knowledge of primary, secondary and tertiary food processing. • Understand about essential and none essential amino acids, and identify high and low biological value foods. • Have a secure knowledge of protein. • Recognise the impact that single use plastic is having on the environment here, and worldwide.	• To develop knowledge of natural, synthetic and mixed fibres and their properties. • Design a product in 2D to meet the Specification set. • To gain an understanding of fabric construction • Explore a range of Textile products relating to the chosen product, using ACCESSFM • To develop pattern cutting skills • To revisit and develop hand sewing skills • To learn how to use sewing machine to create a high-quality final prototype. • To evaluate design ideas and final prototype against the Design Specification.	• To explore different types of forces and relate these to everyday objects • Understand the different types of motion with examples. An understanding of the relationship between forces and motion to be displayed. • Research different types of propeller and their advantages and disadvantages • Design a symmetrical template for a boat hull • To learn how to use the basic hand tools to cut, shape and smooth modelling foam • To work safely in a workshop, following all health & safety procedures. • Test boats and engineer changes to enhance performance in the water-way • Record all test results as a form of evaluation
End points	**EXPLORE** • Explore a range of materials, focusing on Metals, manufactured boards, modelling materials. • Develop knowledge of material categories, for example Ferrous, non-Ferrous, Alloys. • Analyse existing products, using ACCESSFM. • Explore industry manufacturing processes and consider how products are made. • Understand how mechanical systems used in their products enable changes in movement and force. • Understand how more advanced electrical and electronic systems can be powered and used in their products [for example, circuits with movement using inputs and outputs]. • Health & Safety standards in the workshop/kitchen and demonstrate good working practice. • Understanding properties of existing fabrics and fabric construction • In Food, students will learn about food standards, linked to healthy eating and nutrition. • Develop knowledge of the Eatwell guide, with a focus on Protein.			

Curriculum Assessment Map: Year 8 Design & Technology

<table>
<tr>
<td></td>
<td colspan="4">CREATE
• Design products using 3D sketches, avoiding design fixation and producing creative solutions.
• Develop design ideas using an iterative design approach, testing and developing ideas and solutions to problems.
• Use 2D Computer Aided Design software to generate final solutions, suitable for digital output in a range of different materials.
• Combine digital outputs and traditional methods to create high quality prototypes.
• Use hand tools and traditional skills to model ideas in a range of materials, focusing on Metals, manufactured boards, modelling materials, Textile Fabrics.
• Use basic workshop machinery to manufacture prototypes.
• Use a wide range of skills and equipment in Food, using detailed time plans with quality and hygiene checks

EVALUATE
• Evaluate existing products, using ACCESSFM.
• Analyse design solutions, while explaining positives and negatives against the design specification.
• Test final outcomes, identifying strengths and weaknesses.
• Suggest modifications and improvements to final design solutions.
• In Food, Star profiles, costing of ingredients and evaluate a range of products</td>
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Peer and self-assessment
GRIT tasks
DIRT</td>
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Breakdown of the 20 marks:
Explore – 5marks
Create – 10 marks
Evaluate – 5 marks

End of project Test, 20 marks.</td>
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Curriculum encompassing literacy, careers and enrichment as well as interconnectivity with other subjects

Curriculum Assessment Map: Year 9 Design & Technology

	Rotation 1	Rotation 2	Rotation 3	Rotation 4
Topic	Mobile phone passive amplifier	Food commodities and skills	Engineering skills	Active wear
Key Learning & Skills	• To explore how sound works and to apply the knowledge to design ideas. • Collect dimensions of products to design the passive amplifier. • Learn how to work to half scale when producing engineering design drawings. • Produce design ideas in both 2D and 3D, including isometric. • To work safely in a workshop, following all health & safety procedures. • To learn how to use the basic hand tools, focusing on Timber. • To learn how to use the machinery suitable for Timber products. • To design, make and assemble a final outcome to meet the Specification set. • Explore and learn about natural and manufactured boards. • Learn about suitable finishes to apply to the chosen materials. • To evaluate design ideas, development and final outcomes against the Specification.	• Understand how fruit and vegetables are classified. • Develop advanced knife skills by demonstrating the following cuts: brunoise, macedoine, julienne, jardiniere and paysanne. • Be able to prepare a vegetable curry from scratch. • Understand ethical food choices by exploring Fairtrade, Organic, Food Miles and Seasonality. • Explore a range of cereal products and understand how they are processed. • Risotto practical and evaluation. • Understand how meat and poultry are classified, and why they are cooked. • Develop further knowledge regarding food poisoning bacteria and pathogens. • Demonstrate safe and hygienic practices when handling raw meat and poultry – stir fry and kofta practical's.	• Explore and gain an understanding of Primary Users, Stakeholders and the design process in general • Understand the definition of Ergonomics and Anthropometrics and their relationship • Freehand sketching of initial games controller ideas in 2D and 3D – Designs to include annotation • Develop designs to seek improvements • Create isometric and orthographic drawings • Compare positives and negatives of types of drawing • Compare traditional design methods to CAD and show positives and negatives • Use CAD software to create chosen controller design. Record stages and add captions to show an understanding of software and to present product features and functionality • Evaluate final design solution to display successes and areas for improvement	• To design and make a final outcome to meet the Specification set. • To create high quality fashion illustration drawings in 2D, with a consideration to rendering. • To build upon skills through the use of hand and machine sewing • To develop research techniques through design analysis and creating mood boards. • To develop CAD skills to create pattern • To gain an understanding of sustainability and exploring the 6R's. • Explore and learn about smart materials. To evaluate design ideas, development and final outcomes against the Specification.
End points	**EXPLORE** • Explore a range of materials, focusing on Timbers, manufactured boards, composites and smart materials. • Develop knowledge of material categories, for example manufactural boards. Analyse existing products, considering the Primary User needs and wants. • Explore industry manufacturing processes and consider how products are made. • Advantages and disadvantages of CAD/CAM, comparing modern to traditional methods. • Explore how electronic components can be used within fabrics. • Health & Safety standards in the workshop/kitchen and demonstrate good working practice. • Designing with consideration of sustainability • A range of commodities exploring nutrition, function and sensory qualities. • In Food student explore food safety, focusing on bacteria.			

Curriculum Assessment Map: Year 9 Design & Technology

	CREATE • Design products using 3D technical drawings, including Isometric and Engineering drawings. • Use 3D Computer Aided Design software to generate final solutions, suitable for digital output in a range of different materials. • Generate digital 3D models to scale, using industry standard software – Autodesk Inventor Professional. • Use traditional methods to create high quality products. • Use hand tools, machinery and traditional skills to manufacture high quality products in a range of materials, focusing on focusing on Timbers, manufactured boards, composites and smart materials, • Use workshop machinery skilfully and accurately to manufacture prototypes. • In food students create a range of products using minimal premanufactured ingredients. **EVALUATE** • Investigate new and emerging technologies • Test, evaluate and refine their ideas and products against a specification, considering the views of intended users and other interested groups			
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