



St George's School
Design and Technology Department
Year 7 Curriculum Map for D&T and FOOD

	Term 1	Term 2	Term 3
<p>THE BIG IDEAS & KNOWLEDGE <i>Overview of topics or key questions</i></p>	<p>How do we begin to create prototypes that are accurate and fit for purpose?</p> <p>This foundation module will introduce students to marking out and measuring skills as well as connecting methods for timbers. Students will learn to use a range of hand tools and machines to create products from timbers, polymers and metals, focusing on precision and high quality finishes.</p> <p>How do we redistribute metals from standard forms into designed objects?</p> <p>Designing a small pewter key fob in the style of Design Movement throughout history. Students will learn basic 2D CAD to laser cut a mould and assemble ready for casting.</p>	<p>How do we create products from fabrics?</p> <p>Students will learn to design a small decorative felt product and apply a range of decorative techniques to felt.</p> <p>3D CAD</p> <p>This unit will introduce students will to 3D CAD - Onshape, in order to develop computer aided design skills and knowledge, thus creating products in 3D. .</p>	<p>Why do we need to begin to create healthy and balanced meals for ourselves and others?</p> <p>This unit focuses on developing students skills and knowledge in food preparation and nutrition. Students will learn a variety of knife skills, and how to use a wide range of equipment, in order to prepare a range of dishes.</p> <p>Visual Communication</p> <p>This unit is to introduce students into sketching and communication techniques in order to develop their visual communication skills.</p>
<p>SKILLS & STRATEGIES <i>Procedural knowledge, literacy and numeracy skills</i></p>	<ul style="list-style-type: none"> Know that metals are redistributed into other shapes via casting into moulds. Know where metals come from and the name of 2 ores that make iron and aluminium. Know that 2D CAD can be used in tandem with CAM (laser cutting) to create precise moulds. Know that draft angles are required on castings and moulds. Know how to gather relevant research to inform design ideas. Know how to use a design specification to develop design ideas. Know the names and functions of a range of machines and processes Know how to use a range of hand tools to cut and shape a range of materials with. Know how to use a range of workshop machines and processes to cut, shape and join materials. Know how to use a wide range of marking out and measuring tools to ensure practical work is completed with accuracy and precisions. Know that measuring tools are used to complete 	<ul style="list-style-type: none"> Know how fabrics are categorised into woven and non-woven fabrics. Know how to join fabrics together using a range of stitching methods, Know how to gather and use relevant research in order to form a design specification and design ideas. . Know how to mark out onto different fabrics. Know that feedback is required in all forms of designing and developing. Know 2 methods for testing out their design ideas. Know that there are a variety of ways to decorate fabrics and apply at least 1 method. Know how to use basic tools in 3D CAD to produce 3D objects. Know what an orthographic drawing is and why they are used in manufacturing industries. Know what third angle projection is. Be able to explain the use of tools such as sketches, extrudes and shells to create a range of 3D objects in 3D CAD package. 	<ul style="list-style-type: none"> How and when to use the bridge and claw technique for chopping ingredients. Know what the health and safety and routines of the food room is. Know and recognize the importance of cleaning and washing equipment properly. Know how to use a wide range of equipment safely. Know which chopping board colours are used for specific food types. Know how to interpret a food nutrition label. Know and understand the impact that food miles have on our environment. Know how to sketch in both 2D and 3D. Know how and why designers use colour/texture rendering to make drawings look realistic. Know why visual communication is important in a global society. Be able to apply 2D and 3D sketching techniques such as 1 point and isometric Be able to apply colour/texture to shapes in order to make them look realistic. Explain the importance of clear drawings for

	<p>quality control during manufacturing.</p> <ul style="list-style-type: none"> • Know properties of pine, acrylic and aluminium and be able to explain why these are useful materials. • Know how to apply a finish to pine, acrylic and aluminium. 	<ul style="list-style-type: none"> • Produce a detailed orthographic with dimensions for manufacturing. • Be able to describe the function of an orthographic drawing. 	communicating design ideas.
FEEDBACK <i>Noteworthy tasks and assessments</i>	<p>Making Prototypes</p> <p>Technical knowledge of tools, processes and materials.</p>	<p>Design Ideas & CAD</p> <p>Making Prototypes</p>	<p>Cooking Practical</p> <p>Health and Safety</p> <p>Communication</p>
BREADTH <i>Opportunities, trips, wider reading, cultural capital</i>	<p>The use of CNC and automated equipment in industry.</p>	<p>Fast fashion and the ecological impact this has on our environment.</p> <p>Study of different design movements.</p>	<p>Spencer Nugent</p>
KEY VOCABULARY <i>Important words and phrases</i>	<p>Hardwoods</p> <p>Softwoods</p> <p>Polymers</p> <p>Non-Ferrous Metals</p> <p>Tenon Saw</p> <p>Coping Saw</p> <p>Hegner Saw</p> <p>Bandfacer</p> <p>Bobbin Sander</p>	<p>Woven Fabrics</p> <p>Non-Woven Fabrics</p> <p>Stitching</p> <p>Applique</p> <p>Embroidery</p> <p>Computer Aided-Design</p> <p>Computer Aided-Manufacture</p> <p>Perspective Drawing</p> <p>Orthographic</p>	<p>Bridge</p> <p>Claw</p> <p>Utensils & Equipment</p>