

Yr7 (KS3)	Topic Area	Knowledge/Skills that are taught	Knowledge/Skills revisited	What does good look like?	Resources/support at home
Autumn 1	Key Skills Passport (There is a rotation system in KS3, so pupils may start the year on a different project - either Mood lamp or Food)	<p>Design Develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools</p> <p>Make Select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture</p> <p>Technical Knowledge Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions</p>	<p>Prior knowledge from KS2. Pupils arrive from feeder schools with different experiences of D&T. Few have significant experience using workshop tools & equipment. Pupils may have some experience: Designing, making, developing technical knowledge and evaluating.</p>	<p>Pupils become familiar with workshop rules, the concept of risk assessment and health & safety. Pupils build a repertoire of skills, using tools and equipment.</p>	Project booklet - Key words / Key terms
Autumn 2	Structures	<p>Design <i>Use research and exploration, such as the study of different cultures, to identify and understand user needs</i> Identify and solve their own design problems and understand how to reformulate problems given to them Develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools</p> <p>Make Select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture</p> <p>Evaluate <i>Test, evaluate and refine their ideas and products against a specification, taking into account the views of intended users and other interested groups</i></p> <p>Technical Knowledge <i>Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions</i></p>	<p>Pupils build on the Technical Knowledge covered in the previous half term: Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions.</p>	<p>Knowledge / understanding Students have learned the key words & terms for this unit. Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions.</p> <p>Skills Students know how to use specialist tools, techniques, processes and equipment precisely. This is achieved through group / pair work on a structures design & make project.</p>	Google classroom - Project booklet & homework tasks PG Online resources
Spring 1	Mood Lamp	<p>Design Use a variety of approaches [for example, biomimicry and user-centred design], to generate creative ideas</p>	<p>Prior knowledge from KS2. Pupils arrive from feeder schools with different experiences of D&T. Few have</p>	<p>Knowledge / understanding Students have learned the key words & terms for this unit.</p>	Google classroom - Project booklet & homework tasks

		<p>and avoid stereotypical responses</p> <p>Develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools</p> <p>Make</p> <p>Select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture</p> <p>Select from and use a wider, more complex range of materials, components and ingredients, taking into account their properties</p> <p>Technical Knowledge</p> <p>Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions</p> <p>Understand how more advanced electrical and electronic systems can be powered and used in their products [for example, circuits with heat, light, sound and movement as inputs and outputs]</p>	<p>significant experience using workshop tools & equipment.</p> <p>Pupils may have some experience: Designing, making, developing technical knowledge and evaluating.</p>	<p>Students are able to write a design brief and specification for their lighting product.</p> <p>Students know how to generate, develop and communicate design ideas through hand and CAD drawings.</p> <p>Students understand how electrical and electronic systems can be powered and used in their products.</p> <p>Skills</p> <p>Students understand how to make a simple circuit using appropriate tools and equipment.</p> <p>Students use CAM output device in production of mood lamp diffuser.</p> <p>Students produce a well-made and working mood lamp.</p> <p>Knowledge / understanding</p> <p>Students understand how to evaluate work using given criteria.</p>	
Spring 2	Mood Lamp	As above	As above	As above	As above
Summer 1	Food	<p>COOKING & NUTRITION</p> <p>Understand and apply the principles of nutrition and health</p> <p>Become competent in a range of cooking techniques [for example, selecting and preparing ingredients; using utensils and electrical equipment; applying heat in different ways; using awareness of taste, texture and smell to decide how to season dishes and combine ingredients; adapting and using their own recipes].</p> <p>Understand the source, seasonality and characteristics of a broad range of ingredients.</p>	<p>Prior knowledge from KS2.</p> <p>Pupils may have some experience: Designing, making, developing technical knowledge and evaluating. This varies depending on feeder school.</p>	<p>Knowledge / understanding</p> <p>Should be able to name and sort foods into the 5 food groups - EatWell Plate.</p> <p>To learn the functions of ingredients for a variety of food products.</p> <p>Be able to consider how to evaluate the characteristics of dishes, taking into consideration; taste, texture, aroma and appearance.</p> <p>To adapt basic recipes/ingredients to produce a personalised dish.</p> <p>Skills:</p> <p>To learn how to use a range of Food Preparation Skills; chopping, slicing, dicing, grating, peeling, mixing, kneading and baking to make their product.</p> <p>Take into consideration Safety and hygiene issues with regards to food preparation; safe handling of a sharp knife, putting food into and taking it out of an oven.</p> <p>To work as part of an effective team to clean and tidy the kitchen units.</p>	<p>Google classroom - Project booklet & homework tasks and recipe/ingredients information</p>

				To adapt and create a range of healthy snacks; Savoury Scones, Pasta Bake, Flapjacks., Spiced Tomato and Vegetable Soup & Pizza using a heat source.	
Summer 2	Food	As above	As Above	As above	As above
Yr8 (KS3)	Topic Area	Knowledge/Skills that are taught	Knowledge/Skills revisited	What does good look like?	Resources/support at home
Autumn 1 & 2	Iterative design	<p>Design Identify and solve their own design problems and understand how to reformulate problems given to them Develop specifications to inform the design of innovative, functional, appealing products that respond to needs in a variety of situations Use a variety of approaches [for example, biomimicry and user-centred design], to generate creative ideas and avoid stereotypical responses Develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools</p> <p>Make Select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture</p> <p>Evaluate Investigate new and emerging technologies Test, evaluate and refine their ideas and products against a specification, taking into account the views of intended users and other interested groups Understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists</p> <p>Technical knowledge Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions</p>	This project revisits the designing, making, evaluation skills and technical knowledge covered in Year 7. In Year 7, design input is limited. Here pupils have an opportunity to build on these skills and have greater scope to produce and develop designs through sketching and modelling through an iterative design cycle approach.	<p>Knowledge / understanding Students understand how to identify their own design problem within a given context. Students understand how to develop more detailed briefs and specifications for specific intended users. Students can use a range of techniques to generate and communicate ideas in an iterative process.</p> <p>Skills Students know how to select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture, in order to produce modelled iterations of their furniture product. Students can select from and use a wider, more complex range of materials, components and ingredients, taking into account their properties, in order to produce a prototype furniture product.</p>	Google classroom - PG Online resources and worksheets

Spring 1	Mechanisms - Sweet Dispenser	<p>Design Identify and solve their own design problems and understand how to reformulate problems given to them Develop specifications to inform the design of innovative, functional, appealing products that respond to needs in a variety of situations Develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools</p> <p>Make Select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture Select from and use a wider, more complex range of materials, components and ingredients, taking into account their properties</p> <p>Evaluate Analyse the work of past and present professionals and others to develop and broaden their understanding Test, evaluate and refine their ideas and products against a specification, taking into account the views of intended users and other interested groups</p> <p>Technical knowledge Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions Understand how more advanced mechanical systems used in their products enable changes in movement and force</p>	This project revisits the designing, making, evaluation skills and technical knowledge covered in Year 7. In this project, pupils have an opportunity to build on these skills and have greater scope to produce and develop designs and develop making skills through work with a range of resistant materials, tools and equipment.	<p>knowledge / understanding Students will have learned the key words & terms for this unit. Students will know how to devise a design brief / specification. for an intended user / client. Students will be able to use a range of 2D & 3D techniques in their design development.</p> <p>Skills Students will know how to use hand, machine and CAM outputs and standard components in the production of card and paper prototypes and wood based products containing mechanisms.</p>	Google classroom - Project booklet & homework tasks
Spring 2	Mechanisms - Sweet Dispenser	As above	As above	As above	As above

Summer 1	Textiles	<p>Design Identify and solve their own design problems and understand how to reformulate problems given to them Develop specifications to inform the design of innovative, functional, appealing products that respond to needs in a variety of situations Use a variety of approaches [for example, biomimicry and user-centred design], to generate creative ideas and avoid stereotypical responses Develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools</p> <p>Make Select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture Select from and use a wider, more complex range of materials, components and ingredients, taking into account their properties</p> <p>Evaluate Analyse the work of past and present professionals and others to develop and broaden their understanding Investigate new and emerging technologies Test, evaluate and refine their ideas and products against a specification, taking into account the views of intended users and other interested groups Understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists</p>	This project revisits the designing, making, evaluation skills and technical knowledge covered in Year 7. Pupils will build on their KS2 knowledge of Textiles, if they have any.	<p>Knowledge / understanding Students have learned the key words & terms for this unit: Content from Core technical principles Units 1.3. This unit is tested in class. Pupils will know the difference between Natural & Synthetic Fibres. Pupils will learn there are 3 different types of fabrics in Textiles - woven, knitted and non-woven. Pupils will have investigated the origins of a number of Natural & Synthetic Fibres and learn how the fibre is transformed from fibre to thread to fabric to a garment. Pupils are to investigate an art movement that will influence the designing and making of their product. Pupils will learn how technology is influencing new modern material being developed and used in Textiles and other areas of DT.</p> <p>Skills: Pupils will be able to distinguish between different material types. Pupils will learn a range of hand embroidery stitches as well as applique which they will use to construct either a zip card holder or a pin cushion.</p>	Google classroom - Project booklet & homework tasks. Quizlet - testing.
Summer 2	Textiles	As Above	As Above	As Above	
Yr9 (KS3)	Topic Area	Knowledge/Skills that are taught	Knowledge/Skills revisited	What does good look like?	Resources/support at home
Autumn 1	Iterative design - Fragrance packaging	<p>Design Develop and communicate design ideas using annotated sketches, formal drawings and prototype models. Consider the influence of a range of lifestyle factors and consumer choices when designing products. Take creative risks when making design decisions.</p>	This project revisits the designing, making, evaluation skills and technical knowledge covered in Year 7 & 8. Pupils will build on their design skills through work with sketching, drawing and modelling ideas.	<p>Knowledge / understanding Students have learned the key words & terms for this unit. Students can identify tools and equipment used in this project. Students understand the principles of iterative design.</p>	Quizlet resource - key words and terms

		<p>Consider additional factors such as ergonomics, anthropometrics.</p> <p>Develop detailed design specifications to guide their thinking. Also to develop design specifications that include a wider range of requirements such as environmental, aesthetic, cost, maintenance, quality and safety.</p> <p>Use specifications to inform the design of innovative, functional, appealing products that respond to needs in a variety of situations.</p> <p>Use a variety of approaches, for example biomimicry and user-centred design, to generate creative ideas and avoid stereotypical responses</p> <p>Decide which design criteria clash and determine which should take priority</p> <p>Develop and communicate design ideas using annotated sketches</p> <p>Produce 3D models to develop and communicate ideas</p> <p>Use 2D and begin to use 3D CAD packages to model ideas</p> <p>Produce models of their ideas using CAM to test out their ideas</p> <p>Use 3D CAD to model, develop and present their ideas</p> <p>Use CAD and related software packages to validate their designs in advance of manufacture</p> <p>Make</p> <p>Select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture</p> <p>Select from and use a wider, more complex range of materials, components and ingredients, taking into account their properties</p> <p>Follow procedures for safety and understand the process of risk assessment.</p> <p>Use a wider, more complex range of materials, components, taking into account their properties.</p> <p>Use a broad range of manufacturing techniques including handcraft skills and machinery to manufacture products precisely.</p> <p>Exploit the use of CAD/CAM equipment to manufacture products, increasing standards of quality, scale of production and precision.</p>		<p>Skills</p> <p>Students can use 2D Design & SketchUp CAD software.</p> <p>Students can conceive of and effectively communicate design ideas through a number of drawing & modelling techniques.</p>	
--	--	---	--	--	--

		<p>Apply a range of finishing techniques, including those from art and design, to a broad range of materials including textiles, metals, polymers and woods. Make use of specialist equipment to mark out materials.</p> <p>Use a broad range of material joining techniques.</p> <p>Evaluate Test, evaluate and refine their ideas and products against a specification, taking into account the views of intended users and other interested groups. Evaluate their products against their original specification and identify ways of improving them. Actively involve others in the testing of their products.</p> <p>Produce short reports, making suggestions for improvements.</p> <p>Investigate and analyse products through disassembly to determine how they are constructed and function.</p> <p>Technical knowledge How to make adjustments to the settings of equipment and machinery.</p>			
Autumn 2	Iterative design - Fragrance packaging	As above	As above	As above	
Spring 1	Metalwork	<p>Design Develop specifications to inform the design of innovative, functional, appealing products that respond to needs in a variety of situations Develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools</p> <p>Make Select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture Select from and use a wider, more complex range of materials, components and ingredients, taking into account their properties</p> <p>Evaluate</p>	This project revisits the designing, making, evaluation skills and technical knowledge covered in Year 7 & 8. In this project, pupils have an opportunity to build on these skills and have greater scope to produce and develop designs and develop making skills through work with a range of resistant materials, tools and equipment.	<p>Knowledge / understanding Students have learned the key words & terms for this unit: Content from Core technical principles Units 1.6. This unit is tested in class. Students know how to generate, develop and communicate design ideas in 2 & 3 dimensions as part of an iterative design process.</p> <p>Skills Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions. Students know how to use a range of specialist tools, techniques, processes and equipment precisely.</p>	

		<p>Test, evaluate and refine their ideas and products against a specification, taking into account the views of intended users and other interested groups</p> <p>Understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists</p> <p>Technical knowledge</p> <p>Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions</p>			
Spring 2	Metalwork	As above	As above	As above	As above
Summer 1	Food	<p>COOKING & NUTRITION</p> <p>Understand and apply the principles of nutrition and health</p> <p>Cook a repertoire of predominantly savoury dishes so that they are able to feed themselves and others a healthy and varied diet.</p> <p>Become competent in a range of cooking techniques [for example, selecting and preparing ingredients; using utensils and electrical equipment; applying heat in different ways; using awareness of taste, texture and smell to decide how to season dishes and combine ingredients; adapting and using their own recipes].</p> <p>Understand the source, seasonality and characteristics of a broad range of ingredients.</p>	<p>This project revisits and builds on the practical skills and knowledge pupils learnt in Year7.</p>	<p>Knowledge / understanding</p> <p>Should be able to name and sort foods into the 8 Tips for Eating Healthy.</p> <p>Should be able to take into account personal preferences, socio-economic aspects as well as nutritional and health needs and food choices - the increased popularity of vegetarianism and plant based diets.</p> <p>To build on the knowledge of origins and functions of ingredients for a variety of food products. e.g. bacon is pork which comes from a pig.</p> <p>Should be able to consider how to evaluate the characteristics of dishes, taking into consideration; taste, texture, aroma and appearance.</p> <p>To adapt basic recipes/ingredients to produce a personalised dish.</p> <p>To understand the importance of using a wide range of ingredients such as meat, fish and meat alternatives like soya.</p> <p>Skills:</p> <p>To learn how to use a range of Food Preparation Skills; preparing and cooking with raw meat and cooked fish as well as refining their skills when chopping, slicing, dicing, grating, peeling, mixing, kneading and baking to make their product.</p> <p>Take into consideration Safety and hygiene issues with regards to food preparation; safe handling of a sharp knife, putting food into and taking it out of an oven.</p>	

				<p>Pupils will also understand why it is important to store food correctly and at the right temperature.</p> <p>Also pupils will understand how hazards when cooking can lead to serious consequences on the consumer.</p> <p>To work as part of an effective team to clean and tidy the kitchen units.</p> <p>To adapt and create a range of healthy family friendly dishes; Vegetable Tart, No Meat Chilli, Fish and Vegetable Bake, Chicken & Veg Thai Green Curry (using standard components), Indian Chicken Curry (No paste) Tuna Pasta, & Chow Mein using a range of proteins and heat sources.</p>	
Summer 2	Food	As above	As above	As above	As above