

## D&T Progression Document

### D&T Curriculum Intent:

At Warnham, we value Design and Technology (D&T) as an important subject in teaching children a range of key skills needed for our rapidly progressing world. We introduce children to a range of equipment, materials and methods needed to make a variety of products. Through high-quality discussion, we explore past and present technology, whilst sparking their interest in potential future technology too. In these engaging lessons, children will be able to develop their technical vocabulary linking to D&T, which can be applied across the curriculum, as well as their critical thinking skills when evaluating effectiveness of materials, methods and products. In D&T lessons, children will be inspired by engineers, designers, chefs and architects to enable them to create a range of structures, mechanisms, textiles, electrical systems and food products with a real-life purpose.

At Warnham, we recognise that D&T is a vital element of developing children's love of learning, as well as a way for them to 'let their lights shine'. Through our teaching of D&T, children are able to engage their creativity through exploring different products, designing and making using a range of materials. We encourage the children to take joy in the journey during D&T, supporting them in building their perseverance and patience as they create something new and exciting, all whilst aiming for excellence.

	Y1	Y2	Y3	Y4	Y5	Y6
Autumn Spring Summer Thankfulness Love Courage	Fire and Ice (T) Wild and Wonderful (L) Atlantis (C)	Fire and Ice (T) Wild and Wonderful (L) Splish, Splash, Splosh (C)	I'm in Otter Class, get me out of here! (T) Remember when (L) Tribal Tales (C) I am Warrior! (C)	Frozen Kingdom (T) Chopsticks and Lanterns (L) Home and Away (C)	Conflict (T) Eco Heroes (L) Stargazers (L) Traders and Raiders (C)	Toga-Tastic! (T) Fallen Stars (T) Survival of the fittest (L) Dream Big (C)

<p>EYFS/ National Curriculum Links</p>	<p>When designing and making, pupils should be taught to:</p> <p><b>Designing</b> design purposeful, functional, appealing products for themselves and other users based on design criteria</p> <p>generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</p> <p><b>Making</b> select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</p> <p>select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</p> <p><b>Evaluating</b> explore and evaluate a range of existing products</p> <p>evaluate their ideas and products against design criteria</p>	<p>When designing and making, pupils should be taught to:</p> <p><b>Designing</b> use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups</p> <p>generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p> <p><b>Making</b> select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</p> <p>select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities</p> <p><b>Evaluating</b> investigate and analyse a range of existing products</p> <p>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>understand how key events and individuals in design and technology have helped shape the world</p>
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## Area of Study: Structures

### Skills

<p><b>Design:</b></p> <ul style="list-style-type: none"> <li>• Learning the importance of a clear design criteria</li> <li>• Including individual preferences and requirements in a design</li> </ul> <p><b>Make:</b></p> <ul style="list-style-type: none"> <li>• Making stable structures from card, tape and glue</li> <li>• Learning how to turn 2D nets into 3D structures</li> <li>• Following instructions to cut and assemble the supporting structure of a windmill</li> <li>• Making functioning turbines and axles which are assembled into a main supporting structure</li> </ul> <p><b>Evaluate:</b></p> <ul style="list-style-type: none"> <li>• Evaluating a windmill according to the design criteria, testing whether the structure is strong and stable and altering it if it isn't</li> </ul>	<p><b>Design:</b></p> <ul style="list-style-type: none"> <li>• Generating and communicating ideas using sketching and modelling</li> </ul> <p><b>Make:</b></p> <ul style="list-style-type: none"> <li>• Making a structure according to design criteria</li> <li>• Creating joints and structures from paper/card and tape</li> <li>• Building a strong and stiff structure by folding paper</li> </ul> <p><b>Evaluate:</b></p> <ul style="list-style-type: none"> <li>• Testing the strength of own structures</li> <li>• Identifying the weakest part of a structure</li> <li>• Evaluating the strength, stiffness and stability of own structure</li> </ul>	<p><b>Design:</b></p> <ul style="list-style-type: none"> <li>• Designing a castle with key features to appeal to a specific person/purpose</li> <li>• Drawing and labelling a castle design using 2D shapes, labelling: -the 3D shapes that will create the features - materials needed and colours</li> <li>• Designing and/or decorating a castle tower on CAD software</li> </ul> <p><b>Make:</b></p> <ul style="list-style-type: none"> <li>• Constructing a range of 3D geometric shapes using nets</li> <li>• Creating special features for individual designs</li> <li>• Making facades from a range of recycled materials</li> </ul> <p><b>Evaluate:</b></p> <ul style="list-style-type: none"> <li>• Evaluating own work and the work of others based on the aesthetic of the</li> </ul>	<p><b>Design:</b></p> <ul style="list-style-type: none"> <li>• Designing a stable structure that is aesthetically pleasing and selecting materials to create a desired effect</li> <li>• Building frame structures designed to support weight</li> </ul> <p><b>Make:</b></p> <ul style="list-style-type: none"> <li>• Creating a range of different shaped frame structures</li> <li>• Making a variety of free standing frame structures of different shapes and sizes</li> <li>• Selecting appropriate materials to build a strong structure and for the cladding</li> <li>• Reinforcing corners to strengthen a structure</li> <li>• Creating a design in accordance with a plan</li> <li>• Learning to create different textural effects with materials</li> </ul> <p><b>Evaluate:</b></p> <ul style="list-style-type: none"> <li>• Evaluating structures made by the class</li> </ul>		<p><b>Design:</b></p> <ul style="list-style-type: none"> <li>• Designing a playground featuring a variety of different structures, giving careful consideration to how the structures will be used, considering effective and ineffective designs</li> </ul> <p><b>Make:</b></p> <ul style="list-style-type: none"> <li>• Building a range of play apparatus structures drawing upon new and prior knowledge of structures</li> <li>• Measuring, marking and cutting wood to create a range of structures</li> <li>• Using a range of materials to reinforce and add decoration to structures</li> </ul> <p><b>Evaluate:</b></p> <ul style="list-style-type: none"> <li>• Improving a design plan based on peer evaluation</li> <li>• Testing and adapting a design to improve it as it is developed</li> <li>• Identifying what makes a successful structure</li> </ul>
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<ul style="list-style-type: none"> <li>• Suggest points for improvements</li> </ul>		finished product and in comparison to the original design <ul style="list-style-type: none"> <li>• Suggesting points for modification of the individual designs</li> </ul>	<ul style="list-style-type: none"> <li>• Describing what characteristics of a design and construction made it the most effective</li> <li>• Considering effective and ineffective designs</li> </ul>		
<b>Knowledge</b>					
<b>Technical:</b> <ul style="list-style-type: none"> <li>• To understand that the shape of materials can be changed to improve the strength and stiffness of structures</li> <li>• To understand that cylinders are a strong type of structure (e.g. the main shape used for windmills and lighthouses)</li> <li>• To understand that axles are used in structures and mechanisms to make parts turn in a circle</li> <li>• To begin to understand that different structures are used for different purposes</li> <li>• To know that a structure is something that has been made and put together</li> </ul>	<b>Technical:</b> <ul style="list-style-type: none"> <li>• To know that materials can be manipulated to improve strength and stiffness</li> <li>• To know that a structure is something which has been formed or made from parts</li> <li>• To know that a 'stable' structure is one which is firmly fixed and unlikely to change or move</li> <li>• To know that a 'strong' structure is one which does not break easily</li> <li>• To know that a 'stiff' structure or material is one which does not bend easily</li> </ul>	<b>Technical:</b> <ul style="list-style-type: none"> <li>• To understand that wide and flat based objects are more stable</li> <li>• To understand the importance of strength and stiffness in structures</li> </ul> <b>Additional:</b> <ul style="list-style-type: none"> <li>• To know the following features of a castle: flags, towers, battlements, turrets, curtain walls, moat, drawbridge and gatehouse - and their purpose</li> <li>• To know that a façade is the front of a structure</li> <li>• To understand that a castle needed to be strong and stable to withstand enemy attack</li> </ul>	<b>Technical:</b> <ul style="list-style-type: none"> <li>• To understand what a frame structure is</li> <li>• To know that a 'free-standing' structure is one which can stand on its own</li> </ul> <b>Additional:</b> <ul style="list-style-type: none"> <li>• To know that cladding can be applied to structures for different effects.</li> <li>• To know that aesthetics are how a product looks</li> <li>• To know that a product's function means its purpose</li> <li>• To understand that the target audience means the person or group of people a product is designed for</li> <li>• To know that architects consider light, shadow and</li> </ul>		<b>Technical:</b> <ul style="list-style-type: none"> <li>• To know that structures can be strengthened by manipulating materials and shapes</li> </ul> <b>Additional:</b> <ul style="list-style-type: none"> <li>• To understand what a 'footprint plan' is</li> <li>• To understand that in the real world, design, can impact users in positive and negative ways</li> <li>• To know that a prototype is a cheap model to test a design idea</li> </ul>

<p>Additional:</p> <ul style="list-style-type: none"> <li>• To know that a client is the person I am designing for</li> <li>• To know that design criteria is a list of points to ensure the product meets the clients needs and wants</li> <li>• To know that a windmill harnesses the power of wind for a purpose like grinding grain, pumping water or generating electricity</li> <li>• To know that windmill turbines use wind to turn and make the machines inside work</li> <li>• To know that a windmill is a structure with sails that are moved by the wind</li> <li>• To know the three main parts of a windmill are the turbine, axle and structure</li> </ul>		<ul style="list-style-type: none"> <li>• To know that a paper net is a flat 2D shape that can become a 3D shape once assembled</li> <li>• To know that a design specification is a list of success criteria for a product</li> </ul>	patterns when designing		
Vocabulary					
Client, design, evaluation, net, stable, strong, test, weak, windmill	Man-made, mould, natural, stable, stiff, strong, structure, test, weak	2D shapes, 3D shapes, castle, design criteria, evaluate, façade, feature, flag, net, recyclable, scoring,	Aesthetic, cladding, design criteria, evaluation, frame structure, function, inspiration, reinforce,		Adapt, apparatus, bench hook, cladding, coping saw, design, dowel, evaluation, feedback, idea, jelutong, landscape, mark out, measure, sketch, strong,

		stable, strong, structure	stable, structure, target audience, texture		structure, Tenon saw, texture, user, vice, weak
Area of study: Mechanisms / mechanical systems					
Skills					
	<p>Design:</p> <ul style="list-style-type: none"> <li>• Selecting a suitable linkage system to produce the desired motions</li> <li>• Designing a wheel</li> </ul> <p>Selecting appropriate materials based on their properties</p> <p>Make:</p> <ul style="list-style-type: none"> <li>• Selecting materials according to their characteristics</li> <li>• Following a design brief</li> </ul> <p>Evaluate:</p> <ul style="list-style-type: none"> <li>• Evaluating different designs</li> <li>• Testing and adapting a design</li> </ul> <p>Design 2:</p> <ul style="list-style-type: none"> <li>• Creating a class design criteria for a moving monster</li> <li>• Designing a moving monster for a specific audience</li> </ul>		<p>Design:</p> <ul style="list-style-type: none"> <li>• Designing a shape that reduces air resistance</li> <li>• Drawing a net to create a structure from</li> <li>• Choosing shapes that increase or decrease speed as a result of air resistance</li> <li>• Personalising a design</li> </ul> <p>Make:</p> <ul style="list-style-type: none"> <li>• Measuring, marking, cutting and assembling with increasing accuracy</li> <li>• Making a model based on a chosen design</li> </ul> <p>Evaluate:</p> <ul style="list-style-type: none"> <li>• Evaluating the speed of a final product based on: the effect of shape on speed and the accuracy of workmanship on performance</li> </ul>	<p>Design:</p> <ul style="list-style-type: none"> <li>• Designing an electronic greetings card with a copper track circuit and components</li> <li>• Creating a labelled circuit diagram showing positive and negative parts in relation to the LED and the battery</li> <li>• Writing design criteria for an electronic greeting card</li> <li>• Compiling a moodboard relevant to my chosen theme, purpose and recipient</li> </ul> <p>Make:</p> <ul style="list-style-type: none"> <li>• Making a functional series circuit</li> <li>• Creating an electronics greeting card, referring to a design criteria</li> <li>• Mapping out where different components of the circuit will go</li> </ul>	

	<p>in accordance with a design criteria</p> <p>Make 2:</p> <ul style="list-style-type: none"> <li>• Making linkages using card for levers and split pins for pivots</li> <li>• Experimenting with linkages adjusting the widths, lengths and thicknesses of card used</li> <li>• Cutting and assembling components neatly</li> </ul> <p>Evaluate 2:</p> <ul style="list-style-type: none"> <li>• Evaluating own designs against design criteria</li> <li>• Using peer feedback to modify a final design</li> </ul>			<p>Evaluate:</p> <ul style="list-style-type: none"> <li>• Evaluating a peer's product against design criteria and suggesting modifications that could be made to improve the reliability or aesthetics of it or to incorporate another type of circuit component</li> </ul>	
<b>Knowledge</b>					
	<p>Technical:</p> <ul style="list-style-type: none"> <li>• To know that different materials have different properties and are therefore suitable for different uses</li> </ul>		<p>Technical:</p> <ul style="list-style-type: none"> <li>• To know that an electrical circuit must be complete for electricity to flow</li> <li>• To know that a switch can be used to complete and break an electrical circuit</li> </ul>	<p>Technical:</p> <ul style="list-style-type: none"> <li>• To know the key components used to create a functioning circuit</li> <li>• To know that copper is a conductor and can be used as part of a circuit</li> </ul>	

	<p>Additional:</p> <ul style="list-style-type: none"> <li>• To know the features of a ferris wheel include the wheel, frame, pods, a base</li> <li>• To know that it is important to test my design as I go along so that I can solve any problems that may occur</li> </ul> <p>Technical 2:</p> <ul style="list-style-type: none"> <li>• To know that mechanisms are a collection of moving parts that work together as a machine to produce movement</li> <li>• To know that there is always an input and output in a mechanism</li> <li>• To know that an input is the energy that is used to start something working</li> <li>• To know that an output is the movement that happens as a result of the input</li> </ul>		<p>Additional:</p> <ul style="list-style-type: none"> <li>• To know the features of a torch: case, contacts, batteries, switch, reflector, lamp, lens</li> <li>• To know facts from the history and invention of the electric light bulb(s) - by Sir Joseph Swan and Thomas Edison</li> </ul>	<ul style="list-style-type: none"> <li>• To understand that breaks in a circuit will stop it from working</li> <li>• To understand that a series circuit only has one path for the electrical current to flow from positive to negative</li> <li>• To know that we use symbols to represent components in a circuit diagram</li> <li>• To know the names of the components in a basic series circuit: crocodile wires, LED (light-emitting diode), battery holder, battery, cell</li> </ul> <p>Additional:</p> <ul style="list-style-type: none"> <li>• To know that product analysis is critiquing the strengths and weaknesses of a product</li> <li>• To know that a moodboard may include words, sketches, textures, colours, material samples etc. and can act as inspiration when designing</li> </ul>	
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	<ul style="list-style-type: none"> <li>• To know that a lever is something that turns on a pivot</li> <li>• To know that a linkage mechanism is made up of a series of levers</li> </ul> <p>Additional 2:</p> <ul style="list-style-type: none"> <li>• To know some real-life objects that contain mechanisms</li> </ul>				
Vocabulary					
	<p>Axle, decorate, evaluation, Ferris wheel, mechanism, stable, strong, test, waterproof, weak</p> <p>Input, lever, linear motion, linkage, mechanical, mechanism, motion, oscillating motion, output, pivot, reciprocating motion, rotary motion, survey</p>		<p>Aesthetic, air resistance, chassis, design, design criteria, function, graphics, kinetic energy, mechanism, net, structure</p>	<p>Aesthetic, computer-aided design (CAD), caption, design, design brief, design criteria, exploded-diagram, function, input, linkage, mechanism, motion, output, pivot</p>	

Area of study: Electrical Systems (KS2 only)

Skills

Design:

- Designing a torch, giving consideration to the target audience and creating both design and success criteria focusing on features of individual design ideas

Make:

- Making a torch with a working electrical circuit and switch
- Using appropriate equipment to cut and attach materials
- Assembling a torch according to the design and success criteria

Evaluate:

- Testing and evaluating the success of a final product

Design:

- Designing an electronic greetings card with a copper track circuit and components
- Creating a labelled circuit diagram showing positive and negative parts in relation to the LED and the battery
- Writing design criteria for an electronic greeting card
- Compiling a moodboard relevant to my chosen theme, purpose and recipient

Make:

- Making a functional series circuit
- Creating an electronics greeting card, referring to a design criteria
- Mapping out where different components of the circuit will go

Evaluate:  
inspiration  
from the w

- Evaluating a peer's product against design criteria and suggesting modifications that could be made to improve the reliability or aesthetics of it or to incorporate another type of circuit component

Knowledge					
			<p>Technical:</p> <ul style="list-style-type: none"> <li>• To know that an electrical circuit must be complete for electricity to flow</li> <li>• To know that a switch can be used to complete and break an electrical circuit</li> </ul> <p>Additional:</p> <ul style="list-style-type: none"> <li>• To know the features of a torch: case, contacts, batteries, switch, reflector, lamp, lens</li> <li>• To know facts from the history and invention of the electric light bulb(s) - by Sir Joseph Swan and Thomas Edison</li> </ul>		<p>Technical:</p> <ul style="list-style-type: none"> <li>• To know the key components used to create a functioning circuit</li> <li>• To know that copper is a conductor and can be used as part of a circuit</li> <li>• To understand that breaks in a circuit will stop it from working</li> <li>• To understand that a series circuit only has one path for the electrical current to flow from positive to negative</li> <li>• To know that we use symbols to represent components in a circuit diagram</li> <li>• To know the names of the components in a basic series circuit: crocodile wires, LED (light-emitting diode), battery holder, battery, cell</li> </ul> <p>Additional:</p> <ul style="list-style-type: none"> <li>• To know that product analysis is critiquing the strengths and weaknesses of a product</li> <li>• To know that a moodboard may include words, sketches, textures, colours, material samples etc. and can act as inspiration when designing</li> </ul>
Vocabulary					
			Battery, bulb, buzzer, cell, component, conductor, copper,		Battery, buzzer, circuit, coin cell battery, component, conductor, copper, design, design criteria,

			design criteria, electrical item, electricity, electronic item, function, insulator, series circuit		function, innovative, insulator, LED, modify
Area of study: Cooking and Nutrition					
Skills					
<p>Design:</p> <ul style="list-style-type: none"> <li>• Designing smoothie carton packaging by-hand or on ICT software</li> </ul> <p>Make:</p> <ul style="list-style-type: none"> <li>• Chopping fruit and vegetables safely to make a smoothie</li> <li>• Identifying if a food is a fruit or a vegetable</li> <li>• Learning where and how fruits and vegetables grow</li> </ul> <p>Evaluate:</p> <ul style="list-style-type: none"> <li>• Tasting and evaluating different food combinations</li> <li>• Describing appearance, smell and taste</li> <li>• Suggesting information to be included on packaging</li> </ul>		<p>Design:</p> <ul style="list-style-type: none"> <li>• Creating a healthy and nutritious recipe for a savoury tart using seasonal ingredients, considering the taste, texture, smell and appearance of the dish</li> </ul> <p>Make:</p> <ul style="list-style-type: none"> <li>• Knowing how to prepare themselves and a work space to cook safely in, learning the basic rules to avoid food contamination</li> <li>• Following the instructions within a recipe</li> </ul> <p>Evaluate:</p> <ul style="list-style-type: none"> <li>• Establishing and using design criteria to</li> </ul>		<p>Design:</p> <ul style="list-style-type: none"> <li>• Adapting a traditional recipe, understanding that the nutritional value of a recipe alters if you remove, substitute or add additional ingredients</li> <li>• Writing an amended method for a recipe to incorporate the relevant changes to ingredients</li> <li>• Designing appealing packaging to reflect a recipe</li> </ul> <p>Make:</p> <ul style="list-style-type: none"> <li>• Cutting and preparing vegetables safely</li> <li>• Using equipment safely, including</li> </ul>	

		<p>help test and review dishes</p> <ul style="list-style-type: none"> <li>• Describing the benefits of seasonal fruits and vegetables and the impact on the environment</li> <li>• Suggesting points for improvement when making a seasonal tart</li> </ul>		<p>knives, hot pans and hobs</p> <ul style="list-style-type: none"> <li>• Knowing how to avoid cross-contamination</li> <li>• Following a step by step method carefully to make a recipe</li> </ul> <p>Evaluate:</p> <ul style="list-style-type: none"> <li>• Identifying the nutritional differences between different products and recipes</li> <li>• Identifying and describing healthy benefits of food groups</li> </ul>	
Knowledge					
<p>Cooking and Nutrition:</p> <ul style="list-style-type: none"> <li>• Understanding the difference between fruits and vegetables</li> <li>• To understand that some foods typically known as vegetables are actually fruits (e.g. cucumber)</li> <li>• To know that a blender is a machine which mixes ingredients together into a smooth liquid</li> <li>• To know that a fruit has seeds and a vegetable does not</li> </ul>		<p>Cooking and Nutrition:</p> <ul style="list-style-type: none"> <li>• To know that not all fruits and vegetables can be grown in the UK</li> <li>• To know that climate affects food growth</li> <li>• To know that vegetables and fruit grow in certain seasons</li> <li>• To know that cooking instructions are known as a 'recipe'</li> <li>• To know that imported food is food which has been brought into the country</li> </ul>		<p>Cooking and Nutrition:</p> <ul style="list-style-type: none"> <li>• To understand where meat comes from - learning that beef is from cattle and how beef is reared and processed, including key welfare issues</li> <li>• To know that I can adapt a recipe to make it healthier by substituting ingredients</li> <li>• To know that I can use a nutritional calculator to see how healthy a food</li> </ul>	

<ul style="list-style-type: none"> <li>• To know that fruits grow on trees or vines</li> <li>• To know that vegetables can grow either above or below ground</li> <li>• To know that vegetables can come from different parts of the plant (e.g. roots: potatoes, leaves: lettuce, fruit: cucumber)</li> </ul>		<ul style="list-style-type: none"> <li>• To know that exported food is food which has been sent to another country.</li> <li>• To understand that imported foods travel from far away and this can negatively impact the environment</li> <li>• To know that each fruit and vegetable gives us nutritional benefits because they contain vitamins, minerals and fibre</li> <li>• To understand that vitamins, minerals and fibre are important for energy, growth and maintaining health</li> <li>• To know safety rules for using, storing and cleaning a knife safely</li> <li>• To know that similar coloured fruits and vegetables often have similar nutritional benefits</li> </ul>		<p>option is</p> <ul style="list-style-type: none"> <li>• To understand that 'cross-contamination' means that bacteria and germs have been passed onto ready-to-eat foods and it happens when these foods mix with raw meat or unclean objects</li> </ul>	
Vocabulary					
blender, carton, fruit, healthy, ingredients, peel, peeler, recipe, slice, smoothie, stencil, template, vegetable		Climate, dry climate, exported, imported, Mediterranean climate, nationality, nutrients, polar climate, recipe, seasonal food, seasons,		cross-contamination, diet, ethical issues, farm, healthy, ingredients, method, nutrients, packaging,	

		temperate climate, tropical climate		reared, recipe, research, substitute	
Area of Study: Textiles					
Skills					
<p>Design:</p> <ul style="list-style-type: none"> <li>• Using a template to create a design for a puppet</li> </ul> <p>Make:</p> <ul style="list-style-type: none"> <li>• Cutting fabric neatly with scissors</li> <li>• Using joining methods to decorate a puppet</li> <li>• Sequencing steps for construction</li> </ul> <p>Evaluate:</p> <ul style="list-style-type: none"> <li>• Reflecting on a finished product, explaining likes and dislikes</li> </ul>				<p>Design:</p> <ul style="list-style-type: none"> <li>• Designing a waistcoat in accordance to specification linked to set of design criteria to fit a specific theme</li> <li>• Annotating designs</li> </ul> <p>Make:</p> <ul style="list-style-type: none"> <li>• Using a template when pinning panels onto fabric</li> <li>• Marking and cutting fabric accurately, in accordance with a design</li> <li>• Sewing a strong running stitch, making small, neat stitches and following the edge</li> <li>• Tying strong knots</li> <li>• Decorating a waistcoat -attaching</li> </ul>	

				<p>objects using thread and adding a secure fastening</p> <ul style="list-style-type: none"> <li>• Learning different decorative stitches</li> <li>• Sewing accurately with even regularity of stitches</li> </ul> <p>Evaluate:</p> <ul style="list-style-type: none"> <li>• Evaluating work continually as it is created</li> </ul>	
Knowledge					
<ul style="list-style-type: none"> <li>• To know that 'joining technique' means connecting two pieces of material together</li> <li>• To know that there are various temporary methods of joining fabric by using staples, glue or pins</li> <li>• To understand that different techniques for joining materials can be used for different purposes</li> <li>• To understand that a template (or fabric pattern) is used to cut out the same shape multiple times</li> </ul>				<ul style="list-style-type: none"> <li>• To understand that it is important to design clothing with the client/ target customer in mind</li> <li>• To know that using a template (or clothing pattern) helps to accurately mark out a design on fabric</li> <li>• To understand the importance of consistently sized stitches</li> </ul>	



• To know that drawing a design idea is useful to see how an idea will look					
Vocabulary					
Decorate, design, fabric, glue, model, hand puppet, safety pin, staple, stencil, template				Accurate, adapt, annotate, design, design criteria, detail, fabric, fastening, knot, properties, running-stitch, seam, sew, shape, waterproof	
Area of Study: Digital World (KS2 Only)					
Skills					
		Design: • Problem solving by suggesting potential features on a Micro: bit and justifying my ideas • Developing design ideas for a technology pouch • Drawing and manipulating 2D shapes, using computer-aided design, to produce a point of sale badge  Make:			Design: • Writing a design brief from information submitted by a client • Developing design criteria to fulfil the client's request • Considering and suggesting additional functions for my navigation tool • Developing a product idea through annotated sketches • Placing and manoeuvring 3D objects, using CAD • Changing the properties of, or combine one or more 3D objects, using CAD  Make:

		<ul style="list-style-type: none"> <li>• Using a template when cutting and assembling the pouch</li> <li>• Following a list of design requirements</li> <li>• Selecting and using the appropriate tools and equipment for cutting, joining, shaping and decorating a foam pouch</li> <li>• Applying functional features such as using foam to create soft buttons</li> </ul> <p>Evaluate:</p> <ul style="list-style-type: none"> <li>• Analysing and evaluating an existing product</li> <li>• Identifying the key features of a pouch</li> </ul>			<ul style="list-style-type: none"> <li>• Considering materials and their functional properties, especially those that are sustainable and recyclable (for example, cork and bamboo)</li> <li>• Explaining material choices and why they were chosen as part of a product concept</li> <li>• Programming an N,E, S,W cardinal compass</li> </ul> <p>Evaluate:</p> <ul style="list-style-type: none"> <li>• Explaining how my program fits the design criteria and how it would be useful as part of a navigation tool</li> <li>• Developing an awareness of sustainable design</li> <li>• Identifying key industries that utilise 3D CAD modelling and explain why</li> <li>• Describing how the product concept fits the client's request and how it will benefit the customers</li> <li>• Explaining the key functions in my program, including any additions</li> <li>• Explaining how my program fits the design criteria and how it would be useful as part of a navigation tool</li> <li>• Explaining the key functions and features of my navigation tool to the client as part of a product concept pitch</li> </ul>
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					<ul style="list-style-type: none"> <li>• Demonstrating a functional program as part of a product concept</li> </ul>
Knowledge					
		<p>Technical:</p> <ul style="list-style-type: none"> <li>• To understand that in programming a 'loop' is code that repeats something again and again until stopped</li> <li>• To know that a Micro:bit is a pocket-sized, codeable computer</li> <li>• Writing a program to control (button press) and/or monitor (sense light) that will initiate a flashing LED algorithm</li> </ul> <p>Additional:</p> <ul style="list-style-type: none"> <li>• To know what the 'Digital Revolution' is and features of some of the products that have evolved as a result</li> <li>• To know that in Design and technology the term 'smart' means a programmed product</li> <li>• To know the difference between</li> </ul>			<p>Technical:</p> <ul style="list-style-type: none"> <li>• To know that accelerometers can detect movement</li> <li>• To understand that sensors can be useful in products as they mean the product can function without human input</li> </ul> <p>Additional:</p> <ul style="list-style-type: none"> <li>• To know that designers write design briefs and develop design criteria to enable them to fulfil a client's request</li> <li>• To know that 'multifunctional' means an object or product has more than one function</li> <li>• To know that magnetometers are devices that measure the Earth's magnetic field to determine which direction you are facing</li> </ul>

		<p>analogue and digital technologies</p> <ul style="list-style-type: none"> <li>• To understand what is meant by 'point of sale display'</li> <li>• To know that CAD stands for Computer-aided design</li> </ul>			
Vocabulary					
		<p>Analogue, badge, CAD, control, design requirements, develop, digital, digital revolution, digital world, display, electronic, electronic products, fasten, feature, monitor, net, point of sale, product, product design, program, sense, simulator, smart wearables, stand, technology, template, test, user</p>			<p>3D CAD, application (apps), biodegradable, Boolean, cardinal compass, client, compass, concept, convince, corrode, duplicate, environmentally friendly, equipment, feature, investment, lightweight, loop, manufacture, materials (wood, metal, plastic etc.), mouldable, navigation, non-recyclable, product lifecycle, product lifespan, program, recyclable, smart</p>

## Value Links:

### Thankfulness

I am thankful for the opportunities I have to be creative and make a range of products for different purposes, using a range of materials.

I am thankful for the exciting resources I get to use when making different products.

I am thankful for the range of equipment I get to use to help me create a range of products.

### Love

I am supportive towards others.

I will include and encourage others when designing and making products.

I will celebrate the success of others and my own.

### Courage

I will have the courage to design and create a product I haven't made before.

I will have the courage to try again if my first design doesn't work.

I will have the courage to try new techniques and use equipment I am unfamiliar with.

## Metacognition Links:

Cooperation – I can share my ideas with others and support them with their learning.

Cooperation – I can give constructive feedback on my peer's art work.

Perseverance – If I find a new skill difficult, I will show resilience and keep trying.

Perseverance – I will put my best efforts into my learning.

Independence – I can listen to and follow instructions.

Independence – I can watch my teacher model techniques and have a go at applying these in my own work.

Independence – I will take responsibility for my own learning.

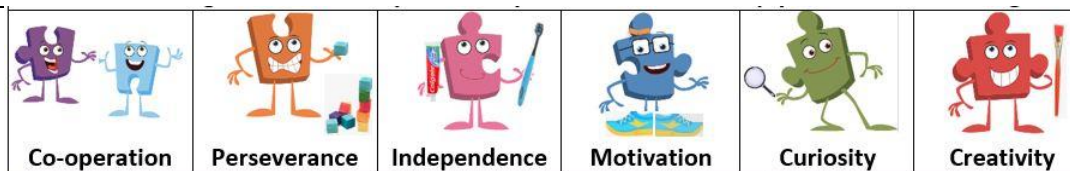
Motivation – I can self-motivate and motivate others.

Motivation – I always look at how I can improve and further my learning.

Curiosity – I can ask questions to further my knowledge and understanding.

Creativity – I can explore different techniques to create my work.

Creativity – I can use a range of mediums to express myself creatively.



See EYFS (Expressive Arts and Design) progression document for information on EYFS curriculum.