



Design Technology At Fawkham CEP School



Intent:

Here at Fawkham we are committed to the quality, breadth and depths of experiences for our children in all of our subjects. The Kapow Design and Technology scheme aims to inspire pupils to be innovative and creative thinkers who have an appreciation of the product design cycle through creation and evaluation. We want pupils to develop their confidence to take risks, through drafting design concepts, modelling, testing and to be reflective learners who evaluate their work and the work of others. Through the Design and Technology Kapow scheme of work, we aim to build an awareness of the impact of design and technology on our lives and encourage pupils to become resourceful, enterprising citizens who will have the skills to contribute to future design advancements.

The Kapow Design and Technology scheme of work enables pupils to meet the end of key stage attainment targets in the National Curriculum and the aims also align with those in the National curriculum. The EYFS units provide opportunities for pupils to work towards the Development Matters statements and the Early Learning Goals.

As part of our Christian vision- **John Chapter 10 Verse 10 I came so that that you may have life; life in all it's fullness"**, we teach to fulfil this. We teach our children to **care** about their designs and makes, are **honest** in their evaluations and constructive criticism of others work, **respect** resources and other peoples thoughts and feelings when designing, making and evaluating and taking **responsibility** for their own ideas, thoughts and actions. Our curriculum fulfils the National curriculum areas in DT, Design, make, evaluate, technical knowledge and cooking and nutrition. We have adopted the combined/mixed scheme of work for KS1 and KS2 on a 2 year cycle, so that we have 3 units of Design and Technology a year. These have been placed in the year where best fit with other topics so that links can be made.

COOKING AND NUTRITION – We have a company called Roots to food who teaches the whole school cooking a nutrition based lessons. This is held yearly during the Autumn terms. KS2 children are then involved in planning, designing, cooking and hosting a Gala Dinner in Summer 2 for parents and teachers. This is in addition to their usual lessons planned in the Design and Technology Kapow Scheme.

Implementation: The Design and Technology National Curriculum outlines the three main stages of the design process- Design, Make and Evaluate. Each stage of the design process is underpinned by the technical knowledge which encompasses the contextual, historical and technical understanding required for each strand.

The National Curriculum organises the Design and Technology attainment targets under four subheadings DESIGN, MAKE, EVALUATE and TECHNICAL KNOWLEDGE. These subheadings are present throughout the Kapow Primary strands.

The Design and Technology Kapow scheme of work have made six key areas that pupils revisit throughout their time at Primary school. These are COOKING AND NUTRITION, MECHANISMS/MECHANICAL SYSTEMS, STRUCTURES, TEXTILES, ELECTRICAL SYSTEMS (KS2) and DIGITAL WORLD (KS2). This scheme of work shows progression throughout the school and the skills are shown in the below table along with the overview for the whole school.

Through the scheme of work, pupils respond to design briefs and scenarios that require consideration of the needs of others, developing their skills in the six areas.

Each of the key areas follows the design process (Design, make and evaluate) and has a particular theme and focus from the technical knowledge or cooking and nutrition section of the curriculum. The scheme allows pupils to revisit, consolidate and build on the previous learning.

Lessons incorporate a range of teaching strategies from independent tasks, paired and group work including practical hands on computer based and inventive tasks. This variety means that lessons are engaging and appeal to those with a variety of learning styles. Differentiated guidance is available for every lesson to ensure that lessons can be accessed by all pupils and opportunities to challenge children where appropriate.

Impact:

The impact of the Kapow Primary Scheme for Design and Technology can be constantly monitored through both formative and summative assessment opportunities. Each lesson includes guidance to support teachers in assessing pupils progress against the learning objective. Furthermore, each unit has a unit quiz and knowledge catcher which can be used at the start and/or end of unit.

After the implementation of the Design and Technology Kapow Scheme, pupils should leave school equipped with a range of skills to enable them to succeed in their secondary education and be innovative and resourceful members of society.

The expected impact is that children will

1. **Understand the functional and aesthetic properties of a range of materials and resources.**
2. **Understand how to use and combine tools to carry out different processes for shaping, decorating and manufacturing products.**
3. **Build and apply a repertoire of skills, knowledge and understanding to produce high quality, innovative outcomes, including models, prototypes, CAD and products to fulfil the needs of users , clients and scenarios.**
4. **Understand and apply the principles of healthy eating, diets and recipes, including key processes, food groups and cooking equipment.**
5. **Have an appreciation of key individuals, inventions and events in history and of today that impact our world.**
6. **Recognise where our decisions can impact the wider world in terms of community, social and environmental issues.**
7. **Self-evaluate and reflect on learning at different stages and identify areas to improve.**
8. **Meet the end of key stage expectations outlined in the National Curriculum for Design and Technology.**
9. **Meet the end of key stage expectations outlined in the National Curriculum for Computing.**

Below is the overview across the school of what is covered across the two year cycle, along with the progression skills in each topic.

Year	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year R (1)	<p>Space</p> <p>Playdough and spare parts making Aliens CONSTRUCTION</p> <p>Black History Month-Mae Jemison Making telescopes CONSTRUCTION</p> <p>Little Red Hen Bread making COOKING AND NUTRITION</p> <p>Kapow Primary STRUCTURES-Junk modelling</p>	<p>Diwali Clay lamps CONSTRUCTION MODELLING</p> <p>Constructing centre pieces for Christmas meal CONSTRUCTION</p> <p>Kapow Primary TEXTILES Bookmarks (Link to Book week)</p>	<p>CNY Concertina Dragon puppets CONSTRUCTION</p> <p>Scotland Weaving Tartan TEXTILES: Vehicles Designing and making cars</p> <p>Love and Friendship Making contraptions from Cardboard boxes CONSTRUCTION</p> <p>Kapow Primary COOKING AND NUTRITION</p>	Kapow Primary STRUCTURES Boats	<p>Ladybirds Junk modelling of minibeasts CONSTRUCTION</p> <p>Kapow Primary Seasonal projects</p>	<p>Pets Design and make a pet home CONSTRUCTION</p> <p>Zoo Junk model zoo animals Milk bottle elephants Toilet tube giraffes CONSTRUCTION</p> <p>Dinosaurs Salt dough dinosaur fossils CONSTRUCTION-MODELLING</p> <p>Kapow Primary Seasonal Projects</p>
Year 1/2 Cycle A	<p>Kapow Primary STRUCTURES Constructing a windmill</p> <p>Skills Design- Learning the importance of a clear design criteria. Including individual preferences and requirements in a design. Make- Making stable structures from card, tape and glue. Learning how to turn 2D nets into 3D nets. Following instructions to cut and assemble the supporting structure of a windmill. Making functioning turbines and axles which are assemble into a main supporting structure. Evaluate- Evaluating a windmill</p>	(Art)	<p>Kapow Primary TEXTILES Puppets</p> <p>Skills Design- Using a template to create a design for a puppet Make- Cutting fabric neatly with scissors. Using joining methods to decorate a puppet. Sequencing the steps taken during construction. Evaluate- Reflecting on a finished product, explaining likes and dislikes.</p> <p>Knowledge To know that 'joining technique' means connecting two pieces of material together. To know that there are various temporary methods of joining fabric by using staples, glues or pins. To understand that different techniques for joining materials can be used for different purposes. To understand that a template (or fabric</p>	(Art)	<p>Kapow Primary COOKING AND NUTRITION Fruit and Vegetables</p> <p>Skills Design- Designing smoothie carton packaging by hand or on IT software. Make- Chopping fruit and vegetables safely to make a smoothie. Identifying if a food is a fruit or a vegetable. Learning how and where fruit and vegetables grow. Evaluate- Tasting and evaluating different food combinations. Describing appearance, smell and taste. Suggesting information to be included on the packaging.</p> <p>Knowledge Understanding the difference</p>	(Art)

	<p>according to the design criteria, testing whether the structure is strong and stable and altering it if it isn't. Suggest points for improvements.</p> <p><u>Knowledge</u></p> <p><u>Technical-</u> To understand the shape of the materials can be changed to improve the strength and stiffness of structures. To understand that cylinders are a strong type of structure (e.g the main shape used for windmills and lighthouses). To understand that axles are used in structures and mechanisms to make parts turn in a circle. To begin to understand that different structures are used for different purposes. To know that a structure is something that has been made and put together.</p> <p><u>Additional-</u> To know that a client is a person that I am designing for. To know that design criteria is a list of points to ensure the product meets the clients needs and wants. To know that a windmill harnesses the power of wind</p>		<p>pattern) is used to cut out the same shape multiple times. To know that drawing a design idea is useful to see how an idea will look.</p>		<p>between fruit and vegetables. To understand that some foods typically known as vegetables are actually fruits eg cucumber. To know that a blender is a machine which mixes ingredients together into a smooth liquid. To know that a fruit has seeds and a vegetable does not. To know that fruit grows on trees or vines. To know that vegetables can grow above and below ground. To know that vegetables can come from different parts of a plant eg roots: Potatoes, leaves: lettuce, fruit: cucumber.</p>	
--	---	--	--	--	---	--

	<p>for a purpose like grinding grain, pumping water or generating electricity. To know that windmill turbines use wind to turn and make the machines inside work. To know that a windmill is a structure with sails that are moved by the wind. To know the three main parts of a windmill are the turbine, axle and structure.</p>					
<p>Year 1/2 Cycle B</p>	<p>(Art)</p>	<p>Kapow Primary STRUCTURES Baby Bears Chair</p> <p>Skills <u>Design-</u> Generating and communicating ideas using sketching and modelling. Learning about different types of structures found in the natural world and in everyday objects. <u>Make-</u> Making a structure according to design criteria. Creating joints and structures from paper, card and tape. Building a strong and stiff structure by folding paper. <u>Evaluate-</u> Exploring the features of structures. Comparing the stability of different shapes. Testing the strength of own structures. Identifying the weakest point of a structure.</p>	<p>(Art)</p>	<p>(Art)</p>	<p>Kapow Primary MECHANISMS Fairground Wheel</p> <p>Skills <u>Design-</u> Creating a class design criteria for a moving monster. Designing a moving monster for a specific audience in accordance with a design criteria. <u>Make-</u> Making linkages using card for levers and split pins for pivots. Experimenting with linkages adjusting the widths, lengths and thicknesses of card used. Cutting and assembling components neatly. <u>Evaluate-</u> Evaluating own designs against design criteria. Using peer feedback to modify a final design.</p> <p>Knowledge <u>Technical-</u> To know that mechanisms are a collection of moving parts that work together as a machine to</p>	<p>Kapow Primary MECHANISMS Making a moving monster</p> <p>Skills <u>Design-</u> Selecting a suitable linkage system to produce the desired motion. Designing a wheel. <u>Make-</u> Selecting materials according to their characteristics. Following a design brief. <u>Evaluate-</u> Evaluating different designs. Testing and adapting a design.</p> <p>Knowledge <u>Technical-</u> To know that different materials have different properties and are therefore suitable for different uses.</p> <p>Additional- To know the features of a Ferris wheel include the wheel, frame, pods, a base, an axle and an axle holder.</p>

		<p>Evaluating the strength, stiffness and stability of a structure.</p> <p><u>Knowledge</u></p> <p><u>Technical-</u></p> <p>To know the shapes and structures with wide, flat bases or legs are the most stable.</p> <p>To understand that the shape of a structure affects its strength.</p> <p>To know that materials can be manipulated to improve strength and stiffness.</p> <p>To know that the structure is something which has been formed or made from parts.</p> <p>To know that a stable structure is one which is firmly fixed and unlikely to change or move.</p> <p>To know that a strong structure is one that does not break easily.</p> <p>To know that the stiff structure or material is one that does not bend easily.</p> <p><u>Additional-</u></p> <p>To know that natural structures are those found in nature.</p> <p>To know that man made structures are those made by people.</p>			<p>produce movement.</p> <p>To know that there is always an input and output in a mechanism.</p> <p>To know that an input is the energy that is used to start something working.</p> <p>To know that an output is the movement that happens as a result of the input.</p> <p>To know that a lever is something that turns on a pivot.</p> <p>To know that a linkage mechanism is made up of a series of levers.</p> <p><u>Additional-</u></p> <p>To know some real life objects that contain mechanisms.</p>	<p>To know that it is important to test my design as I go along so that I can solve any problems that may occur.</p>
--	--	--	--	--	--	--



Design Technology

At Fawkham CEP School



<p>Year 3/4 Cycle A</p>	<p>Kapow Primary COOKING AND NUTRITION Eating Seasonally</p> <p>Skills Design- Creating a healthy and nutritious recipe for a savoury tart using seasonal ingredients, considering the taste, texture, smell and appearance of the dish.</p> <p>Make- Knowing how to prepare themselves and a work space to cook safely in, learning the basic rules to avoid food contamination. Following the instructions within a recipe.</p> <p>Evaluate- Establishing and using design criteria to help test and review dishes. Describing the benefits of seasonal fruits and vegetables and the impact on the environment. Suggesting points for improvement when making a seasonal tart.</p> <p>Knowledge To know that not all fruit and vegetables can be grown in the UK. To know that climate affects food growth. To know the vegetables and fruit grow in certain seasons.</p>	<p>(Art)</p>	<p>Kapow Primary DIGITAL WORLD Wearable Technology</p> <p>Skills Design- Problem solving by suggesting which features on a micro:bit might be useful and justifying my ideas. Drawing and manipulating 2D shapes using computer-aided design to produce a point of sale badge. Developing design ideas through annotated sketches to create a product concept. Developing design criteria to respond to a design brief.</p> <p>Make- Following a list of design requirements. Writing a programme to control (button press) and/ or monitor (sense light) that will initiate a flashing LED algorithm.</p> <p>Evaluate- Analysing and evaluating wearable technology. Using feedback from peers to improve design.</p> <p>Knowledge- Technical- To understand that, in programming, a 'loop' is code that repeats something again and again until stopped. To know that a micro:bit is a pocket-sized codeable computer. To know that the simulator is able to replicate the functions of an existing piece of technology. Additional</p>	<p>(Art)</p>	<p>Kapow Primary STRUCTURES Constructing a castle</p> <p>Skills Design- Designing a castle with key features to appeal to a specific person/purpose. Drawing and labelling a castle design using 2D shapes, labelling:- the 3D shapes that will create the features- materials needed and colours. Designing and /or decorating a castle tower on CAD software.</p> <p>Make- Constructing a range of 3D geometric shapes using nets. Creating special features for individual designs. Making facades from a range of recycled materials.</p> <p>Evaluate- Evaluating own work and the work of others based on the aesthetic of the finished product and in comparison to the original design. Suggesting points for modification of the individual designs.</p> <p>Knowledge Technical- To understand that wide and flat based objects are more stable. To understand the importance of strength and stiffness in structures. Additional To know the following features of a castle- flags,</p>	<p>(Art)</p>
------------------------------------	--	---------------------	--	---------------------	---	---------------------

	<p>To know that 'cooking instructions' are known as a recipe.</p> <p>To know that imported food is food that has been brought from another country.</p> <p>To know that exported food is food that has been sent from another country.</p> <p>To understand that imported foods travel from far away and this can negatively impact the environment.</p> <p>To know that each fruit and vegetable gives us nutritional benefits because they contain vitamins, minerals and fibre.</p> <p>To understand that vitamins, minerals and fibre are important for energy, growth and maintaining health.</p> <p>To know safety rules for using, storing and cleaning a knife safely.</p> <p>To know that similar coloured fruits and vegetables have similar nutritional benefits.</p>		<p>To know what the 'digital revolution' is and features of some of the products that have evolved as a result.</p> <p>To understand what is meant by 'point of cell display'.</p> <p>To know that CAD stands for 'Computer-Aided Design.'</p> <p>To know what a focus group is by taking part in one.</p>		<p>towers, battlements, turrets, curtain walls, moat, drawbridge and gatehouse- and their purpose.</p> <p>To know that a façade is the front of a structure.</p> <p>To understand that a castle needs to be strong and stable to withstand an enemy attack.</p> <p>To know that a paper net is a flat 2D shape that can become a 3D shape once assembled.</p> <p>To know that a design specification is a list of success criteria for a product.</p>	
<p>Year 3/4 Cycle B</p>	<p>(Art)</p>	<p>(Art)</p>	<p>Kapow Primary STRUCTURES Pavilions</p> <p><u>Skills</u> <u>Design-</u> Designing a stable pavilion structure that is aesthetically pleasing and selecting materials to create a desired effect. Building frame structures designed to support weight. <u>Make-</u></p>	<p>(Art)</p>	<p>Kapow Primary MECHANICAL SYSTEMS Making a Slingshot Car</p> <p><u>Skills</u> <u>Design-</u> Designing a shape that reduces air resistance. Drawing a net to create a structure form. Choosing shapes that increase or</p>	<p>Kapow Primary ELECTRICAL SYSTEMS Torches</p> <p><u>Skills</u> <u>Design-</u> Designing a torch, giving consideration to the target audience and creating both design and success criteria focussing on features of individual design ideas.</p>

			<p>Creating a range of different shaped frame structures. Making a variety of free standing frame structures of different shapes and sizes. Selecting appropriate materials to build a strong structure and cladding. Reinforcing corners to strengthen a structure. Creating a design in accordance with a plan. Learning to create different textual effects with materials.</p> <p><u>Evaluate-</u> Evaluating structures made by the class. Describing what characteristics of a design and construction made it the most effective. Considering effective and ineffective designs.</p> <p><u>Knowledge</u> <u>Technical-</u> To understand what a frame structure is. To know what a 'free standing' structure is -one of which can stand on its own.</p> <p><u>Additional-</u> To know that a pavilion is a decorative building or structure for leisure activities. To know that cladding can be applied to structures for different effects. To know that aesthetics are how a product looks. To know that a products function means its purpose. To understand that the target audience means the person or group of people a product is designed for. To know that architects consider light, shadow and patterns when designing</p>		<p>decrease speed as a result of air resistance. Personalising a design. <u>Make-</u> Measuring, marking, cutting and assembling with increasing accuracy. Making a model based on a chosen design. <u>Evaluate-</u> Evaluating the speed of a final product based on: the effect of shape on speed ad the accuracy of workmanship on performance.</p> <p><u>Knowledge</u> <u>Technical-</u> To understand that all moving things have kinetic energy. To understand that kinetic energy is the energy that something (object/person) has by being in motion. To know that air resistance is the level of drag on an object as it is forced through the air. To understand that the shape of a moving object will affect how it moves due to air resistance. <u>Additional-</u> To understand that products change and evolve over time. To know that aesthetics means how an object or product looks in design and technology. To know that a template is a stencil you can use to help you draw the same shape accurately. To know that a birds eye view means a view</p>	<p><u>Make-</u> 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.</p> <p><u>Evaluate-</u> Evaluating electrical products. Testing and evaluating the success of a final product.</p> <p><u>Knowledge</u> <u>Technical-</u> To understand that electrical conductors are materials which electricity can pass through. To understand that electrical insulators are materials which electricity cannot pass through. To know that a battery contains stored electricity that can be used to power products. To know that an electrical circuit must be complete for electricity to flow. To know that a switch can be used to complete and break an electrical circuit.</p> <p><u>Additional</u> To know the features of a torch: case, contacts, batteries, switch, reflector, lamp and lens. To know the facts from the history and inventionof the electric light bulb(s)- by Sir Joseph Swan and Thomas Edison.</p>
--	--	--	---	--	---	--

from a high angle (as if a bird is in flight)
To know that graphics are images which are designed to explain or advertise something.
To know that it is important to assess and evaluate design ideas and models against a list of design criteria



Design Technology At Fawkham CEP School



Year	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 5/6 Cycle A	<p>Kapow Primary COOKING AND NUTRITION What could be healthier</p> <p><u>Skills</u> Design- Adapting a traditional recipe, understanding that the nutritional value of a recipe alters if you remove, substitute or add additional ingredients. Writing an amended method for a recipe to incorporate the relevant changes to ingredients. Designing appealing packaging to reflect a recipe.</p> <p><u>Make-</u> Cutting and preparing vegetables safely. Using equipment safely, including knives, hot pans and hobs. Knowing how to avoid cross contamination. Following a step by step method</p>	<p>Kapow Primary MECHANICAL SYSTEMS Making a pop up book (Link to Book week)</p> <p><u>Skills</u> Design- Designing a pop up book which uses a mixture of structures and mechanisms. Naming each mechanism, input and output accurately. Storyboarding ideas for a book.</p> <p><u>Make-</u> Following a design brief to make a pop up book, neatly and with focus on accuracy. Making mechanisms and/or structures using sliders, pivots and folds to produce movement. Using layers and spacers to hide the workings of mechanical parts for an</p>	(Art)	<p>Kapow Primary ELECTRICAL SYSTEMS Doodlers</p> <p><u>Skills</u> Design- Identifying factors that could be changed on existing products and explaining how these would alter the form and function of the product. Developing design criteria based on findings from investigating existing products. Developing design criteria that clarifies the target user.</p> <p><u>Make-</u> Altering a product's form and function by tinkering with it's configuration. Making a functional series circuit, incorporating a motor. Constructing a product with consideration for the design criteria.</p>	(Art)	(Art)

	<p>carefully to make a recipe.</p> <p><u>Evaluate-</u> Identifying the nutritional differences between different products and recipes. Identifying and describing healthy benefits of food groups.</p> <p><u>Knowledge</u> To understand where meat comes from-learning that beef is from cattle and how beef is reared and processed, including ket welfare issues. To know that I can adapt a recipe to make it healthier by substituting ingredients. To know that I can use a nutritional calculator to see how healthy a food option is. To understand that 'cross contamination' means bacteria and germs have been passed onto ready-to-eat foods and it happens when these foods mix with raw meat or unclean objects.</p>	<p>aesthetically pleasing result.</p> <p><u>Evaluate-</u> Evaluating the work of others and receiving feedback on own work. Suggesting points for improvements.</p> <p><u>Knowledge</u> <u>Technical-</u> To know that mechanisms control movement. To understand that mechanisms can be used to change one kind of motion into another. To understand how to use sliders, pivots and folds to create paper-based mechanisms. <u>Additional-</u> To know that a design brief is a description of what I am going to design and make. To know that designers often want to hide mechanisms to make a product more aesthetically pleasing.</p>		<p>Breaking down the construction process into steps so that others can make the product.</p> <p><u>Evaluate-</u> Carry out a product analysis to look at the purpose of a product along with its strengths and weaknesses. Determining which parts of a product affect its function and which parts affect its form. Analysing whether changes in configuration positively or negatively affect an existing product. Peer evaluating a set of instructions to build a product.</p> <p><u>Knowledge</u> <u>Technical-</u> To know that series circuits only have one direction for the electricity to flow. To know when there is a break in a series circuit, all components turn off. To know that an electric motor converts electrical energy into rotational movement, causing the motors axle to spin. To know a motorised product is one which uses a motor to function. <u>Additional-</u> To know that product analysis is critiquing the</p>		
--	--	--	--	--	--	--

				<p>strengths and weaknesses of a product. To know that 'configuration' means how the parts of a product are arranged.</p>		
<p>Year 5/6 Cycle B</p>	<p>(Art)</p>	<p>Kapow Primary TEXTILES Waistcoats</p> <p>Skills Design- Designing a waistcoat in accordance to a specification linked to set of design criteria. Annotating design, to explain their decisions.</p> <p>Make- Using a template when cutting fabric to ensure they achieve the correct shape. Using pins effectively to secure a template to fabric without creases or bulges. Marking and cutting fabric accurately, in accordance with their design. Sewing a strong running stitc, making small, neat stitches and following the edge. Tying strong knots. Decorating a waistcoat, attaching features (such as applique) using thread. Finishing the waistcoat with a secure fastening (such as buttons)</p> <p>Learning different decorative stitches.</p>	<p>(Art)</p>	<p>Kapow Primary STRUCTURES Playgrounds</p> <p>Skills Design- Designing a playground featuring a variety of different structures, giving careful consideration to how the structures will be used, considering effective and ineffective designs.</p> <p>Make- Building a range of play apparatus structures drawing upon new and prior knowledge of structures. Measuring, marking and cutting wood to create a range of structures. Using a range of materials to reinforce and add decoration to structures.</p> <p>Evaluate- Improving a design plan based on peer evaluation. Testing and adapting a design to improve it as it is developed. Identifying what makes a successful structure.</p> <p>Knowledge Technical- To know that structures can be strengthened</p>	<p>(Art)</p>	<p>Kapow Primary DIGITAL WORLD Navigating the world</p> <p>Skills Design- Writing a design brief from information submitted by a client. Developing design criteria to fulfil the clients request. Considering and suggesting additional functions for my navigating tool. Developing a product idea through annotated sketches. Placing and manoeuvring 3D objects, using CAD. Changing the properties of, or combining one or more 3D objects, using CAD.</p> <p>Make- Considering materials and their functional properties, especially those that are sustainable and recyclable (for example, cork and bamboo). Explaining material choices and why they were chosen as part of a product concept. Programming an N,E,S, W cardinal compass.</p> <p>Evaluate- Explaining how my program fits the design criteria and how it would be useful as part of a navigation tool. Developing an awareness of sustainable design. Identifying key industries that</p>

		<p>Sewing accurately with evenly spaced, neat stitches.</p> <p><u>Evaluate-</u> Reflecting on their work continually throughout the design, make and evaluate process.</p> <p><u>Knowledge</u> To understand that it is important to design clothing with the client/target customer in mind. To know that using a template (or clothing pattern) helps to accurately mark out a design on fabric. To understand the importance of consistently sized stitches.</p>		<p>by manipulating materials and shapes.</p> <p><u>Additional-</u> To understand what a 'footprint plan' is. To understand that in the real world, design, can impact users in positive and negative ways. To know that a prototype is a cheap model to test a design idea.</p>		<p>utilise 3D CAD modelling and explaining why. Describing how the product concept fits the client's request and how it will benefit the customers. Explaining the key functions in my program, including any additions. Explaining how my program fits the design criteria and how it would be useful as part of a navigation tool. Explaining the key functions and features of my navigation tool to the client as part of a product concept pitch. Demonstrating a functional program as part of a product concept pitch.</p> <p><u>Knowledge</u> <u>Technical-</u> To know that accelerometers can detect movement. To understand that sensors can be useful in products as they mean the product can function without human input.</p> <p><u>Additional-</u> To know the designers write design briefs and develop design criteria to enable them to fulfil a client's request. To know that 'multifunctional' means an object or product has more than one function. To know that magnetometers are devices that measure the Earth's magnetic field to determine which direction you are facing.</p>
--	--	---	--	---	--	---