St Mary's CofE Primary Academy Folkestone

Design and Technology Curriculum

Intent: We want to provide a well-sequenced, coherent subject scheme that develops children's designing, planning, making and evaluating skills. We want to provide opportunities for making meaningful connections across other subjects where possible. We want staff to feel secure in delivering our design and technology curriculum. We want staff to feel confident assessing the skills and knowledge in their classes and to be aware of where their year group's skills lie in their key stage's progression of skills overall. We want to increase children's knowledge and build their knowledge and skills progressively.

Big idea	Concept/ Aspect	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Humankind	**Everyday products**	**Skill** Name and explore a range of everyday products and describe how they are used. **Covered x 2** Shade and Shelter x1 - DT Taxi x1 - DT	**Skill** Explain how an everyday product could be improved. **Covered x 2** Cut, Stitch and Join x1 - DT Push and Pull x1 - DT	**Skill** Explain how an existing product benefits the user. **Covered x 2** Making It Move x1 - DT Greenhouse x1 - DT	**Skill** Investigate and identify the design features of a familiar product. **Covered x 6** Fresh Food, Good Food x1 - DT Misty Mountain, Winding River x1 - Geog Functional and Fancy Fabrics x1 - DT Electrical Circuits and Conductors x3 - Sci	**Skill** Explain how the design of a product has been influenced by the culture or society in which it was designed or made. **Covered x 2** Architecture x2 - DT	**Skill** Analyse how an invention or product has significantly changed or improved people's lives. **Covered x 4** Food for Life x2 - DT Engineer x1 - DT Make Do and Mend x1 - DT
		Core Knowledge An axle is a rod that is connected to the centre of a wheel, which allows it to turn. A chassis is the frame of a vehicle. A shelter is a structure designed to give protection from weather or danger.	**Core Knowledge** There are many home products made from fabric. Examples of fabric based products in the home include cushions, curtains, blinds and carpets. Products can be improved in different ways, such as making them easier to use, more hardwearing or more attractive.	**Core Knowledge** Particular products are designed for specific tasks. For example designing a product to help grow plants will require certain materials.	**Core Knowledge** Design features are the aspects of a product's design that the designer would like to emphasise. For example, the use of a particular material or a feature that makes the product durable. A switch makes or breaks a circuit. When a switch is closed or 'on', the circuit is complete. When a switch is open or 'off', the circuit is incomplete. A programmable device is a machine that is provided with coded instructions for the automatic performance of a task.	**Core Knowledge** The design of products needs to take into account the culture of the target audience. The ancient Greeks developed the Classical form of architecture that has been copied for thousands of years.	**Core Knowledge** Make Do and Mend was a campaign run by the Ministry of Information during the Second World War to encourage people to recycle and repurpose their old clothes rather than buy new. The Make Do and Mend campaigns aimed to limit the amount of labour and materials used in clothes production, so that it could be used to support the greater war effort. A processed food is changed during preparation and includes processes, such as cooking, freezing, pasteurising, or the addition of ingredients. Processed foods can be convenient and increase availability, but often lack of nutrients and contain unhealthy ingredients when compared to whole foods. Sliced bread is processed. It can contain many more ingredients than homemade bread, including preservatives and artificial ingredients. Bridge structures have changed over time. This is due to factors such as technology, design innovation and new and better access to materials.

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	Staying safe	**Skill** Follow the rules to keep safe during a practical task. **Covered x 2** Taxi x1 - DT Chop, Slice and Mash x1 - DT	**Skill** Work safely and hygienically in construction and cooking activities. **Covered x 1** Remarkable Recipes x1 - DT	**Skill** Use appliances safely with adult supervision. **Covered x 1** Cook Well, Eatwell x1 - DT	**Skill** Work safely with everyday chemical products under supervision, such as disinfectant hand wash and surface cleaning spray. **Covered x 1** Fresh Food, Good Food x1 - DT	**Skill** Explain the functionality and purpose of safety features on a range of products. **Covered x 1** Moving Mechanisms x1 - DT	**Skill** Demonstrate how their products take into account the safety of the user. **Covered x 1** Electrical Circuits and Components x1 - Sci
		Core Knowledge Rules are made to keep people safe from danger. Safety rules include always listening carefully, following instructions and using equipment only when told to.	**Core Knowledge** Hygiene rules include washing hands before handling food, cleaning surfaces, tying long hair back, storing food appropriately and wiping up spills.	**Core Knowledge** Safety rules must be followed when using electricity. Fingers and other objects must not be put into electrical outlets, anything with a cord or plug should never be used around water and a plug should never be pulled out by its cord.	**Core Knowledge** Chemicals are used in the home every day. They include cleaning products, such as bleach and disinfectant, but also paints, glues, oils, pesticides and medicines. Chemicals should only be used under adult supervision.	*Broad knowledge* Safety features are often incorporated into products that might cause harm. Some examples include the child-safety caps on medicine bottles, seatbelts in cars, covers for electrical sockets and finger guards on doors.	**Core Knowledge** The safety of the user has to be taken into account when designing a new product.
Processes	**Mechanisms and movement**	**Skill** Use wheels and axles to make a simple moving model. **Covered x 2** Taxi x2 - DT	**Skill** Use a range of mechanisms (levers, sliders, wheels and axles) in models or products. **Covered x 4** Push and Pull x4 - DT	**Skill** Explore and use a range of mechanisms (levers, sliders, axles, wheels and cams) in models or products. **Covered x 3** Making It Move x3 - DT	**Skill** Explore and use a range of mechanisms (levers, axles, cams, gears and pulleys) in models or products. **Covered x 3** Tomb Builders x3 - DT	**Skill** Use mechanical systems in their products, such as pneumatics. **Covered x 3** Moving Mechanisms x3 - DT	
		Core Knowledge Most vehicles that move on land have axles and wheels that are fixed to a chassis. An axle fixed to a chassis has freely moving wheels. A freely moving axle has fixed wheels.	**Core Knowledge** People build machines to make their work easier. A machine is made up of different parts that all work together to perform a task. Individual parts of a machine are called components. The part of a machine that brings about movement is called the mechanism. A slider mechanism moves in a straight line. Real-life examples of slider mechanisms include door bolts and drawers. A lever mechanism is a bar that moves around a fixed point called a pivot. Real-life uses of levers include scissors and seesaws. A linkage mechanism combines levers and sliders. Real-life uses of linkages include	**Core Knowledge** Cams are devices that can convert circular motion into up-and-down motion. The cam is fixed to the axle and the follower sits on the cam. When the axle is rotated, the follower moves up and down, following the shape of the cam. Different shaped cams produce different patterns of movement in the follower.	**Core Knowledge** Simple machines make physical jobs easier by changing the strength or direction of a force. There are six simple machines: pulley, lever, wheel and axle, wedge, inclined plane and screw. Simple machines can be combined to make complex, compound machines. For example, a wheelbarrow combines a lever with a wheel and axle.	**Core Knowledge** A pneumatic system uses compressed air to exert a force. Pneumatic systems can be used to lift heavy loads, raise and lower platforms or soften a force by acting as a shock absorber.	

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			toolboxes and scissor lifts.				
	Electricity				**Skill** Incorporate circuits that use a variety of components into models or products. **Covered x 1** Electrical Circuits and Conductors x1 - Sci		**Skill** Understand and use electrical circuits that incorporate a variety of components (switches, lamps, buzzers and motors) and use programming to control their products. **Covered x 2** Electrical Circuits and Components x2 - Sci
					Broad knowledge Components can be added to circuits to achieve a particular goal. These include bulbs for lighthouses and torches, buzzers for burglar alarms and electronic games, motors for fairground rides and motorised vehicles and switches for lights and televisions.		*Broad knowledge* Computer programs can control electrical circuits that include a variety of components, such as switches, lamps, buzzers and motors.
Creativity	**Generation of ideas**	**Skill** Create a design to meet simple design criteria. **Covered x 4** Shade and Shelter x2 - DT Taxi x1 - DT Chop, Slice and Mash x1 - DT	**Skill** Generate and communicate their ideas through a range of different methods. **Covered x 3** Remarkable Recipes x1 - DT Beach Hut x1 - DT Cut, Stitch and Join x1 - DT	**Skill** Develop design criteria to inform a design. **Covered x 3** Cook Well, Eatwell x1 - DT Making It Move x1 - DT Greenhouse x1 - DT	**Skill** Use annotated sketches and exploded diagrams to test and communicate their ideas. **Covered x 4** Fresh Food, Good Food x1 - DT Functional and Fancy Fabrics x1 - DT Electrical Circuits and Conductors x2 - Sci	**Skill** Use pattern pieces and computer-aided design packages to design a product. **Covered x 1** Architecture x1 - DT	**Skill** Develop design criteria for a functional and appealing product that is fit for purpose, communicating ideas clearly in a range of ways. **Covered x 2** Engineer x1 - DT Electrical Circuits and Components x1 - Sci
		Core Knowledge A product or project is usually guided by a set of design criteria. The project or product must meet the design criteria to be successful.	*Broad knowledge* Ideas can be communicated in a variety of ways, including written work, drawings and diagrams, modelling, speaking and using information and communication technology.	**Core Knowledge** Design criteria are the exact goals a project must achieve to be successful. These criteria might include the product's use, appearance, cost and target user.	**Core Knowledge** Annotated sketches and exploded diagrams show specific parts of a design, highlight sections or show functions. They communicate ideas in a visual, detailed way.	**Core Knowledge** Computer-aided design (CAD) is the use of specialised computer software to design objects. CAD designs can also be made into objects using 3-D printers.	**Core Knowledge** Ideas can be communicated in a range of ways, including through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.
	Structures	**Skill** Construct simple structures, models or other products using a range of materials. **Covered x 10** Childhood x1 - His Everyday Materials x2 - Sci Human Senses x1 - Sci Shade and Shelter x2 - DT Bright Lights, Big City x2 - Geog Seasonal Changes x1 - Sci School Days x1 - His	**Skill** Explore how a structure can be made stronger, stiffer and more stable. **Covered x 3** Coastline x1 - DT Beach Hut x2 - DT	**Skill** Create shell or frame structures using diagonal struts to strengthen them. **Covered x 1** Greenhouse x1 - DT	**Skill** Prototype shell and frame structures, showing awareness of how to strengthen, stiffen and reinforce them. **Covered x 1** Fresh Food, Good Food x1 - DT	**Skill** Build a framework using a range of materials to support mechanisms **Covered x 3** Moving Mechanisms x1 - DT Architecture x2 - DT	**Skill** Select the most appropriate materials and frameworks for different structures, explaining what makes them strong. **Covered x 2** Engineer x2 - DT
		Core Knowledge Different materials can be used for different purposes, depending on their properties.	**Core Knowledge** Structures can be made stronger, stiffer and more stable by using cardboard rather than paper and triangular shapes rather than squares.	**Core Knowledge** Diagonal struts create triangular shapes within a frame structure. Adding diagonal struts to a frame structure adds strength and stability.	**Core Knowledge** A prototype is a mock-up of a design that will look like the finished product but may not be full size or made of the same materials.	**Core Knowledge** Support, stiffness and stability can be created by using triangular shapes to create strong frameworks, columns to support roofs and overlapping brickwork patterns.	**Core Knowledge** Strength can be added to a framework by using multiple layers or changing its shape. Triangles do not collapse or distort easily and so are used in architecture to provide

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						Mechanisms and systems can work together to perform a function. A strong and stable structure is necessary to support mechanisms in a machine.	support and stability.
	Use of ICT				**Skill** Write a program to control a physical device, such as a light, speaker or buzzer. **Covered x 2** Electrical Circuits and Conductors x2 - Sci		**Skill** Use a sensor to monitor an environmental variable, such as temperature, sound or light. **Covered x 2** Electrical Circuits and Components x2 - Sci
					Core Knowledge Remote control is controlling a machine or activity from a distance. Computers can be used to remotely control a device.		**Core Knowledge** Many devices that we see in our homes and elsewhere use programmable sensors that monitor environmental variables, such as light, sound, movement and temperature.
Investigation	**Investigation**	**Skill** Select the appropriate tool for a simple practical task. **Covered x 1** Chop, Slice and Mash x1 - DT	**Skill** Select the appropriate tool for a task and explain their choice. **Covered x 4** Movers and Shakers x1 - His Remarkable Recipes x1 - DT Beach Hut x1 - DT Cut, Stitch and Join x1 - DT	**Skill** Use tools safely for cutting and joining materials and components. **Covered x 4** Making It Move x2 - DT Greenhouse x2 - DT	**Skill** Select, name and use tools with adult supervision. **Covered x 1** Functional and Fancy Fabrics x1 - DT	**Skill** Name and select increasingly appropriate tools for a task and use them safely. **Covered x 1** Moving Mechanisms x1 - DT	**Skill** Select appropriate tools for a task and use them safely and precisely. **Covered x 2** Make Do and Mend x2 - DT
		Core Knowledge Some foods need to be prepared before eating. Peeling, slicing, chopping, grating, tearing or mashing are different methods of preparing foods.	**Core Knowledge** Tools have characteristics that make them suitable for specific purposes. For example, a knife is good for cutting food because it has a sharp metal edge.	*Broad knowledge* Specific tools can be used for cutting, such as saws. Wood can be joined using glue, nails, staples, or a combination of these. Safety rules must be followed to prevent injury from sharp blades. These rules include using a bench hook to keep the wood still, using a junior hacksaw with a pistol grip and working under adult supervision	*Broad knowledge* Useful tools for cutting include scissors, craft knives, junior hacksaws with pistol grip and bench hooks. Useful tools for joining include glue guns. Tools should only be used with adult supervision and safety rules must be followed.	*Broad knowledge* There are many rules for using tools safely and these may vary depending on the tools being used. For example, someone using a chisel should chip or cut with the cutting edge pointing away from their body. All tools should be cleaned and put away after use, and should not be used if they are loose or cracked.	**Core Knowledge** Deconstructing garments identifies how they were made, the materials used and their properties. Hand stitches include running stitch, blanket stitch and whip stitch.
	Evaluation	**Skill** Talk about their own and each other's work, identifying strengths or weaknesses and offering support. **Covered x 3** Shade and Shelter x1 - DT Taxi x1 - DT Chop, Slice and Mash x1 - DT	**Skill** Explain how closely their finished products meet their design criteria and say what they could do better in the future. **Covered x 4** Remarkable Recipes x1 - DT Beach Hut x1 - DT Cut, Stitch and Join x1 - DT Push and Pull x4 - DT	**Skill** Suggest improvements to their products and describe how to implement them, beginning to take the views of others into account. **Covered x 4** Cook Well, Eatwell x1 - DT Making It Move x2 - DT Greenhouse x1 - DT	**Skill** Identify what has worked well and what aspects of their products could be improved, acting on their own suggestions and those of others when making improvements. **Covered x 4** Fresh Food, Good Food x1 - DT Functional and Fancy Fabrics x1 - DT Tomb Builders x1 - DT Electrical Circuits and Conductors x1 - Sci	**Skill** Test and evaluate products against a detailed design specification and make adaptations as they develop the product. **Covered x 3** Moving Mechanisms x2 - DT Architecture x1 - DT	**Skill** Demonstrate modifications made to a product as a result of ongoing evaluation by themselves and to others. **Covered x 3** Food for Life x1 - DT Electrical Circuits and Components x1 - Sci Make Do and Mend x1 - DT
		Core Knowledge A strength is something that is good about a piece of work. A weakness is an area that could be improved.	**Core Knowledge** A finished product can be checked against design criteria to see how successfully it has been made or to evaluate how well it works. Improvements can then be planned.	**Core Knowledge** Asking questions can help others to evaluate their products. For example, asking someone whether the materials selected helped achieve the purpose of the model.	**Core Knowledge** Evaluation can be done by considering whether the product does what it was designed to do, whether it has an attractive appearance, what changes were made during the making process and why the changes were made.	**Core Knowledge** Testing a product against the design criteria will highlight anything that needs improvement or redesign.	**Core Knowledge** An iterative process starts with requirements and continues by creating a product, testing it, and revising it before creating a better version. The iterative process is a series of steps that are repeated, improving the product

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					The evaluation process can include suggesting improvements and explaining why they should be made.		with each cycle.
Materials	**Cutting and joining textiles**	**Skill** Cut and join textiles using glue and simple stitches. **Covered x 1** Funny Faces and Fabulous Features x1 - A&D	**Skill** Use different methods of joining fabrics, including glue and running stitch. **Covered x 1** Cut, Stitch and Join x1 - DT	**Skill** Cut and join wools, threads and other materials to a loom. **Covered x 1** Beautiful Botanicals x1 - A&D	**Skill** Hand sew a hem or seam using a running stitch. **Covered x 1** Functional and Fancy Fabrics x1 - DT	**Skill** Combine stitches and fabrics with imagination to create a mixed media collage. **Covered x 1** Mixed Media x1 - A&D	**Skill** Pin and tack fabrics in preparation for sewing and more complex pattern work. **Covered x 2** Make Do and Mend x2 - DT
		Core Knowledge A running stitch is made by passing a needle in and out of fabric. Running stitches are made at equal distances apart.	**Core Knowledge** A running stitch is a basic stitch used to join two pieces of fabric.	**Core Knowledge** Weaving involves interlacing pieces of thread or yarn or other materials.	**Core Knowledge** A hem runs along the edge of a piece of cloth or clothing. It is made by turning under a raw edge and sewing to give a neat and quality finish.	**Core Knowledge** A collage is artwork made by sticking materials, such as scraps of paper or fabric, onto a background.	Broad knowledge Pinning with dressmaker pins and tacking with quick, temporary stitches holds fabric together in preparation for and during sewing.
	Materials for purpose	**Skill** Select and use a range of materials, beginning to explain their choices. **Covered x 2** Shade and Shelter x2 - DT	**Skill** Choose appropriate components and materials and suggest ways of manipulating them to achieve the desired effect. **Covered x 5** Movers and Shakers x1 - His Beach Hut x1 - DT Magnificent Monarchs x1 - His Cut, Stitch and Join x1 - DT Push and Pull x1 - DT	**Skill** Plan which materials will be needed for a task and explain why. **Covered x 2** Making It Move x1 - DT Greenhouse x1 - DT	**Skill** Choose from a range of materials, showing an understanding of their different characteristics. **Covered x 5** Warp and Weft x1 - A&D Fresh Food, Good Food x1 - DT Functional and Fancy Fabrics x1 - DT Tomb Builders x1 - DT Misty Mountain, Winding River x1 - Geog	**Skill** Select and combine materials with precision. **Covered x 2** Moving Mechanisms x1 - DT Architecture x1 - DT	**Skill** Choose the best materials for a task, showing an understanding of their working characteristics. **Covered x 4** Engineer x3 - DT Make Do and Mend x1 - DT
		Broad knowledge Different materials are suitable for different purposes, depending on their specific properties. For example, glass is transparent, so it is suitable to be used for windows.	**Core Knowledge** Properties of components and materials determine how they can and cannot be used.	**Core Knowledge** Materials for a specific task must be selected on the basis of their properties. For example greenhouses need transparent or translucent materials. Availability and cost have also got to be considered.	**Core Knowledge** Characteristics of materials, such as rigidity, strength and smoothness will affect the success of a working model. Visual qualities of a yarn can include its colour, elasticity, pattern and texture. Fabrics can be natural or synthetic. Natural fabrics include cotton, silk and wool. Synthetic fabrics include Lycra, polyester and nylon.	Broad knowledge Materials should be cut and combined with precision. For example, pieces of fabric could be cut with sharp scissors and sewn together using a variety of stitching techniques.	**Core Knowledge** It is important to understand the characteristics of different materials to select the most appropriate material for a purpose. This might include flexibility, waterproofing, texture, colour, cost and availability.
	Decorating and embellishing textiles	**Skill** Use gluing, stapling or tying to decorate fabric, including buttons and sequins. **Covered x 1** Funny Faces and Fabulous Features x1 - A&D	**Skill** Add simple decorative embellishments, such as buttons, prints, sequins and appliqué. **Covered x 1** Cut, Stitch and Join x1 - DT	**Skill** Decorate a loom weaving using embellishments, such as natural or silk flowers, tassels and bows. **Covered x 1** Beautiful Botanicals x1 - A&D	**Skill** Create detailed decorative patterns on fabric using printing techniques. **Covered x 1** Functional and Fancy Fabrics x1 - DT	**Skill** Use applique to add decoration to a product or artwork. **Covered x 1** Mixed Media x1 - A&D	**Skill** Use different methods of fastening for function and decoration, including press studs, Velcro and buttons. **Covered x 1** Make Do and Mend x1 - DT
		Core Knowledge Decorations can be attached to fabric by gluing, stapling or tying.	**Core Knowledge** Embellishment is a decorative detail or feature added to something to make it more attractive.	*Broad knowledge* A loom weaving is a piece of fabric that has been woven on a loom by interlacing threads. An embellishment is a decorative detail or feature, such as a silk flower, tassel or bow, added to something to make it more	**Core Knowledge** Block printing and fabric paint are used to create decorative, repeated patterns on fabrics.	**Core Knowledge** Applique is a technique where pieces of material are attached to another material by stitching or gluing.	*Broad knowledge* Fastenings hold a piece of clothing together. Types of fastenings include zips, press studs, Velcro and buttons.

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				attractive.			
Nature	**Food preparation and cooking**	**Skill** Measure and weigh food items using non-standard measures, such as spoons and cups. **Covered x 2** Human Senses x1 - Sci Chop, Slice and Mash x1 - DT	**Skill** Prepare ingredients by peeling, grating, chopping and slicing **Covered x 1** Remarkable Recipes x1 - DT	**Skill** Prepare and cook a simple savoury dish. **Covered x 3** Cook Well, Eatwell x3 - DT	**Skill** Identify and use a range of cooking techniques to prepare a simple meal or snack. **Covered x 1** Fresh Food, Good Food x1 - DT	**Skill** Use an increasing range of preparation and cooking techniques to cook a sweet or savoury dish. **Covered x 2** Eat the Seasons x2 - DT	**Skill** Follow a recipe that requires a variety of techniques and source the necessary ingredients independently. **Covered x 3** Food for Life x3 - DT
		Core Knowledge Fruits and vegetables can be mixed to make a healthy salad. Salad dressings can improve the flavour of salads.	**Core Knowledge** A recipe is a set of instructions for preparing and cooking a meal.	**Core Knowledge** Preparation techniques for savoury dishes include peeling, chopping, deseeding, slicing, dicing, grating, mixing and skinning.	**Core Knowledge** Cooking techniques include baking, boiling, frying, grilling and roasting.	**Core Knowledge** Sweet dishes are usually desserts, such as cakes, fruit pies and trifles. Savoury dishes usually have a salty or spicy flavour rather than a sweet one.	**Core Knowledge** Ingredients can usually be bought at supermarkets, but specialist shops may stock different items such as specialist vegetables or coffees. Greengrocers sell fruit and vegetables, butchers sell meat, fishmongers sell fresh fish and delicatessens usually sell some unusual prepared foods, as well as cold meats and cheeses.
	Nutrition	**Skill** Select healthy ingredients for a fruit or vegetable salad. **Covered x 2** Chop, Slice and Mash x1 – DT Amazing Bodies Unit 5 x1 - PHSE	**Skill** Describe the types of food needed for a healthy and varied diet and apply the principles to make a simple, healthy meal. **Covered x 1** Remarkable Recipes x1 - DT	**Skill** Identify the main food groups (carbohydrates, protein, dairy, fruits and vegetables, fats and sugars). **Covered x 2** Cook Well, Eatwell x1 - DT Sleep, Food and Hygiene - Unit 5 x1 - RHE	**Skill** Design a healthy snack or packed lunch and explain why it is healthy. **Covered x 4** Fresh Food, Good Food x3 - DT Influences and Personal Choices - Unit 5 x1 - RHE	**Skill** Evaluate meals and consider if they contribute towards a balanced diet. **Covered x 3** Eat the Seasons x3 - DT	**Skill** Plan a healthy daily diet, justifying why each meal contributes towards a balanced diet. **Covered x 1** Food for Life x1 - DT
		Core Knowledge Fruit and vegetables are an important part of a healthy diet. It is recommended that people eat at least five portions of fruit and vegetables every day.	**Core Knowledge** A healthy diet should include meat or fish, starchy foods (such as potatoes or rice), some dairy foods, a small amount of fat and plenty of fruit and vegetables.	**Core Knowledge** There are five main food groups: fruit and vegetables; carbohydrates (potatoes, bread, rice and pasta); proteins (beans, pulses, fish, eggs and meat); dairy and alternatives (milk, cheese and yoghurt) and fats (oils and spreads). Foods high in fat, salt and sugar should only be eaten occasionally as part of a healthy, balanced diet.	**Core Knowledge** Foods need packaging to keep them fresh, safe to eat and free from damage. Food packaging also provides nutritional information about the food inside.	**Core Knowledge** A balanced diet gives your body all the nutrients it needs to function correctly. This means eating a wide variety of foods in the correct proportions.	**Core Knowledge** Eating a balanced diet is a positive lifestyle choice that should be sustained over time. Food packaging provides important nutritional information about the food inside.
	Origins of food	**Skill** Sort foods into groups by whether they are from an animal or plant source. **Covered x 1** Chop, Slice and Mash x1 – DT	**Skill** Identify the origin of some common foods (milk, eggs, some meats, common fruit and vegetables). **Covered x 1** Remarkable Recipes x1 - DT	**Skill** Identify and name foods that are produced in different places. **Covered x 1** Cook Well, Eatwell x1 - DT	**Skill** Identify and name foods that are produced in different places in the UK and beyond. **Covered x 1** Fresh Food, Good Food x1 - DT	**Skill** Describe what seasonality means and explain some of the reasons why it is beneficial. **Covered x 3** Sow, Grow and Farm x2 - Geog Eat the Seasons x1 - DT	**Skill** Explain how organic produce is grown. **Covered x 1** Food for Life x1 - DT
		Core Knowledge Some foods come from animals, such as meat, fish and dairy products.	**Core Knowledge** Food comes from two main sources: animals and plants.	*Broad knowledge* The types of food that will grow in a particular area depend on a range of factors, such as the rainfall, climate and soil type. For example, many crops, such as potatoes and	**Core Knowledge** Particular areas of the world have conditions suited to growing certain crops, such as coffee in Peru and citrus fruits in	**Core Knowledge** Buying seasonal food is beneficial for many reasons. These include the food having higher nutritional value, reducing	**Core Knowledge** Whole foods have not been changed from their natural form.

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		Some come from plants, such as fruit and vegetables.	Milk comes mainly from cows but also from goats and sheep. Eggs belong to the animal product category. They are laid by female animals. The most common types eaten by humans include chicken and duck eggs. Honey is made by bees. Most edible oils are made from plant parts. Olive oil, vegetable oil and coconut oil are all made from plant sources. Sugar is made from plants called sugar cane and sugar beet. Plants also give us nuts, such as almonds, walnuts and hazelnuts.	sugar beet, are grown in the south-east of England. Wheat, barley and vegetables grow well in the east of England.	California in the United States of America.	transportation and supporting local growers. Seasonality is the time of year when the harvest or flavour of a type of food is at its best.	Organic whole foods are grown without the use of man-made fertilisers, pesticides, growth regulators or animal feed additives.
Comparison	**Compare and contrast**	**Skill** Describe the similarities and differences between two products. **Covered x 2** Shade and Shelter x1 - DT Taxi x1 - DT	**Skill** Compare different or the same products from the same or different brands. **Covered x 1** Cut, Stitch and Join x1 - DT	**Skill** Explain the similarities and difference between the work of two designers. **Covered x 1** Greenhouse x1 - DT	**Skill** Create and complete a comparison table to compare two or more products. **Covered x 3** Functional and Fancy Fabrics x2 - DT Electrical Circuits and Conductors x1 - Sci	**Skill** Survey users in a range of focus groups and compare results. **Covered x 1** Moving Mechanisms x1 - DT	**Skill** Create a detailed comparative report about two or more products or inventions. **Covered x 4** Food for Life x2 - DT Engineer x1 - DT Make Do and Mend x1 - DT
		Core Knowledge Two products can be compared by looking at a set of criteria and scoring both products against each one.	**Core Knowledge** A brand is a name, term, design, or symbol identifying a seller's products or services.	**Core Knowledge** Work from different designers can be compared by assessing specific criteria, such as their visual impact, fitness for purpose and target market.	**Core Knowledge** A comparison table is an organised way to compare products.	**Core Knowledge** Evaluations can be made by asking product users a selection of questions to obtain data on how the product has met its design criteria.	**Core Knowledge** Products and inventions can be compared using a range of criteria, such as the impact on society, ease of use, appearance and value for money.
Significance	**Significant people**		**Skill** Explain why a designer or inventor is important. **Covered x 2** Remarkable Recipes x1 - DT Cut, Stitch and Join x1 - DT	**Skill** Describe how key events in design and technology have shaped the world. **Covered x 1** Cook Well, Eatwell x1 - DT	**Skill** Explain how and why a significant designer or inventor shaped the world. **Covered x 2** Fresh Food, Good Food x2 - DT Functional and Fancy Fabrics x2 - DT	**Skill** Describe the social influence of a significant designer or inventor. **Covered x 1** Architecture x1 - DT	**Skill** Present a detailed account of the significance of a favourite designer or inventor. **Covered x 1** Engineer x1 - DT
			Core Knowledge School kitchen staff are important people because they design and provide healthy meals. The Cath Kidston brand was an important British brand which began in the 1990s. It was easily recognisable for its floral patterned fabric and use of classic	Broad knowledge Key inventions in design and technology have changed the way people live.	**Core Knowledge** Food deteriorates due to the growth of microorganisms. Significant scientists such as Louis Pasteur and inventors such as Nicolas Appert have ensured decay can be prevented or delayed by preservation methods, such as drying, salting, pickling, canning, pasteurising, refrigerating or freezing the food.	**Core Knowledge** A Roman architect called Vitruvius said that successful buildings should have firmitas (stability), utilitas (useful space) and venustas (an attractive appearance).	**Core Knowledge** Significant engineers have improved, safety, people's lives and trade through their constructions. Significant bridges include: the Menai Bridge, Clifton Suspension Bridge and Forth Bridge.

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			British iconography including the Red London Bus and London black cab.		The 'use by' date shows when the food is no longer safe to eat. The 'best before' date shows the date after which the food will lose some flavour or texture. William Morris was a British textile designer, artist and socialist activist associated with the British Arts and Crafts Movement. William Morris was a significant contributor to the revival of traditional British textile arts and methods of production. William Morris' motifs consisted mainly of leaves, flowers, fruits and birds.		
Vocabulary	absorbent, clay, den, design criteria, durable, fabric, flexible, glass, material, metal, opaque, permanent, plastic, shade, shelter, stone, strong, tarpaulin, temporary, transparent, waterproof, wood axle, chassis, design criteria, dowel, fixed axle, moving axle, passenger, taxi, vehicle, washer, wheel chop, dairy, flowering head, fruit, grate, leaf, mash, peel, root, salad, salad dressing, seed, slice, stem, tear, texture, tool	beef, chop, edible, equipment, grate, ingredients, lamb, mash, mixed diet, peel, pork, preserves, pulses, recipe, slice, vegan diet, vegetarian diet appliqué, Binca, designer, embellishment, fabric, motif, needle, running stitch, sequin, sewing pattern, textile, thread apex roof, beach hut, bench hook, butt joint, cladding, design criteria, frame structure, G clamp, junior hacksaw, sand, score, stilts, strengthen, triangular corner background, facial expression, gallery, monarch, object, portrait, pose, thumbnail sketch	bake, barbecue, boil, calcium, carbohydrate, design criteria, Eatwell Guide, fry, grill, microwave, mineral, nutrient, protein, roast, simmer, slow cooking, steam, vitamin axle, cam, circular cam, design criteria, follower, heart cam, lever, linkage, machine, mechanism, pear cam, rotation, slider, snail cam, wheel biome (Eden Project), butt joint, cloche, cold frame, conservatory, design criteria, diagonal strut, frame structure, greenhouse, hot glue gun, plastic, rigid, stability, strength, translucent, transparent, triangular corner, vent	best before date, canning, chop, cling film, decay, design criteria, drying, food poisoning, freezing, grate, healthy snack, mash, microorganism, net, packaging, pasteurising, peel, pickling, preservation, refrigerating, salting, slice, use by date block printing, breathable, colour palette, cotton, denim, design criteria, durable, embellishment, embroider, fabric, Gore-Tex, hem, industry, lace, leather, motif, natural fabric, nylon, polyester, synthetic fabric, wool, woven force, friction, inclined plane, lever, load, prototype, pulley, pyramid, fulcrum, screw, simple machine, wedge, wheel and axle	compress, compressor, deflate, force, gas, inflate, jack, lever, liquid, particle, piston, plunger, pneumatic system, pneumatics, pressure, reservoir, solid, syringe, system, valve balanced diet, boil, carbon footprint, dice, food hygiene, grate, import, nutritional value, peel, sauté, seasonality, steam architecture, capital, caryatids, column, computer-aided design, Corinthian column, cornice, Doric column, entablature, fluting, frieze, Ionic column, limestone, lintel, marble, pediment, stability, stiffness, support	additive, flavouring, knead, minimally-processed food, organic food, pasteurise, preservative, processed food, prove, shelf life, ultra-processed food, unprocessed food, whole food, yeast abutment, aqueduct, arch, arch bridge, beam, beam bridge, bridge, compression, concertina, distort, engineer, iron, span, steel, support pier, suspension bridge, tension, truss, truss bridge bias binding, blanket stitch, bunting, coupon, darn, fastening, ration book, rationing, recycle, running stitch, tacking stitch, utility, whip stitch
Significant people		Cath Kidston (Y2 Cut, Stitch and Join)	Sir Joseph Paxton (Y3 Greenhouse) Sir Nicholas Grimshaw (Y3 Greenhouse)	William Morris (Y4 Functional and Fancy Fabrics)			Thomas Telford (Y6 Engineer) Isambard Kingdom Brunel (Y6 Engineer) Sir John Fowler (Y6 Engineer) Sir Benjamin Baker (Y6 Engineer)
By the end of the Year, children will be able to:	Talk about what he/she eats at home and begin to discuss what healthy foods are. Say where some food comes from and give examples of food that is grown.	Understand the need for a variety of food in a diet. Understand that all food has to be farmed, grown or caught.	Talk about the different food groups and name food from each group. Understand that food has to be grown, farmed or caught in Europe and the wider	Understand the main food groups and the different nutrients that are important for health. Understand how a variety of ingredients	Understand what makes a healthy and balanced diet, and that different foods and drinks provide different substances the body needs to be healthy and active.	Confidently plan a series of healthy meals based on the principles of a healthy and varied diet. Use information on food labels to inform

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	Use simple tools with help to prepare food safely. Create simple designs for a product. Use pictures and words to describe what he/she wants to do. Select from and use a range of tools and equipment to perform practical tasks e.g. cutting, shaping, joining and finishing. Use a range of simple tools to cut, join and combine materials and components safely. Ask simple questions about existing products and those that he/she has made. Build structures, exploring how they can be made stronger, stiffer and more stable. Use wheels and axles in a product	Use a wider range of cookery techniques to prepare food safely. Design purposeful, functional, appealing products for himself/herself and other users based on design criteria. Generate, develop, model and communicate his/her ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. Choose appropriate tools, equipment, techniques and materials from a wide range. Safely measure, mark out, cut and shape materials and components using a range of tools. Evaluate and assess existing products and those that he/she has made using a design criteria. Investigate different techniques for stiffening a variety of materials and explore different methods of enabling structures to remain stable. Explore and use mechanisms e.g. levers, sliders, wheels and axles, in his/her products.	world. Use a wider variety of ingredients and techniques to prepare and combine ingredients safely. Use knowledge of existing products to design his/her own functional product. Create designs using annotated sketches, cross-sectional diagrams and simple computer programmes. Safely measure, mark out, cut, assemble and join with some accuracy. Make suitable choices from a wider range of tools and unfamiliar materials and plan out the main stages of using them. Investigate and analyse existing products and those he/she has made, considering a wide range of factors. Strengthen frames using diagonal struts. Understand how mechanical systems such as levers and linkages or pneumatic systems create movement	are grown, reared, caught and processed to make them safe and palatable / tasty to eat. Select appropriate ingredients and use a wide range of techniques to combine them. Use his/her research into existing products and his/her market research to inform the design of his/her own innovative product. Create prototypes to show his/her ideas. Make careful and precise measurements so that joins, holes and openings are in exactly the right place. Produce step by step plans to guide his/her making, demonstrating that he/she can apply his/her knowledge of different materials, tools and techniques. Make detailed evaluations about existing products and his/her own considering the views of others to improve his/her work. Build more complex 3D structures and apply his/her knowledge of strengthening techniques to make them stronger or more stable. Understand how to use more complex mechanical and electrical systems.	Understand seasonality and the advantages of eating seasonal and locally produced food. Read and follow recipes which involve several processes, skills and techniques. Use knowledge of existing products to design a functional and appealing product for a particular purpose and audience. Create designs using exploded diagrams. Use techniques which require more accuracy to cut, shape, join and finish his/her work e.g. cutting internal shapes, slots in frameworks. Use his/her knowledge of techniques and the functional and aesthetic qualities of a wide range of materials to plan how to use them. Consider how existing products and his/her own finished products might be improved and how well they meet the needs of the intended user. Apply techniques he/she has learnt to strengthen structures and explore his/her own ideas. Understand and use electrical systems in products	choices. Research, plan and prepare and cook a savoury dish, applying his/her knowledge of ingredients and his/her technical skills. Use research he/she has done into famous designers and inventors to inform the design of his/her own innovative products. Generate, develop, model and communicate his/her ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. Apply his/her knowledge of materials and techniques to refine and rework his/her product to improve its functional properties and aesthetic qualities. Use technical knowledge accurate skills to problem solve during the making process. Use his/her knowledge of famous designs to further explain the effectiveness of existing products and products he/she have made. Use a wide range of methods to strengthen, stiffen and reinforce complex structures and can use them accurately and appropriately. Apply his/her understanding of computing to program, monitor and control his/her product.