

## Design Technology Curriculum Progression

### **Intent**

At Starcross Primary School, we aim for pupils to be inquisitive problem solvers who can adapt and apply their prior knowledge in an ever-changing world. Children follow a process of design, make and evaluate to produce products that meet a given criteria.

We empower pupils by providing them with real life opportunities, where they can develop key skills and knowledge, forge further links with the local community and beyond. Pupils learn to take risks, to try and test new ideas and evaluate the success of their designs. We provide opportunities for the pupils to discuss, question, explore and investigate, encouraging the use of rich vocabulary to communicate ideas in different ways.

In an ever-increasing technological world, we provide valuable experiences, where our pupils can be creative, knowledgeable and excited to learn more, both within their next educational setting and future employment.

### **Implementation**

Design and Technology is a crucial part of school life and it is for this reason that as a school we are dedicated to the teaching and delivery of a high-quality Design and Technology curriculum.

This is implemented through:

- A well thought out, whole school, yearly overview of the DT curriculum (following the Cornerstones scheme of work) which allows for progression across year groups in all areas of DT (textiles, mechanisms, structures, food and electrical systems)
- Well planned and resourced projects providing children with a hands-on and enriching experience
- A range of skills being taught ensuring that children are aware of health and safety issues related to the tasks undertaken
- Each project addressing the principles of designing, making, and evaluating and incorporating relevant technical knowledge and understanding in relevant contexts.

- Pupils being introduced to specific designers, chefs, nutritionists, engineers etc. helping to engender an appreciation of human creativity and achievement and increase the cultural capital from which they can draw in the future.

### **Meeting the needs of all children**

Our DT curriculum is inclusive and accessible - all of our children – regardless of need or barrier - achieve their potential in DT. Pupils who may find other curriculum areas challenging have the opportunity to excel in this area of the curriculum. Children are encouraged to be independent in their learning and to have a thirst to do well. New knowledge is broken down into meaningful components and introduced sequentially. This supports all children when learning the concepts and developing skills in Design Technology. DT learning outcomes are not always recorded in a written format, which can often remove a barrier for our disadvantaged children. Children may work in groups to explore ideas and complete practical activities to support their learning and give them access to positive role models. Our enriched curriculum (including STEM club, visitors and class visits) gives our more disadvantaged children the opportunity to increase their vocabulary and develop their DT Capital.

### **Impact**

Children will have clear enjoyment and confidence in Design and Technology that they will then apply to other areas of the curriculum. Through carefully planned and implemented learning activities the pupils develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world. They gain a firm foundation of knowledge and skills to see them equipped to take on further learning in secondary education.

### **Assessment**

Pupil's skills and knowledge are assessed by the class teacher throughout lessons and a summative assessment is completed at the end of each project. This informs the Design and Technology leader of any further areas for curriculum development, pupil support and/or training requirements for staff. EYFS pupils' progress and attainment tells us whether each individual child is below expected, at expected or above expected attainment for their age

### **Curriculum Design and Coverage**

#### **Early Years:**

Early Years Foundation Stage During the EYFS pupils explore and use a variety of media and materials through a combination of child initiated and adult directed activities.

They have the opportunities to learn to:

- Use different media and materials to express their own ideas
- Use what they have learnt about media and materials in original ways, thinking about form, function and purpose
- Make plans and construct with a purpose in mind using a variety of resources
- Develop skills to use simple tools and techniques appropriately, effectively and safely
- Select appropriate resources for a product and adapt their work where necessary
- Cook and prepare food adhering to good health and hygiene routines

### **Key Stage 1**

Pupils will have the confidence to take greater risks when tackling new challenges and be curious and creative to solve manufactured/encountered problems practically to help the local community. Children will follow a process of 'design, make and evaluate' to create purposeful products. They will be introduced to subject-specific vocabulary to articulate their proposed design and be shown the technology and techniques to carry this out. Children will use their knowledge and judgement to choose appropriate methods and materials and use these safely to meet a given criteria. Pupils will be consistently reflective to enable them to adapt and improve their work to ensure it is of good quality.

### **Key Stage 2**

Pupils will become confident risk-takers when tackling new challenges and be curious and creative to solve problems practically to satisfy evolving human needs, which will shape our world. Children will take personal responsibility for the process of designing, making and evaluating purposeful products using their cross-curricular knowledge. They will build on prior learning and be familiar with subject-specific vocabulary to articulate their proposed design and use appropriate technology to research the problem and techniques to carry this out. Children will use their knowledge and judgement to choose appropriate methods and materials from a wider range of options and use these safely to meet their self-initiated criteria. Pupils will be consistently reflective to enable them to adapt and improve their work to ensure it is of good quality and is functional for the purpose.

	Autumn	Spring	Summer
--	--------	--------	--------

1	Shade and Shelter	Taxi	Chop, Slice and Mash
2	Remarkable Recipes	Beach Hut	Cut, stitch and join Push and Pull
3	Cook Well, Eatwell	Making it move	Greenhouse
4	Fresh Food, Good Food	Functional and Fancy Fabrics	Tomb Builders
5	Moving Mechanisms	Eat the Seasons	Architecture
6	Food for Life	Engineer	Make Do and Mend

Children in the Early Years, experience Design and Technology through the development areas of 'Expressive Arts and Design', 'Physical Development', 'Understanding of the World' and 'Personal, Social and Emotional Development.' These areas of learning encompass experiences and skills that link to and support the National Curriculum subjects as the children move into Year 1 and through their primary journey.

All of the Design and Technology projects/units planned and delivered are based around the four step pedagogy, Engage-Develop-Innovate-Express.

Through continuous and enhanced provision the children will have opportunities to explore, ask and answer questions whilst working with a wide range of resources. The children will be observed closely, questioned and modelled to when appropriate to ensure their learning is moved on. The key ingredients and skills of designing/planning, making and evaluating will be introduced and developed throughout their Design and Technology work.

The children will also have opportunities to reimagine and re-enact stories and experiences (through role play, building small worlds and narratives). In addition, listening to a broad range of stories and non-fiction will foster their understanding of the world around them. As well as building important knowledge this extends their familiarity with words that support understanding across areas, enriching and widening children's vocabulary.

Learning in Design and Technology will be developed throughout the year and revisited in line with children's interests and learning needs. The frequency and range of children's personal experiences will increase their knowledge and sense of the world around them and in turn their knowledge and skills in Design and Technology.

## Progression of Skills and Knowledge in Design and Technology-

### Concept: Compare and Contrast

	Skill (s)	Core Knowledge
EYFS: Pre-School	Share their creations with others and begin to notice how the work of others is the same or different to their own.	
EYFS: Reception	Describe what, why and how something was made and compare with others.	
Year 1	Describe the similarities and differences between two products.	Two products can be compared by looking at a set of criteria and scoring both products against each one.
Year 2	Compare different or the same products from the same or different brands.	A brand is a name, term, design or symbol identifying a seller's products or services.
Year 3	Explain the similarities and difference between the work of two designers.	Work from different designers can be compared by assessing specific criteria, such as their visual impact, fitness for purpose and target market.
Year 4	Create and complete a comparison table to compare two or more products.	A comparison table is an organised way to compare products.
Year 5	Survey users in a range of focus groups and compare results.	Evaluations can be made by asking product users a selection of questions to obtain data on how the product has met its design criteria.
Year 6	Create a detailed comparative report about two or more products or inventions.	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.

### Concept: Cutting and joining textiles

	Skill (s)	Core Knowledge
EYFS: Pre-School		

<b>EYFS: Reception</b>		
<b>Year 1</b>	Cut and join textiles using glue and simple stitches.	<p>A running stitch is made by passing a needle in and out of fabric.</p> <p>Running stitches are made at equal distances apart.</p>
<b>Year 2</b>	. Use different methods of joining fabrics, including glue and running stitch.	. A running stitch is a basic stitch used to join two pieces of fabric.
<b>Year 3</b>	Cut and join wools, threads and other materials to a loom.	Cut and join wools, threads and other materials to a loom.
<b>Year 4</b>	Hand sew a hem or seam using a running stitch.	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.
<b>Year 5</b>	Combine stitches and fabrics with imagination to create a mixed media collage.	. A collage is artwork made by sticking materials, such as scraps of paper or fabric, onto a background.
<b>Year 6</b>	Pin and tack fabrics in preparation for sewing and more complex pattern work.	.

### **Concept: Decorating and embellishing textiles**

	<b>Skill (s)</b>	<b>Core Knowledge</b>
<b>EYFS: Pre-School</b>		
<b>EYFS: Reception</b>	.	
<b>Year 1</b>	Use gluing, stapling or tying to decorate fabric, including buttons and sequins.	Decorations can be attached to fabric by gluing, stapling or tying.
<b>Year 2</b>	Add simple decorative embellishments, such as buttons, prints, sequins and appliqué.	Embellishment is a decorative detail or feature added to something to make it more attractive.

<b>Year 3</b>	Decorate a loom weaving using embellishments, such as natural or silk flowers, tassels and bows.	
<b>Year 4</b>	Create detailed decorative patterns on fabric using printing techniques.	Block printing and fabric paint are used to create decorative, repeated patterns on fabrics.
<b>Year 5</b>	Use applique to add decoration to a product or artwork.	Applique is a technique where pieces of material are attached to another material by stitching or gluing.
<b>Year 6</b>	. Use different methods of fastening for function and decoration, including press studs, Velcro and buttons.	

### **Concept: Electricity**

	<b>Skill (s)</b>	<b>Core Knowledge</b>
<b>EYFS: Pre-School</b>	Explore battery-powered objects using switches to turn them off and on.	
<b>EYFS: Reception</b>	Identify products that use electricity to make them work.	Microwaves, toasters and blenders are machines. Machines need power to make them work.
<b>Year 1</b>	Identify products that use electricity to make them work and describe how to switch them on and off.	
<b>Year 2</b>	Create an operational, simple series circuit.	
<b>Year 3</b>	Incorporate a simple series circuit into a model.	
<b>Year 4</b>	. Incorporate circuits that use a variety of components into models or products.	
<b>Year 5</b>	Use electrical circuits of increasing complexity in their models or products, showing an understanding of control.	
<b>Year 6</b>	Understand and use electrical circuits that incorporate a variety of components (switches,	



	lamps, buzzers and motors) and use programming to control their products.	
--	---	--

### **Concept: Evaluation**

	<b>Skill (s)</b>	<b>Core Knowledge</b>
<b>EYFS: Pre-School</b>	. Share their creations with others and respond to questions and suggestions about how it was made.	
<b>EYFS: Reception</b>	Adapt and refine their work as they are constructing and making.	
<b>Year 1</b>	Talk about their own and each other's work, identifying strengths or weaknesses and offering support.	<p>A strength is something that is good about a piece of work.</p> <p>A weakness is an area that could be improved.</p>
<b>Year 2</b>	Explain how closely their finished products meet their design criteria and say what they could do better in the future.	<p>A finished product can be checked against design criteria to see how successfully it has been made or to evaluate how well it works.</p> <p>Improvements can then be planned.</p>
<b>Year 3</b>	Suggest improvements to their products and describe how to implement them, beginning to take the views of others into account.	Asking questions can help others to evaluate their products. For example, asking someone whether the materials selected helped achieve the purpose of the model.
<b>Year 4</b>	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.	. 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.

		The evaluation process can include suggesting improvements and explaining why they should be made.
<b>Year 5</b>	Test and evaluate products against a detailed design specification and make adaptations as they develop the product.	Testing a product against the design criteria will highlight anything that needs improvement or redesign.
<b>Year 6</b>	Demonstrate modifications made to a product as a result of ongoing evaluation by themselves and to others.	<p>. An iterative process starts with requirements and continues by creating a product, testing it, and revising it before creating a better version.</p> <p>The iterative process is a series of steps that are repeated, improving the product with each cycle.</p>

### **Concept: Everyday products**

	<b>Skill (s)</b>	<b>Core Knowledge</b>
<b>EYFS: Pre-School</b>	. Name and explore a range of everyday products and explore how things work.	Some books have moving parts.
<b>EYFS: Reception</b>	Name and explore a range of everyday products and begin to talk about how they are used.	
<b>Year 1</b>	Name and explore a range of everyday products and describe how they are used.	<p>An axle is a rod that is connected to the centre of a wheel, which allows it to turn.</p> <p>A chassis is the frame of a vehicle.</p> <p>A shelter is a structure designed to give protection from weather or danger.</p>
<b>Year 2</b>	Explain how an everyday product could be improved.	There are many home products made from fabric.

		<p>Examples of fabric based products in the home include cushions, curtains, blinds and carpets.</p> <p>Products can be improved in different ways, such as making them easier to use, more hardwearing or more attractive.</p>
<b>Year 3</b>	Explain how an existing product benefits the user.	Explain how an existing product benefits the user.
<b>Year 4</b>	Investigate and identify the design features of a familiar product.	<p>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.</p> <p>A switch makes or breaks a circuit.</p> <p>When a switch is closed or 'on', the circuit is complete.</p> <p>When a switch is open or 'off', the circuit is incomplete.</p> <p>A programmable device is a machine that is provided with coded instructions for the automatic performance of a task.</p>
<b>Year 5</b>	Explain how the design of a product has been influenced by the culture or society in which it was designed or made.	<p>The design of products needs to take into account the culture of the target audience.</p> <p>The ancient Greeks developed the Classical form of architecture that has been copied for thousands of years.</p>
<b>Year 6</b>	Analyse how an invention or product has significantly changed or improved people's lives.	Make Do and Mend was a campaign run by the Ministry of Information during the Second World War to

		<p>encourage people to recycle and repurpose their old clothes rather than buy new.</p> <p>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.</p> <p>A processed food is changed during preparation and includes processes, such as cooking, freezing, pasteurising, or the addition of ingredients.</p> <p>Processed foods can be convenient and increase availability, but often lack of nutrients and contain unhealthy ingredients when compared to whole foods.</p> <p>Sliced bread is processed. It can contain many more ingredients than homemade bread, including preservatives and artificial ingredients.</p> <p>Bridge structures have changed over time. This is due to factors such as technology, design innovation and new and better access to materials.</p>
--	--	--

**Concept: Food preparation and cooking**

	Skill (s)	Core Knowledge
<b>EYFS: Pre-School</b>		
<b>EYFS: Reception</b>	Follow instructions, including simple recipes, that include measures and ingredients.	When people celebrate they sometimes eat special food.

		<p>A recipe is a set of instructions that tells us how to make food.</p> <p>Recipes show us how to make meals and snacks.</p>
<b>Year 1</b>	Measure and weigh food items using non-standard measures, such as spoons and cups.	<p>Fruits and vegetables can be mixed to make a healthy salad.</p> <p>Salad dressings can improve the flavour of salads.</p>
<b>Year 2</b>	Prepare ingredients by peeling, grating, chopping and slicing.	
<b>Year 3</b>	Prepare and cook a simple savoury dish.	Preparation techniques for savoury dishes include peeling, chopping, deseeding, slicing, dicing, grating, mixing and skinning.
<b>Year 4</b>	Identify and use a range of cooking techniques to prepare a simple meal or snack.	Cooking techniques include baking, boiling, frying, grilling and roasting.
<b>Year 5</b>	Use an increasing range of preparation and cooking techniques to cook a sweet or savoury dish.	<p>Sweet dishes are usually desserts, such as cakes, fruit pies and trifles.</p> <p>Savoury dishes usually have a salty or spicy flavour rather than a sweet one.</p>
<b>Year 6</b>	Follow a recipe that requires a variety of techniques and source the necessary ingredients independently.	<p>Ingredients can usually be bought at supermarkets, but specialist shops may stock different items such as specialist vegetables or coffees.</p> <p>Greengrocers sell fruit and vegetables, butchers sell meat, fishmongers sell fresh fish and delicatessens</p>

		usually sell some unusual prepared foods, as well as cold meats and cheeses.
--	--	--

### **Concept: Generation of ideas**

	<b>Skill (s)</b>	<b>Core Knowledge</b>
<b>EYFS: Pre-School</b>	Develop their own ideas and explore a variety of resources, including blocks and construction kits to create 'small worlds' and objects linked to their interests.	
<b>EYFS: Reception</b>	Create collaboratively, share ideas and use a variety of resources to make products inspired by existing products, stories or their own ideas, interests or experiences.	It is important to share resources and communicate our ideas in order to get on with others.
<b>Year 1</b>	Create a design to meet simple design criteria.	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.
<b>Year 2</b>	Generate and communicate their ideas through a range of different methods.	
<b>Year 3</b>	Develop design criteria to inform a design.	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.
<b>Year 4</b>	Use annotated sketches and exploded diagrams to test and communicate their ideas.	Annotated sketches and exploded diagrams show specific parts of a design, highlight sections or show

		functions. They communicate ideas in a visual, detailed way.
<b>Year 5</b>	Use pattern pieces and computer-aided design packages to design a product.	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.
<b>Year 6</b>	Develop design criteria for a functional and appealing product that is fit for purpose, communicating ideas clearly in a range of ways.	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.

### **Concept: Investigation**

	<b>Skill (s)</b>	<b>Core Knowledge</b>
<b>EYFS: Pre-School</b>	Explore simple tools within practical tasks and experiment with joining materials.	
<b>EYFS: Reception</b>	Choose and explore appropriate tools for simple practical tasks.	There are different ways to join materials together.  Sewing is stitching things using a needle and thread.
<b>Year 1</b>	Select the appropriate tool for a simple practical task.	Some foods need to be prepared before eating.  Peeling, slicing, chopping, grating, tearing or mashing are different methods of preparing foods.
<b>Year 2</b>	Select the appropriate tool for a task and explain their choice.	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.

<b>Year 3</b>	Use tools safely for cutting and joining materials and components.	
<b>Year 4</b>	Select, name and use tools with adult supervision.	
<b>Year 5</b>	Name and select increasingly appropriate tools for a task and use them safely.	
<b>Year 6</b>	Select appropriate tools for a task and use them safely and precisely.	<p>Deconstructing garments identifies how they were made, the materials used and their properties.</p> <p>Hand stitches include running stitch, blanket stitch and whip stitch.</p>

### **Concept: Materials for purpose**

	<b>Skill (s)</b>	<b>Core Knowledge</b>
<b>EYFS: Pre-School</b>	Explore and choose freely from a variety of materials when making.	
<b>EYFS: Reception</b>	Select appropriate materials when constructing and making.	
<b>Year 1</b>	Select and use a range of materials, beginning to explain their choices.	
<b>Year 2</b>	Choose appropriate components and materials and suggest ways of manipulating them to achieve the desired effect.	Properties of components and materials determine how they can and cannot be used.
<b>Year 3</b>	Plan which materials will be needed for a task and explain why.	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.



<b>Year 4</b>	Choose from a range of materials, showing an understanding of their different characteristics.	<p>Characteristics of materials, such as rigidity, strength and smoothness will affect the success of a working model.</p> <p>Visual qualities of a yarn can include its colour, elasticity, pattern and texture.</p> <p>Fabrics can be natural or synthetic.</p> <p>Natural fabrics include cotton, silk and wool.</p> <p>Synthetic fabrics include Lycra, polyester and nylon.</p>
<b>Year 5</b>	Select and combine materials with precision.	
<b>Year 6</b>	Choose the best materials for a task, showing an understanding of their working characteristics.	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.

### **Concept: Mechanisms and movement**

	<b>Skill (s)</b>	<b>Core Knowledge</b>
<b>EYFS: Pre-School</b>	Explore, build and play with a range of resources and construction kits with wheels.	Lots of vehicles have wheels to help them move.
<b>EYFS: Reception</b>	Explore, build and play with a range of resources and construction kits with wheels and axles.	<p>Vehicles and machines have wheels and axles to help them move.</p> <p>Wheels help vehicles move.</p> <p>An axle is a rod that goes through the middle of the wheel to help it stay in place.</p>

		Vehicles have wheels and axles to help them move.
<b>Year 1</b>	Use wheels and axles to make a simple moving model.	<p>Most vehicles that move on land have axles and wheels that are fixed to a chassis.</p> <p>An axle fixed to a chassis has freely moving wheels.</p> <p>A freely moving axle has fixed wheels.</p>
<b>Year 2</b>	Use a range of mechanisms (levers, sliders, wheels and axles) in models or products.	<p>People build machines to make their work easier.</p> <p>A machine is made up of different parts that all work together to perform a task.</p> <p>Individual parts of a machine are called components.</p> <p>The part of a machine that brings about movement is called the mechanism.</p> <p>A slider mechanism moves in a straight line.</p> <p>Real-life examples of slider mechanisms include door bolts and drawers.</p> <p>A lever mechanism is a bar that moves around a fixed point called a pivot.</p> <p>Real-life uses of levers include scissors and seesaws.</p> <p>A linkage mechanism combines levers and sliders.</p>

		Real-life uses of linkages include toolboxes and scissor lifts
<b>Year 3</b>	Explore and use a range of mechanisms (levers, sliders, axles, wheels and cams) in models or products.	<p>Cams are devices that can convert circular motion into up-and-down motion.</p> <p>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.</p> <p>Different shaped cams produce different patterns of movement in the follower.</p>
<b>Year 4</b>	Explore and use a range of mechanisms (levers, axles, cams, gears and pulleys) in models or products.	<p>Simple machines make physical jobs easier by changing the strength or direction of a force.</p> <p>There are six simple machines: pulley, lever, wheel and axle, wedge, inclined plane and screw.</p> <p>Simple machines can be combined to make complex, compound machines. For example, a wheelbarrow combines a lever with a wheel and axle.</p>
<b>Year 5</b>	Use mechanical systems in their products, such as pneumatics.	<p>A pneumatic system uses compressed air to exert a force.</p> <p>Pneumatic systems can be used to lift heavy loads, raise and lower platforms or soften a force by acting as a shock absorber.</p>
<b>Year 6</b>	Explain and use mechanical systems in their products to meet a design brief.	

## Concept: Nutrition

	Skill (s)	Core Knowledge
<b>EYFS: Pre-School</b>	Help to prepare a range of healthy snacks.	Fruit and vegetables are healthy foods.
<b>EYFS: Reception</b>	Suggest healthy ingredients that can be used to make simple snacks.	<p>Fruit and vegetables are healthy foods.</p> <p>We need to eat at least five portions of fruit and vegetables a day.</p> <p>Heating food can change its appearance, taste, texture and colour.</p> <p>Fruit and vegetables are healthy food.</p>
<b>Year 1</b>	Select healthy ingredients for a fruit or vegetable salad.	<p>Fruit and vegetables are an important part of a healthy diet.</p> <p>It is recommended that people eat at least five portions of fruit and vegetables every day.</p>
<b>Year 2</b>	Describe the types of food needed for a healthy and varied diet and apply the principles to make a simple, healthy meal.	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.
<b>Year 3</b>	Identify the main food groups (carbohydrates, protein, dairy, fruits and vegetables, fats and sugars).	<p>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).</p> <p>Foods high in fat, salt and sugar should only be eaten occasionally as part of a healthy, balanced diet.</p>

<b>Year 4</b>	Design a healthy snack or packed lunch and explain why it is healthy.	<p>Foods need packaging to keep them fresh, safe to eat and free from damage.</p> <p>Food packaging also provides nutritional information about the food inside.</p>
<b>Year 5</b>	Evaluate meals and consider if they contribute towards a balanced diet.	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.
<b>Year 6</b>	Plan a healthy daily diet, justifying why each meal contributes towards a balanced diet.	<p>Eating a balanced diet is a positive lifestyle choice that should be sustained over time.</p> <p>Food packaging provides important nutritional information about the food inside.</p>

### **Concept: Origins of food**

	<b>Skill (s)</b>	<b>Core Knowledge</b>
<b>EYFS: Pre-School</b>	Explore and try a range of foods and suggest where they come from.	A recipe is a set of instructions that tells us how to make food.
<b>EYFS: Reception</b>	Begin to identify the origins of some foods.	<p>Food can be from plants such as fruit, vegetables, nuts and seeds.</p> <p>Animals provide meat and also produce food such as milk, eggs and honey.</p>

<b>Year 1</b>	Sort foods into groups by whether they are from an animal or plant source.	<p>Some foods come from animals, such as meat, fish and dairy products.</p> <p>Some come from plants, such as fruit and vegetables.</p>
<b>Year 2</b>	Identify the origin of some common foods (milk, eggs, some meats, common fruit and vegetables).	<p>Food comes from two main sources: animals and plants.</p> <p>Milk comes mainly from cows but also from goats and sheep.</p> <p>Eggs belong to the animal product category.</p> <p>They are laid by female animals. The most common types eaten by humans include chicken and duck eggs.</p> <p>Honey is made by bees.</p> <p>Most edible oils are made from plant parts.</p> <p>Olive oil, vegetable oil and coconut oil are all made from plant sources.</p> <p>Sugar is made from plants called sugar cane and sugar beet.</p> <p>Plants also give us nuts, such as almonds, walnuts and hazelnuts.</p>
<b>Year 3</b>	. Identify and name foods that are produced in different places.	

<b>Year 4</b>	Identify and name foods that are produced in different places in the UK and beyond.	Particular areas of the world have conditions suited to growing certain crops, such as coffee in Peru and citrus fruits in California in the United States of America.
<b>Year 5</b>	Describe what seasonality means and explain some of the reasons why it is beneficial.	<p>Buying seasonal food is beneficial for many reasons. These include the food having higher nutritional value, reducing transportation and supporting local growers.</p> <p>Seasonality is the time of year when the harvest or flavour of a type of food is at its best.</p>
<b>Year 6</b>	Explain how organic produce is grown.	<p>Whole foods have not been changed from their natural form.</p> <p>Organic whole foods are grown without the use of man-made fertilisers, pesticides, growth regulators or animal feed additives.</p>

**Concept: Significant people**

	Skill (s)	Core Knowledge
EYFS: Pre-School	Begin to talk about important products.	
EYFS: Reception	Explore significant products.	A scarecrow is a model of a person dressed in old clothes and put in a field of growing crops to frighten birds away.
Year 1	Describe why a product is important.	
Year 2	Explain why a designer or inventor is important.	<p>School kitchen staff are important people because they design and provide healthy meals.</p> <p>The Cath Kidston brand was an important British brand which began in the 1990s.</p> <p>It was easily recognisable for its floral patterned fabric and use of classic British iconography including the Red London Bus and London black cab.</p>
Year 3	Describe how key events in design and technology have shaped the world.	
Year 4	Explain how and why a significant designer or inventor shaped the world.	<p>Food deteriorates due to the growth of microorganisms.</p> <p>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.</p> <p>The 'use by' date shows when the food is no longer safe to eat.</p>



		<p>The 'best before' date shows the date after which the food will lose some flavour or texture.</p> <p>William Morris was a British textile designer, artist and socialist activist associated with the British Arts and Crafts Movement.</p> <p>William Morris was a significant contributor to the revival of traditional British textile arts and methods of production.</p> <p>William Morris' motifs consisted mainly of leaves, flowers, fruits and birds.</p>
<b>Year 5</b>	Describe the social influence of a significant designer or inventor.	<p>A Roman architect called Vitruvius said that successful buildings should have firmitas (stability), utilitas (useful space) and venustas (an attractive appearance).</p>
<b>Year 6</b>	Present a detailed account of the significance of a favourite designer or inventor.	<p>Significant engineers have improved, safety, people's lives and trade through their constructions.</p> <p>Significant bridges include: the Menai Bridge, Clifton Suspension Bridge and Forth Bridge.</p>

**Concept: Staying safe**

	<b>Skill (s)</b>	<b>Core Knowledge</b>
--	------------------	-----------------------

<b>EYFS: Pre-School</b>	Show an understanding that tools and equipment need to be used safely and collaborate with others when moving large equipment.	
<b>EYFS: Reception</b>	Follow rules and instructions to keep safe.	Rules keep us safe when using equipment.
<b>Year 1</b>	Follow the rules to keep safe during a practical task.	<p>Rules are made to keep people safe from danger.</p> <p>Safety rules include always listening carefully, following instructions and using equipment only when told to.</p>
<b>Year 2</b>	Work safely and hygienically in construction and cooking activities.	Hygiene rules include washing hands before handling food, cleaning surfaces, tying long hair back, storing food appropriately and wiping up spills.
<b>Year 3</b>	. Use appliances safely with adult supervision.	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.
<b>Year 4</b>	Work safely with everyday chemical products under supervision, such as disinfectant hand wash and surface cleaning spray.	<p>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.</p> <p>Chemicals should only be used under adult supervision.</p>
<b>Year 5</b>	Explain the functionality and purpose of safety features on a range of products.	
<b>Year 6</b>	Demonstrate how their products take into account the safety of the user.	The safety of the user has to be taken into account when designing a new product.

## Concept: Structures

	Skill (s)	Core Knowledge
<b>EYFS: Pre-School</b>	Make simple structures using a range of materials.	<p>A bridge is a structure that crosses a space.</p> <p>There are lots of different materials. Wood, stone and pebbles are hard strong.</p>
<b>EYFS: Reception</b>	Construct simple structures and models using a range of materials.	<p>A bridge is a structure that allows people and vehicles to cross over an open space.</p> <p>There are lots of different types of puppets. Some puppets have moving parts.</p> <p>There are lots of different types of puppets including finger puppets.</p>
<b>Year 1</b>	Construct simple structures, models or other products using a range of materials.	Different materials can be used for different purposes, depending on their properties.
<b>Year 2</b>	Explore how a structure can be made stronger, stiffer and more stable.	Structures can be made stronger, stiffer and more stable by using cardboard rather than paper and triangular shapes rather than squares.
<b>Year 3</b>	. Create shell or frame structures using diagonal struts to strengthen them.	<p>Diagonal struts create triangular shapes within a frame structure.</p> <p>Adding diagonal struts to a frame structure adds strength and stability.</p>

<b>Year 4</b>	Prototype shell and frame structures, showing awareness of how to strengthen, stiffen and reinforce them.	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.
<b>Year 5</b>	Build a framework using a range of materials to support mechanisms.	<p>Support, stiffness and stability can be created by using triangular shapes to create strong frameworks, columns to support roofs and overlapping brickwork patterns.</p> <p>Mechanisms and systems can work together to perform a function.</p> <p>A strong and stable structure is necessary to support mechanisms in a machine.</p>
<b>Year 6</b>	Select the most appropriate materials and frameworks for different structures, explaining what makes them strong.	<p>Strength can be added to a framework by using multiple layers or changing its shape.</p> <p>Triangles do not collapse or distort easily and so are used in architecture to provide support and stability.</p>

### **Concept: Use of ICT**

	<b>Skill (s)</b>	<b>Core Knowledge</b>
<b>EYFS: Pre-School</b>	Seek support from adults to use digital devices to create a digital record of their creations.	A camera or tablet can be used to take photographs.
<b>EYFS: Reception</b>	Use digital devices to take digital images or recordings of their creations to share with others.	

<b>Year 1</b>	Use design software to create a simple plan for a design.	
<b>Year 2</b>	Use design software to create a simple labelled design or plan.	
<b>Year 3</b>	. Write a program to make something move on a tablet or computer screen.	
<b>Year 4</b>	Write a program to control a physical device, such as a light, speaker or buzzer.	Remote control is controlling a machine or activity from a distance. Computers can be used to remotely control a device.
<b>Year 5</b>	Link a physical device to a computer or tablet so that it can be controlled (such as changing motor speed or turning an LED on and off) by a program.	
<b>Year 6</b>	Use a sensor to monitor an environmental variable, such as temperature, sound or light.	Many devices that we see in our homes and elsewhere use programmable sensors that monitor environmental variables, such as light, sound, movement and temperature.

