Patrington
CHURCH OF ENGLAND PRIMARY ACADEMY
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Everyone belongs, everyone cares, everyone tries.

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DT Knowledge Sequencing At Patrington CE Primary Academy

Intent	At Patrington we want to give all our children the best possible start in life academically, as citizens and as lifelong learners. Above all, we want them to be highly literate and able to have all the learning necessary to help them to thrive in a complex, changing and competitive world. We want all our students to be ambitious for themselves and about their futures. Our DT curriculum will engage, inspire and challenge pupils, equipping them with the knowledge and skills to design, make and evaluate a wide range of structures, mechanisms, electrical circuits, food technology, computing programing and textiles. The curriculum will also support children's DT knowledge through evaluation of architects, chefs and other professionals' work. This alongside our Patrington 'Golden Threadsl' provides our children with lifetime skills and knowledge which will support them though primary school, into secondary school and into the world. The curriculum ensures this through a love of learning by providing challenging progression and enriching, practical lessons. Our DT curriculum runs through our whole school with FS1 and FS2 'Expressive arts and design' curriculum where children gain an understanding of structures and foods around them locally. Foundation children then enhance this knowledge through provision where the children design, make and evaluate their creations with support from peers and staff and individually. Foundation children will design, make and evaluate a vehicle with moving wheels and axles. As the children progress through the school their prior knowledge is key to the understanding and development of DT. Key Stage 1 will enhance the knowledge and skills around structures, mechanisms and food technology by adding enriching enhancements for wonder, complexity and challenge. Key Stage 1 enhancements will build on that of Foundations by creating a vehicle that has movable wheels and axles with the inclusion of levers and sliders. They will evaluate their projects more deeply and will compare and discuss how it can be improved. to Key Stage 2 further the children's DT knowledge and skills through building on prior knowledge and introducing new skills. New skills introduced will follow the DT theme of Design, Make and Evaluate. This supports children to link new knowledge and skills to prior. Key Stage 2 further the progression of prior knowledge through the designing, making and evaluating of mechanical systems through creation of a vehicle with movable wheels, axels, levers and sliders with the addition of gears, pulleys, cams and linkages.
Substantive Knowledge in DT	By the end of Key Stage Two, children at Patrington Primary Academy will be able to: prepare ingredients safely and hygienically and cook nutritious food. They will be able to design their own products using a range of materials and evaluate their product against success criteria. The children will generate their own product ideas by reflecting upon existing products and then developing prototypes. Finally, in order to make successful products, the children will have a secure understanding of mechanical structures, such as: gears, pulley systems and levers.
Disciplinary Knowledge in DT	Children from Patrington Primary Academy will be able to participate fully in an increasingly technological world and have an understanding of how to be critical and reflective consumers. They will be able to use their practical, creative and reflective skills to become consumers and innovators who are well informed and can use their own skills to develop products for the future.

EYFS building the foundations for Design and Technology:
Nursery
Design and technology prepares children to take part in the development of tomorrow's changing world. Creative thinking and imagination encourages children to make positive changes to their quality of life. The subject encourages children to become autonomous and creative problem solvers, both as individuals and as part of a team. It enables them to identify needs and opportunities and to respond by developing ideas and eventually making products and systems. Through the study of Design and Technology they combine practical skills with an understanding of aesthetic, social and environmental issues, as well as functions and industrial practices. This allows them to reflect on and evaluate present and past design technology, its uses and its impacts. Design and technology helps children to become discriminating and informed consumers and potential innovators. The aims of design and technology are: - To develop imaginative thinking in children and to enable them to talk about what they like and dislike when designing and making;   - To enable children to talk about how things work and to draw and model their ideas; To encourage children to select appropriate tools and techniques for making a product, whilst following safe procedures;   - To explore attitudes towards the material world and how we live and work in it;   - To develop an understanding of technological processes, products and their manufacture, and their contribution to our society;   - To foster enjoyment, satisfaction and purpose in designing and making.   Early Years are building the foundations for success in the DT National Curriculum through **Expressive Arts and Design, Understanding the World, Physical Development, Personal, Social and Emotional Development and Communication and Language.**
Design and Technology Strands:

Design	Make
Have and discuss some ideas of things they would like to make or create. (C&L, EAD)	Explore and develop own ideas using a range of construction kits to build models, including kits with wheels, create own small worlds linked to interests(PHY, EAD) With some adult support, select and use resources to help them reach a goal. (PSED) Explore how things work. (PHY) Explore and experiment (making shapes and structures) using a range of tools & materials. (EAD, MAT) Make marks using large and small movements. Help prepare healthy snacks
Evaluate	**Technical Knowledge**
Say what they have made. (C&L) Share their creations with others and respond to questions and suggestions about how it was made (C&L, PSED)	Name & explore every day products and know they are designed to help us. (UW, PSED) To know ride on toys have wheels that help them move. (PHY) Batteries power some objects; a switch turns them on and off (UW, PSED) Different materials are used for different constructions (EAD, PHY) To manipulate materials (tear, scrunch, stick) to create a piece of work; tools have different purposes. (EAD, PHY) Some foods are healthy (fruit, vegetables, nuts, seeds); food can come from animals or plants (PSED)

EYFS building the foundations for Design and Technology:
Reception
Design and technology prepares children to take part in the development of tomorrow's changing world. Creative thinking and imagination encourages children to make positive changes to their quality of life. The subject encourages children to become autonomous and creative problem solvers, both as individuals and as part of a team. It enables them to identify needs and opportunities and to respond by developing ideas and eventually making products and systems. Through the study of Design and Technology they combine practical skills with an understanding of aesthetic, social and environmental issues, as well as functions and industrial practices. This allows them to reflect on and evaluate present and past design technology, its uses and its impacts. Design and technology helps children to become discriminating and informed consumers and potential innovators. The aims of design and technology are: ● To develop imaginative thinking in children and to enable them to talk about what they like and dislike when designing and making; ● To enable children to talk about how things work and to draw and model their ideas; ● To encourage children to select appropriate tools and techniques for making a product, whilst following safe procedures; ● To explore attitudes towards the material world and how we live and work in it; To develop an understanding of technological processes, products and their manufacture, and their contribution to our society; ● To foster enjoyment, satisfaction and purpose in designing and making. Early Years are building the foundations for success in the DT National Curriculum through **Expressive Arts and Design**, **Physical Development, Understanding the World, Personal, Social and Emotional Development and Communication and Language.**
Design and Technology Strands:

Design	Make
Discuss ideas and begin to plan what they would like to make. (CL, PSED) Choose and select appropriate materials from a range of media to help them to achieve their goals. (PSED) Know it is possible to change and alter their designs and ideas as they are making them. (PSED, CL) Suggest healthy ingredients that can be used to make simple snacks. (CL, PSED)	Explore and develop own ideas using a range of construction kits to build models, including kits with wheels and axles; create own small worlds linked to interests(PHY, EAD) 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. (EAD, PHY, CL, PSED) Cut and prepare ingredients safely and hygienically. (PHY, PSED) Tear and cut paper or card. (EAD, PHY) Use glue or tape to join. (EAD, PHY) Follow instructions, including simple recipes, that include measures and ingredients (MAT, PHY, PSED, CL) Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function; Construct simple structures and models using a range of materials; (EAD)
Evaluate	Technical Knowledge
Explain what they have made and why. (CL, PSED) Adapt and refine develop work as they are constructing and making (PSED, EAD, CL)	Know every day products are used every day and have a specific use. (UW, PSED) Name and explore a range of everyday products; begin to talk about how they are used. (UW, CL) Vehicles and machines have wheels and axles to help them move (PHY, UW) Know that many appliances at home and school need electricity to work. The appliances need to be attached to

	electricity through a plug and socket, or use batteries. KW, PSED) Develop fine and gross motor skills to hold pencils, paintbrushes, knives and forks and other tools. (PHY) Use a range of tools and techniques to achieve the desired effect with increasing independence; know different tools are used for different tasks (PHY, EAD) Know different materials have different properties and can be used for different purposes (EAD) There are healthy and unhealthy foods; fruit & vegetables are part of a healthy diet (PSED) Food comes from different sources, including from animals, such as meat, fish, eggs and dairy, or from plants, such as fruit and vegetables. (PSED, KUW)

Every DT project will include the design, make, with project specific technical knowledge, and evaluation stages..

Design and Technology							
FS1	FS2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Everyday products							
Everyday products, such as cups, plates and spoons are designed to help us.	Everyday products are objects that we use every day. These objects have a specific use.	Everyday products are objects that are used routinely at home and school, such as a toothbrush, cup or pencil. All products are designed for a specific purpose.	Products can be improved in different ways, such as making them easier to use, more hardwearing or more attractive	Particular products have been designed for specific tasks, such as nail clippers, the spinning top and the cool box.	Design features are the aspects of a product's design that the designer would like to emphasise, such as the use of a particular material or feature that makes the product easier to use or more durable.	Culture is the language, inventions, ideas and art of a group of people. A society is all the people in a community or group. Culture affects the design of some products. For example, knives and forks are used in the western world, whereas chopsticks are used mainly in China and Japan. The design of products needs to take into account the culture of the target audience. For example, colours might mean very different things in different cultures.	People's lives have been improved in countless ways due to new inventions and designs. For example, the Morrison shelter, designed by John Baker in 1941, was an indoor air-raid shelter used in over half a million homes during the Second World War. It saved the lives of many people caught in bombing raids.
Disciplinary Knowledge							
Name and explore a range of everyday products and explore how things work.	Name and explore a range of everyday products and	Name and explore a range of everyday products and	Explain how an everyday product could be improved.	Explain how an existing product benefits the user.	Investigate and identify the design features of a familiar product.	Explain how the design of a product has been influenced by the culture or	Analyse how an invention or product has significantly changed or improved

	begin to talk about how they are used.	describe how they are used.				society in which it was designed or made.	people's lives.

Mechanisms and movement							
Vehicles and ride-on toys have wheels to help them move.	Vehicles and machines have wheels and axles to help them move.	An axle is a rod or spindle that passes through the centre of a wheel to connect two wheels.	A mechanism is a device that takes one type of motion or force and produces a different one. A mechanism makes a job easier to do. Mechanisms include sliders, levers, linkages, gears, pulleys and cams.	Levers consist of a rigid bar that rotates around a fixed point, called a fulcrum. They reduce the amount of work needed to lift a heavy object. Sliders move from side to side or up and down, and are often used to make moving parts in books. Axles are shafts on which wheels can rotate to make a moving vehicle. Cams are devices that can convert circular motion into up-and-down motion.	Mechanisms can be used to add functionality to a model. For example, sliders or levers can be used in moving pictures, storybooks or simple puppets; linkages in moving vehicles or puppets; gears in motorised vehicles or spinning toys; pulleys in cable cars or transport systems and cams in 3-D moving toys or pictures.	Pneumatic systems use energy that is stored in compressed air to do work, such as inflating a balloon to open a model monster's mouth. These effects can be achieved using syringes and plastic tubing.	Mechanical systems can include sliders, levers, linkages, gears, pulleys and cams. Other mechanisms include pneumatics and hydraulics.

Disciplinary Knowledge							
Explore, build and play with a range of resources and construction kits with	Explore, build and play with a range of resources and construction kits with	Use wheels and axles to make a simple moving model.	Use a range of mechanisms (levers, sliders, wheels and axles) in models or	Explore and use a range of mechanisms (levers, sliders, axles, wheels and	Explore and use a range of mechanisms (levers, axles, cams, gears and pulleys) in	Use mechanical systems in their products, such as pneumatics.	Explain and use mechanical systems in their products to meet a

DT Knowledge Sequencing At Patrington CE Primary Academy

wheels.	wheels and axles.		products.	cams) in models or products.	models or products.		design brief.

Electricity							
Batteries power some objects. A switch turns them off and on.	Many appliances at home and school need electricity to work. The appliances need to be attached to electricity through a plug and socket, or use batteries.				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.		Computer programs can control electrical circuits that include a variety of components, such as switches, lamps, buzzers and motors.

Disciplinary Knowledge							

Generation of ideas							
		Design criteria are the explicit goals that a project must achieve.	Ideas can be communicated in a variety of ways, including written work, drawings and diagrams, modelling, speaking and using information and communication technology.	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.	Annotated sketches and exploded diagrams show specific parts of a design, highlight sections or show functions. They communicate ideas in a visual, detailed way.	A pattern piece is a drawing or shape used to guide how to make something. There are many different computer-aided design packages for designing products.	Design criteria should cover the intended use of the product, age range targeted and final appearance. 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.

Disciplinary knowledge							
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.	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.	Create a design to meet simple design criteria.	Generate and communicate their ideas through a range of different methods.	Develop design criteria to inform a design.	Use annotated sketches and exploded diagrams to test and communicate their ideas.	Use pattern pieces and computer-aided design packages to design a product.	Develop design criteria for a functional and appealing product that is fit for purpose, communicating ideas clearly in a range of ways.

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Structures

Different materials can be used for construction. They have different properties.	Different materials have different properties and can be used for different purposes.	Different materials can be used for different purposes, depending on their properties. For example, cardboard is a stronger building material than paper. Plastic is light and can float. Clay is heavy and will sink.	Structures can be made stronger, stiffer and more stable by using cardboard rather than paper and triangular shapes rather than squares. A broader base will also make a structure more stable.	Shell structures are hollow, 3-D structures with a thin outer covering, such as a box. Frame structures are made from thin, rigid components, such as a tent frame. The rigid frame gives the structure shape and support. Diagonal struts can strengthen the structure.	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. Shell and frame structures can be strengthened by glueing several layers of card together, using triangular shapes rather than squares, adding diagonal support struts and using 'Jinks' corners (small, thin pieces of card cut into a right-angled triangle and glued over each joint to straighten and strengthen them).	Various methods can be used to support a framework. These include cross braces, guy ropes and diagonal struts. Frameworks can be built using lolly sticks, skewers and bamboo canes.	Strength can be added to a framework by using multiple layers. For example, corrugated cardboard can be placed with corrugations running alternately vertically and horizontally. Triangular shapes can be used instead of square shapes because they are more rigid. Frameworks can be further strengthened by adding an outer cover.

Disciplinary knowledge

Make simple structures using a range of materials.	Construct simple structures and models using a range of materials.	Construct simple structures, models or other products using a range of materials.	Explore how a structure can be made stronger, stiffer and more stable.	Create shell or frame structures using diagonal struts to strengthen them.	Prototype shell and frame structures, showing awareness of how to strengthen, stiffen and reinforce them.	Build a framework using a range of materials to support mechanisms.	Select the most appropriate materials and frameworks for different structures, explaining what makes them strong.

Use of ICT

	Digital devices can be used to share information about creations with others			A program is a set of instructions written to perform a specified task on a computer.	Remote control is controlling a machine or activity from a distance. Computers can be used to remotely control a device, such as a light, speaker or buzzer.		**Computer monitoring uses sensors as a scientific tool to record information about environmental changes over time. Computer monitoring can also log data from sensors and record the resulting information in a table or graph.**

Disciplinary knowledge

	Use digital devices to take digital images or recordings of their creations to share with others.			Write a program to make something move on a tablet or computer screen.	Write a program to control a physical device, such as a light, speaker or buzzer.		Use a sensor to monitor an environmental variable, such as temperature, sound or light.
Investigation							
Tools have different purposes. For example, scissors are used for cutting and glue is used for sticking	Different tools are needed for different tasks. For example, pencils and paper are needed for drawing pictures.	Specific tools are used for particular purposes. For example, scissors are used for cutting and glue is used for sticking.	Different tools have characteristics that make them suitable for specific purposes. For example, scissors are used for cutting paper because they have sharp, metal blades that can cut through thin materials.	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.	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.	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.	Precision is important in producing a polished, finished product. Correct selection of tools and careful measurement can ensure the parts fit together correctly.
Disciplinary knowledge							
Explore simple tools within practical tasks and experiment with joining materials.	Choose and explore appropriate tools for simple practical tasks.	Select the appropriate tool for a simple practical task.	Select the appropriate tool for a task and explain their choice.	Use tools safely for cutting and joining materials and components.	Select, name and use tools with adult supervision.	Name and select increasingly appropriate tools for a task and use them safely.	Select appropriate tools for a task and use them safely and precisely.
Evaluation							

Different aspects of designing and making can be discussed with others.	Recognise that it is possible to change and alter their designs and ideas as they are making them.	A strength is a good quality of a piece of work. A weakness is an area that could be improved.	Finished products can be compared with design criteria to see how closely they match. Improvements can then be planned.	Asking questions can help others to evaluate their products, such as asking them whether the selected materials achieved the purpose of the model.	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. Evaluation also includes suggesting improvements and explaining why they should be made.	Testing a product against the design criteria will highlight anything that needs improvement or redesign. Changes are often made to a design during manufacture.	Design is an iterative process, meaning alterations and improvements are made continually throughout the manufacturing process. Evaluating a product while it's being manufactured, and explaining these evaluations to others, can help to refine it.

Disciplinary knowledge

Share their creations with others and respond to questions and suggestions about how it was made.	Adapt and refine their work as they are constructing and making.	Talk about their own and each other's work, identifying strengths or weaknesses and offering support.	Explain how closely their finished products meet their design criteria and say what they could do better in the future.	Suggest improvements to their products and describe how to implement them, beginning to take the views of others into account.	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.	Test and evaluate products against a detailed design specification and make adaptations as they develop the product.	Demonstrate modifications made to a product as a result of ongoing evaluation by themselves and to others.

Cutting and joining textiles						
		Scissors are used to cut fabrics. Glue and simple stitches, such as running stitch, can be used to join fabrics. Running stitch is made by passing a needle in and out of fabric at an even distance.	A running stitch is a basic stitch that is used to join fabric. It is made by passing a needle in and out of fabric at an even distance.	A loom is a piece of equipment that is used for making fabric by weaving wool or thread. Weaving involves interlacing pieces of thread or yarn.	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.	A collage is artwork made by sticking materials, such as scraps of paper or fabric, onto a background. A mixed media collage is made using various materials and media, such as ink and paint.	Pinning with dressmaker pins and tacking with quick, temporary stitches holds fabric together in preparation for and during sewing.
Disciplinary knowledge						
		Cut and join textiles using glue and simple stitches.	Use different methods of joining fabrics, including glue and running stitch.	Cut and join wools, threads and other materials to a loom.	Hand sew a hem or seam using a running stitch.	Combine stitches and fabrics with imagination to create a mixed media collage.	Pin and tack fabrics in preparation for sewing and more complex pattern work.
Materials for purpose						
	Different materials are suitable for different purposes, such as construction kits for modelling and ingredients for baking.	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.	Properties of components and materials determine how they can and cannot be used. For example, plastic is shiny and strong but it can be difficult to paint.	Materials for a specific task must be selected on the basis of their properties. These include physical properties as well as availability and cost.	Different materials and components have a range of properties, making them suitable for different tasks. It is important to select the correct material or component for the specific purpose, depending on the design criteria. Recipe ingredients have different tastes and appearances. They look and taste better and are cheaper when in season.	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.	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.
Disciplinary knowledge						

Explore and choose freely from a variety of materials when making.	Select appropriate materials when constructing and making.	Select and use a range of materials, beginning to explain their choices.	Choose appropriate components and materials and suggest ways of manipulating them to achieve the desired effect.	Plan which materials will be needed for a task and explain why.	Choose from a range of materials, showing an understanding of their different characteristics.	Select and combine materials with precision.	Choose the best materials for a task, showing an understanding of their working characteristics.
Decorating and embellishing textiles							
		Fabric can be decorated using materials and small objects, such as buttons and sequins. Decorations can be attached to the fabric by glueing, stapling or tying.	Embellishment is a decorative detail or feature added to something to make it more attractive.	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 attractive.	Block printing techniques and fabric paint are used to create decorative, repeated patterns on fabrics.	Applique is a technique where pieces of material are attached to another material by stitching or glueing.	Fastenings hold a piece of clothing together. Types of fastenings include zips, press studs, Velcro and buttons.
Disciplinary knowledge							
		Use glueing, stapling or tying to decorate fabric, including buttons and sequins.	Add simple decorative embellishments, such as buttons, prints, sequins and appliqué.	Decorate a loom weaving using embellishments, such as natural or silk flowers, tassels and bows.	Create detailed decorative patterns on fabric using printing techniques.	Use applique to add decoration to a product or artwork.	Use different methods of fastening for function and decoration, including press studs, Velcro and buttons.
Food preparation and cooking							
	A recipe is set of instructions for preparing a dish and includes a list of the ingredients required.	Using non-standard measures is a way of measuring that does not involve reading scales. For example, weight may be measured using a balance scale and lumps of plasticine. Length may be	Some ingredients need to be prepared before they can be cooked or eaten. There are many ways to prepare ingredients: peeling skins using a vegetable peeler, such as potato skins; grating hard ingredients,	Preparation techniques for savoury dishes include peeling, chopping, deseeding, slicing, dicing, grating, mixing and skinning.	Cooking techniques include baking, boiling, frying, grilling and roasting.	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.	Ingredients can usually be bought at supermarkets, but specialist shops may stock different items. Greengrocers sell fruit and vegetables, butchers sell meat, fishmongers sell fresh fish and

		measured in the number of handspans or pencils laid end to end.	such as cheese or chocolate; chopping vegetables, such as onions and peppers and slicing foods, such as bread and apples.				delicatessens usually sell some unusual prepared foods, as well as cold meats and cheeses.

Disciplinary knowledge							
	Follow instructions, including simple recipes, that include measures and ingredients.	Measure and weigh food items using non-standard measures, such as spoons and cups.	Prepare ingredients by peeling, grating, chopping and slicing.	Prepare and cook a simple savoury dish.	Identify and use a range of cooking techniques to prepare a simple meal or snack.	Use an increasing range of preparation and cooking techniques to cook a sweet or savoury dish.	Follow a recipe that requires a variety of techniques and source the necessary ingredients independently.

Nutrition							
Some foods are healthy. These include fruits, vegetables, nuts and seeds.	There are healthy and unhealthy foods. Fruit and vegetables are an important part of a healthy diet.	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.	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.	There are five main food groups that should be eaten regularly as part of a balanced diet: 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.	Healthy snacks include fresh or dried fruit and vegetables, nuts and seeds, rice cakes with low-fat cream cheese, homemade popcorn or chopped vegetables with hummus. A healthy packed lunch might include a brown or wholemeal bread sandwich containing eggs, meat, fish or cheese, a piece of fresh fruit, a low-sugar yoghurt, rice cake or popcorn and a drink, such as water or semi-skimmed milk.	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.	Eating a balanced diet is a positive lifestyle choice that should be sustained over time. Food that is high in fat, salt or sugar can still be eaten occasionally as part of a balanced diet.

Disciplinary knowledge							
Help to prepare a range of healthy snacks.	Suggest healthy ingredients that can be used to make simple snacks.	Select healthy ingredients for a fruit or vegetable salad.	Describe the types of food needed for a healthy and varied diet and apply the principles to make a simple, healthy meal.	Identify the main food groups (carbohydrates, protein, dairy, fruits and vegetables, fats and sugars).	Design a healthy snack or packed lunch and explain why it is healthy.	Evaluate meals and consider if they contribute towards a balanced diet.	Plan a healthy daily diet, justifying why each meal contributes towards a balanced diet.

Origins of food							
Food can come from plants	Food comes from different	Some foods come from	Food comes from two main	The types of food that will	Particular areas of the	Seasonality is the time of	Organic produce is food

or animals.	sources, including from animals, such as meat, fish, eggs and dairy, or from plants, such as fruit and vegetables.	animals, such as meat, fish and dairy products. Other foods come from plants, such as fruit, vegetables, grains, beans and nuts.	sources: animals and plants. Cows provide beef, sheep provide lamb and mutton and pigs provide pork, ham and bacon. Examples of poultry include chickens, geese and turkeys. Examples of fish include cod, salmon and shellfish. Milk comes mainly from cows but also from goats and sheep. Most eggs come from chickens. Honey is made by bees. Fruit and vegetables come from plants. Oils are made from parts of plants. Sugar is made from plants called sugar cane and sugar beet. Plants also give us nuts, such as almonds, walnuts and hazelnuts.	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 sugar beet, are grown in the south-east of England. Wheat, barley and vegetables grow well in the east of England.	world have conditions suited to growing certain crops, such as coffee in Peru and citrus fruits in California in the United States of America.	year when the harvest or flavour of a type of food is at its best. Buying seasonal food is beneficial for many reasons: the food tastes better; it is fresher because it hasn't been transported thousands of miles; the nutritional value is higher; the carbon footprint is lower, due to reduced transport; it supports local growers and is usually cheaper.	that has been grown without the use of man-made fertilisers, pesticides, growth regulators or animal feed additives. Organic farmers use crop rotation, animal and plant manures, hand-weeding and biological pest control.
Explore and try a range of foods and suggest where they come from.	Begin to identify the origins of some foods.	Sort foods into groups by whether they are from an animal or plant source.	Identify the origin of some common foods (milk, eggs, some meats, common fruit and vegetables).	Identify and name foods that are produced in different places.	Identify and name foods that are produced in different places in the UK and beyond.	Describe what seasonality means and explain some of the reasons why it is beneficial.	Explain how organic produce is grown.

Vocabulary and Project Ideas							
FS1	FS2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Construction							
Vocabulary							
plan, make, idea, build	plan, make, idea, build, review, improve	plan, design, make, evaluate, strong.	plan, design, make, evaluate, strong.	user, purpose, function, design brief, measure, strengthen.	user, purpose, function, design brief, measure, strengthen.	Functionality, design criteria, design decisions, prototype, reinforce.	functionality, design criteria, design decisions, prototype, reinforce.
Project Ideas							
Build Fire engine Own worlds Explore wheeled toys	Den Building Moving Vehicles Animal models	Animal enclosure Recycled materials	Animal enclosure Recycled materials	- Cars - Structure (building, bridge)	- Cars - Structure (building, bridge)		

Textiles

Vocabulary

Sewing, over, under, in, out, needle, thread, sew	Fabric, stitches, needle, thread, join, sew, running stitch, cross stitch	Fabric, sew, thread, needle, join, running stitch, cross stitch	Fabric, sew, thread, needle, join running stitch, cross stitch	Fabric, sew, thread, needle, join running stitch, cross stitch Fastening, strength, weakness, templates, stitch.	Fastening, strength, weakness, templates, embroidery stitch, scatter stitch, back stitch, cross stitch and blanket stitch.	seam, reinforce, pattern pieces, stitch names, right side, wrong side.	seam, reinforce, pattern pieces, stitch names, right side, wrong side. Revisit all previous stitches; embroidery stitch, scatter stitch, back stitch, cross stitch, running stitch and blanket stitch.

Project Ideas

Decorations	Animal puppets Costumes for People who help us	- Hand puppet - Costume / accessory for Matilda	- Hand puppet - Costume / accessory for Matilda	- Roman coin purse	- Roman coin purse	- Christmas Decorations	- Bag with base.

Mechanisms

Vocabulary

Wheels, movement	Movement, wheels, axel	slider, pull, up, down, move.	lever, wheel, wind, move.	mechanism, lever, linkage, pivot	mechanism, lever, linkage, pivot	Rotation, spindle, mechanical system, rotary, linear.	rotation, spindle, mechanical system, rotary, linear.

Project Ideas

Using play resources (Duplo) children to build something that uses wheels.	Creating a vehicle linked to people that help us.	- Moving aliens (year 1 sliders, year 2 winders) - Flying (Levers)	- Moving aliens (year 1 sliders, year 2 winders) - Flying (Levers)	- Cars with pneumatic system	Cars with pneumatic system	- CAMs moving figures	CAMs moving figures

Computing - program, control and monitor products

Vocabulary

Picture, device, camera	Device, camera, digital, picture, record	Code, program, software	Code, program, software	Code, program, software, products	Code, program, software, products, remote access, motor	Code, program, software, products, remote access, motor, control panel	Code, program, software, products, remote access, motor, control panel, monitoring, variable, sensor

Project Ideas

Take photos during nature walks. Be able to take a photograph of something the child is interested in.	Make a friendship video. Photograph their work. Take photos during nature walks. Add a filter to a picture.	Create simple designs and mock ups using simple design software as part of the design stage of a project.	Create detailed designs and mock ups using simple design software as part of the design stage of a project.	Write a program to make something move on a tablet or computer screen.	Remote control is controlling a machine or activity from a distance. Computers can be used to remotely control a device, such as a light, speaker or buzzer. Write a program to control a physical device, such as a light, speaker or buzzer.	Equipment and devices can be controlled by pressing buttons on a control panel, such as on a washing machine or microwave. 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.	Computer monitoring uses sensors as a scientific tool to record information about environmental changes over time. Computer monitoring can also log data from sensors and record the resulting information in a table or graph. Use a sensor to monitor an environmental variable, such as temperature, sound or light.
Electrical circuits							
Vocabulary							
					electricity, battery, wire, bulb, buzzer, motor, switch, circuit		cell, voltage, component, circuit diagram, series, buzzer, bulb, motor
Project Ideas							
					- Burglar alarm		- NASA lighting
Cooking and nutrition							
FS1	FS2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Knowledge							
Vocabulary							
Make Mix Taste Spread Knead Ingredients Taste: sweet, sour, Texture: soft, hard Smell: fruity, sweet	Make Mix Taste: sweet, salty, Measures: Cup,spoon Cut Clean	safe cut clean healthy	safe cut clean healthy	Measure Fresh Recipe Ingredients Method	Measure Fresh Recipe Ingredients Method	Nutrition Cost Hygienic Seasonal	Nutrition Cost Hygienic Seasonal

Project Ideas							
Food tasting: hull fair, fruits Baking: cakes, buns, seasonal puddings Fruit salad Decorate biscuits	Food tasting: hull fair, fruits Fruit kebab Mince pies Cakes, buns Bake and decorate biscuits	- Local area and Great fire of London Fat rascals Chocolate. Roman bread - -Wright brothers & Matilda	- Local area and Great fire of London Fat rascals Chocolate. Roman bread. - -Wright brothers & Matilda	- Romans Roman honey cake Pasta - Blue planet & Early Islamic civilization - Victorian times	- Romans Roman honey cake Pasta - Blue planet & Early Islamic civilization - Victorian times	- Empires end - Origin of species - Explorers	- Empires end - Origin of species - Explorers