

Design and Technology at Kirkby Stephen Primary School



Enthuse. Explore. Enrich.



Our vision for Design and Technology

Intent

Design and Technology at Kirkby Stephen is taught through creative planning ensuring knowledge, understanding and skills from the national curriculum are covered. We aim to inspire children through a broad range of practical experiences to create innovative designs which solve real and relevant problems within a variety of different contexts. We encourage children to identify real and relevant problems, critically evaluate existing products and then take risks and innovate when designing and creating solutions to the problems. As part of the process, time is built in to reflect, evaluate and improve on prototypes using design criteria throughout to support this process. Opportunities are provided for children to evaluate key events and individuals who have helped shape the world, showing the real impact of design and technology on the wider environment and helping to inspire children to become the next generation of innovators.



Implementation

Design and Technology skills and understanding are built into lessons, following a sequential process often linking to the class topic. The process includes investigating and designing, making and evaluating. Through revisiting and consolidating skills throughout school, children build on prior knowledge alongside introducing new skills, knowledge and challenge. In KS1, design and technology is also promoted within continuous provision and the children are encouraged to explore and problem solve often. The revision and introduction of key vocabulary is built into each lesson and is revised and introduced throughout a pupil's school career. We intend to inspire pupils to develop a love of Design and Technology and see how it has helped shaped the ever-evolving technological world they live in.



Impact

The impact of Design and Technology at Kirkby Stephen is seen across the school with an increase in the profile of the subject. Technical vocabulary will improve and inspire. We want to ensure pupils across school love Design and Technology and encourage them to continue building on the wealth of skills and understanding we have provided, in the future. Impact will be measured through key questioning in lessons, child-led assessment through criteria and evaluation. Teachers will target next steps in learning through summative assessment.

Expectations at the end of EYFS

Design and Technology can help support achieving several ELG at the end of EYFS.

Fine Motor Skills

- Use a range of small tools, including scissors, paint brushes and cutlery.
- Begin to show accuracy and care when drawing.

Creating with Materials

- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.
- Share their creations, explaining the process they have used.



Key Stage 1 National Curriculum

Design

Pupils should be taught to:

- design purposeful, functional, appealing products for themselves and other users based on design criteria;
- generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.

Technical Knowledge

Pupils should be taught to:

- build structures, exploring how they can be made stronger, stiffer and more stable;
- explore and use mechanisms (for example, levers, sliders, wheels and axles), in their products.

Make

Pupils should be taught to:

- select from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing);
- select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.

Cooking and Nutrition

Pupils should be taught to:

- use the basic principles of a healthy and varied diet to prepare dishes;
- understand where food comes from.

Evaluate

Pupils should be taught to:

- explore and evaluate a range of existing products;
- evaluate their ideas and products against design criteria.



Key Stage 2 National Curriculum

Design

Pupils should be taught to:

- use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups;
- generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.

Technical Knowledge

- apply their understanding of how to strengthen, stiffen and reinforce more complex structures;
- understand and use mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages);
- understand and use electrical systems in their products (for example, series circuits incorporating switches, bulbs, buzzers and motors);
- apply their understanding of computing to program, monitor and control their products.

Make

Pupils should be taught to:

- select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately;
- select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.

Cooking and Nutrition

Pupils should be taught to:

- understand and apply the principles of a healthy and varied diet;
- prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques;
- understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

Evaluate

Pupils should be taught to:

- investigate and analyse a range of existing products;
- evaluate their ideas and products against their own design criteria and consider the views of others to improve their work;
- understand how key events and individuals in design and technology have helped shape the world.



Design and Technology in Autumn Term (1)

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Me and My Body/ Our Furry Friends	Look At Me Now!	Volcanoes and Romans	World War II	Grand Designs/ Railway Navvies	The Human Machine
<u>Fruit Salad</u> <u>Cooking and Nutrition</u> <u>Designing</u> - The children will understand where food has come from and the importance of eating 5 portions of fruit and vegetables a day. - Children discuss what fruits they like and dislike. <u>Making</u> - The children will work safely and hygienically cutting different fruits to create a fruit salad. <u>Evaluating</u> - Discuss what went well in the fruit salad and what they might change next time. <u>Continuous Provision</u> - Children to have the opportunity throughout the term to build and design houses, pet's beds and other pet related items. <u>Subject Specific Vocabulary</u> Clean, portions, fruit, vegetables, build, design, hygiene, cut, safe.	<u>Make a healthy sandwich!</u> <u>Cooking and Nutrition</u> <u>Designing</u> - Discuss their own and others favourite sandwiches. - Discuss healthy options including know how to name and sort foods into 5 groups on an Eatwell plate. <u>Making</u> - Use techniques such as cutting, peeling and grating. - Know how to prepare simple dishes safely and hygienically without a heat source. <u>Evaluating</u> - Evaluate sandwich and identify strengths and things they might change. <u>Technical knowledge</u> - Use and understand the correct technical vocabulary for the projects they are undertaking. <u>Subject Specific Vocabulary</u> sandwich, cut, grate, chop, knife, nutrition, hygiene, groups, prepare.	<u>Sewing Safety Equipment</u> <u>Designing</u> - Generate ideas for safety equipment, its purpose and the users. - When purpose identified create a criteria. - Plan the order of their work. - Model ideas and communicate them including drawings with labels. - Make design decisions that take account of the availability of resources and different materials. <u>Making</u> - Explain tools and choice of equipment in relation to the skills they will need to sew textiles. - Select materials for the task and explain choices of materials and according to functional properties and aesthetic qualities - Order the main stages of making their collages. - Measure, tape or pin, cut and join fabric with some accuracy - Think about their ideas progress and be willing to change things to improve their work.	<u>Bomb Shelters</u> <u>Designing</u> - Describe the purpose of their product within the context of home and the past. - Indicate the design features of their products that appeal to the intended user. - Explain how particular parts of their product work. - Gather information about the needs and wants of particular individuals and groups. - Use annotated sketches and cross-sectional drawings to develop and communicate their ideas. <u>Making</u> - Follow procedures for safety. - Apply a range of finishing techniques. - Select appropriate tools and techniques for making their product - Measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques - Join and combine materials and components accurately in temporary and permanent ways	<u>Engineering a Bridge</u> <u>Designing</u> - Discuss, collate and evaluate different bridge designs and reason their suitability for their purpose. - Use research to develop design criteria to inform the design. - Use criteria to collate idea, create annotated sketches and diagrams. - Build a prototype using suitable materials and use results to develop ideas. <u>Making</u> - Use updated plans to refine their prototypes, adjusting, as necessary. - Use tools safely and accurately. - Cut and join with accuracy to give stability and ensure a good quality finish to the product. <u>Evaluating</u> - Evaluate the product against the original design specification. - Evaluate materials used and make adjustments as needed. - Provide and receive feedback from peers about improving and modifying prototypes to inform planning.	<u>Come Dine With Me"</u> <u>Cooking and Nutrition</u> <u>Designing</u> - Design and cook a healthy two-course meal for a chosen dietary requirement (eg Halal, vegan, gluten-free, nut intolerance etc). - Locate source of main ingredients, consider seasonality and compare nutritional values (linked to Science). - Identify and compare fresh, pre-cooked and processed foods. - Designing Work within a clear budget. - Carry out web-based research to identify the wants and needs of particular individuals and groups. <u>Making</u> - Use a range of cooking techniques including peeling, chopping, slicing. <u>Evaluating</u> - Review meal, using clear criteria (eg nutritional balance, cost, seasonality, taste). <u>Technical Knowledge</u> Know that: - seasons affect food availability - food ingredients can be fresh, processed or pre-cooked - recipes can be adapted by substituting ingredients. <u>Subject Specific Vocabulary</u> nutrition, protein, carbohydrates, vitamins, minerals, fibre, seasonality, balanced diet

Design and Technology in Autumn Term (2)

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Me and My Body/ Our Furry Friends	Construction Fun and Railways	Volcanoes and Romans	World War II	Grand Designs/ Railway Navvies	Evolution
	<u>Building bridges</u> <u>Designing</u> - Use technology to generate ideas looking at others experiences. - Visit bridges to get ideas. - Draw and model examples to develop designs. - Make simple drawings and label. - Identify a purpose for building bridges e.g. transport. - Create a simple design criteria. <u>Making</u> - Begin to select tools and materials using vocab to name and describe the option. - Use hand tools safely and appropriately. - Measure, cut and score materials with some accuracy. - Assemble, join and combine materials to make the products. - Use a range of materials and components, including construction materials and kits. <u>Evaluating</u> - Make simple judgements about their products and ideas against design criteria. - Suggest how their products could be improved. - Talk about what they like and dislike about their own ideas. <u>Technical knowledge</u> - Use and understand the correct technical vocabulary for the projects they are undertaking. Key Vocabulary	<u>Evaluating</u> - Evaluate their product against original design criteria e.g. how well it meets its intended purpose - Disassemble and evaluate familiar products <u>Technical Knowledge</u> - That materials can be combined and mixed to create more useful characteristics. - That a single fabric shape can be used to make a 3D textiles project. <u>Subject specific vocabulary</u> Breathable, fabric, purpose, evaluate, back stitch, running stitch.	<u>Evaluating</u> - Identify the strengths and areas for development. - Use their design criteria to evaluate their product during and after completion. - Evaluate their products carrying out appropriate tests <u>Technical Knowledge.</u> - Make strong, stiff shell structures. <u>Subject Specific Vocabulary</u> Shelter, strong structure, testing, saw, safety, process, permanent bonding.	<u>Cooking and Nutrition</u> - Discuss where food comes from and how season affect availability to create a soup and bread roll, with recipe to sell at the Christmas Fair. - Use skills (peeling, chopping, slicing) to prepare soup. - Apply the rules for basic food hygiene and other safe practices e.g. hazards relating to the use of ovens - Weigh and measure accurately (time, dry ingredients, liquids) <u>Subject Specific Vocabulary</u> weight load, tension, support, stability, centre of gravity, tactile, supple, rigid, malleable, strength, suitable, purpose	<u>Stone Age</u> <u>Design</u> - Design a Stone Age kitchen (Skara Brae). - Share and clarify ideas through discussion. <u>Making</u> - Make a Stone Age tool. Explain choice of materials according to their functional properties. - Select from and use a range of tools to perform woodworking tasks safely and accurately. - Accurately mark out, cut, shape, combine and join materials and components. Use resourcefulness when tackling practical problems. <u>Evaluating</u> - Evaluating with peers, critically evaluate the quality of the design and manufacture of their product, identifying strengths and areas for improvement. <u>Cooking and Nutrition</u> - Bake, decorate and package a Christmas cake (Christmas fair); apply a range of finishing techniques. <u>Technical Knowledge</u> Know how to reinforce and strengthen a 3D structure. <u>Subject Specific Vocabulary</u> structural engineering, design brief, modelling, aesthetics, functionality

Design and Technology in Spring Term (1)

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Once Upon A Time / Pirates Life For Me	Read Around the World/ Animals around the world	Metals and Magnets	Extinction	Earth and Space/ Ancient Greeks	Floodland/ Mountains
<u>Making a Castle</u>	<u>Moving Ocean Habitats</u>	<u>3D robot from recyclable materials</u>	<u>Electrical Circuits – Torches</u>	<u>Engineering a Parachute for Escape Module</u>	<u>Electrical systems</u>
<u>Design</u> - Use a range of stories to inspire the design of a castle/pirate ship/puppet. - Discuss and develop ideas through talking and drawing. - Model ideas using paper and card.	<u>Designing</u> - Identify a success criteria for a moving ocean habit. - Develop design ideas through drawing and modelling including labels.	<u>Designing</u> - Explore and develop ideas through discussion by modelling ideas. - Making drawings with labels when designing. - Plan the order of their work before starting.	<u>Designing</u> - Generate ideas, considering the purposes for which they are designing - Make labelled drawings from different views showing specific features - Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making, if the first attempts fail - Evaluate products and identify criteria that can be used for their own designs.	<u>Designing</u> - From brief of designing and creating a service capsule parachute to bring back equipment safely to earth without breaking. - Brainstorm and identify the purpose of the product. - Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making if the first attempts fail - Use results of investigations, information sources, including ICT when developing design ideas	<u>Designing</u> - Use CAD (sketchup) to aid design. - Describe the purpose of their product. - Generate, develop, model and communicate ideas through discussion, annotated sketches and prototypes.
<u>Making</u> - The children will need to measure, mark and cut materials and components with help. - Use tools such as scissors safely. - Combine materials using different methods e.g. glue and masking tape. - Improve the look by decorating with different techniques e.g. painting, colouring or collage.	<u>Making.</u> - Select from a range of tools, equipment, materials and components explaining their choices. - Assemble, join and combine materials to create a product. - Choose and use appropriate finishing techniques.	<u>Making</u> - Select tools and equipment for the task (during visit to scrap yard and in prior planning stage) - Explain tools and choice of equipment. - Select materials for the task and explain choices of materials and components according to functional properties and aesthetic qualities. - Add a range of further decoration to their design. - Measure, mark and cut materials with increased accuracy.	<u>Making</u> - Use a wider range of materials than KS1 including electrical components. - Select appropriate tools and techniques for making their product - Measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques - Join and combine materials and components accurately in temporary and permanent ways - Use simple graphical communication techniques such as a logo.	<u>Making</u> - Select tools and equipment suitable for the task. - Demonstrate use of tools in a safe and efficient way, highlighting and evaluating risks of particular tools. - Accurately measure, mark out, cut and shape materials and components. - Accurately assemble, join and combine materials and components to give a good-quality finish. - Demonstrate resourcefulness with resources used for prototypes.	<u>Making</u> - Follow, justify and refine plans. - Accurately assemble components.
<u>Evaluating</u> - We will talk about our designs and make simple judgements including questions about how we made our product.	<u>Evaluating</u> - Evaluate against their design criteria - Evaluate their products as they are developed, identifying strengths and possible changes they might make.	<u>Evaluating</u> - Refer to their design criteria to evaluate their completed products.	<u>Evaluating</u> - Use a wider range of materials than KS1 including electrical components. - Select appropriate tools and techniques for making their product - Measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques - Join and combine materials and components accurately in temporary and permanent ways - Use simple graphical communication techniques such as a logo.	<u>Evaluating</u> - Select tools and equipment suitable for the task. - Demonstrate use of tools in a safe and efficient way, highlighting and evaluating risks of particular tools. - Accurately measure, mark out, cut and shape materials and components. - Accurately assemble, join and combine materials and components to give a good-quality finish. - Demonstrate resourcefulness with resources used for prototypes.	<u>Evaluating</u> - Follow, justify and refine plans. - Accurately assemble components.
<u>Technical Knowledge</u> - Children will be aware of important materials and components as well as evaluating and improving their designs.	<u>Technical knowledge</u> - Understand the simple working characteristics of materials and components, about the movement of simple mechanisms such as levers and sliders.	<u>Technical Knowledge</u> - That materials can be combined and mixed to create more useful characteristics.	<u>Technical Knowledge</u> - That materials can be combined and mixed to create more useful characteristics.	<u>Technical Knowledge</u> - Use knowledge from Science (electricity) to help make products work. - Know how more complex electrical circuits and components can be used to create functional products. - Know how to program a computer to monitor changes in the environment and control their products.	<u>Technical Knowledge</u> - Use knowledge from Science (electricity) to help make products work. - Know how more complex electrical circuits and components can be used to create functional products. - Know how to program a computer to monitor changes in the environment and control their products.
<u>Continuous Provision</u> - To support learning, continuous provision will be available throughout the term supporting the children in creating using a range of materials and resources including big blocks, Lego, malleable materials and recycled items.	<u>Subject specific vocabulary</u> sliders, levers, materials, movement, design, make, evaluate.	<u>Subject specific vocabulary</u> Structure, framework, base, recycled, modelling, components, aesthetic.	<u>Subject specific vocabulary</u> Structure, framework, base, recycled, modelling, components, aesthetic.	<u>Subject specific vocabulary</u> Structure, framework, base, recycled, modelling, components, aesthetic.	<u>Subject Specific Vocabulary</u> electrical system, electronics, electrical engineering, input, process, output, feedback, algorithm
<u>Key Vocabulary</u> materials, equipment, measure, mark, cut, bond, effectiveness.					

Design and Technology in Spring Term (2)

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Once Upon A Time / Pirates Life For Me	Read Around the World/ Animals around the world	Light	Extinction	Earth and Space/ Ancient Greeks	Floodland/ Mountains
		<u>Shadow Puppets</u> <u>Designing</u> - Describe the purpose of their puppet. - Explain how parts of their puppets will move and model ideas. - Share and clarify ideas through discussion. - Make design decisions that take account of the availability of different materials. <u>Making</u> - Explain tools and choice of equipment. - Select materials for the task and explain choices of materials and components according to functional properties and aesthetic qualities. - Children order the main stages of making their collages. - Children measure, mark out, cut and shape components of puppets with some accuracy. - Use finishing techniques strengthen and improve the appearance of their product using a range of equipment including ICT <u>Evaluating</u> - Evaluate other puppets. How well they have been designed, how well they have been made, why materials have been chosen and how the product works. <u>Technical Knowledge</u> - How to use learning from science to help design and make products work. - How to include moving parts to add to the effectiveness of the product. <u>Subject specific vocabulary</u> Strength, puppets, shadow, light, movement, improvement.	<u>Evaluating</u> - Refer to their design criteria as they design and make. - Analyse how products have been designed and made and why materials have been chosen and what methods of construction have been used. - Analyse how well products work, achieve their purpose and meet user needs and wants. <u>Technical Knowledge</u> - Use learning from science to help design and make products that work. - Mechanical and electrical systems have an input, process and output. - The correct technical vocabulary for the projects they are undertaking. - How simple electrical circuits and components can be used to create functional products. <u>Subject Specific Vocabulary</u> Electrical, circuit, flow, battery, bulb, torch, logo, functional.	<u>Subject Specific Vocabulary</u> air resistance, weight bearing, suitability, elasticity, acceleration, impact, deceleration	

Design and Technology in Summer Term (1)

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Green Fingered Fun/ Creepy Crawlies	How Does My Garden Grow?/ It's a bug's life	Food and Farming	Vikings / The Eden Valley	The World's Rainforest/ South America Study	India/ Ghana
<u>School Mural</u>	<u>Moving Minibeasts</u>	<u>Smoothies and Pizzas</u>	<u>Viking Recipes</u>	<u>Wind Powered Vehicles</u>	<u>Bicycles</u>
<u>Designing</u> - We will use the garden and outdoors to influence our designs to create a mural for the school (identified target group). - Looking at other murals we will discuss and design appropriate textile pieces by talking and drawing.	<u>Designing</u> - Generate ideas from the local area including gardens. - State what products they are designing and making. - Say how their products will work. - Use simple design criteria to help develop their ideas.	<u>Designing</u> - Gather information about the needs and wants of users eg. favourite topping. - Develop own design criteria and use these to inform their ideas. - Share and clarify ideas through discussion. - Make decisions on design that take account of the availability of resources.	<u>Cooking and Nutrition</u> <u>Designing</u> - Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making, if the first attempts fail. - Evaluate products and identify criteria that can be used for their own designs.	<u>Designing</u> - Carry out research of uses of wind power. - Gather information about the needs and wants in a wind powered vehicle - Prioritise criteria ready for making phase - Generate realistic ideas, focusing on the needs of the user through brainstorming. - Use results of investigations, information sources, including ICT when developing design ideas - Order the main stages of making for efficiency	<u>Designing</u> - Design a child's bicycle suitable for a developing country. - Carry out market research (questionnaires within school). - Consider culture and society in plans and designs. - Generate innovative ideas, drawing on research. - Indicate the design features of their product that will appeal to intended users. - Explain how particular parts of their product will work. - Use annotated sketches, cross-sectional drawings and exploded diagrams to communicate elements of bicycle design.
<u>Making</u> - We will use a range of textiles in different shapes and cut these to combine through a number of techniques e.g. gluing and sewing.	<u>Making</u> - Select from a range of tools and equipment, explaining their choices. - Use a range of materials and components, including construction materials. - Measure, mark out, cut and shape materials and components. - Assemble, join and combine materials. - Use finishing techniques, including those from art and design.	<u>Making</u> - Children select tools they will need to create their own pizza. (using locally sourced produce). - Explain their choice of materials and components according to functional properties. - Children will order the main stages of making their pizzas. - Children will follow procedures for safety and hygiene including preparation and storage. - They will use a wider range of materials than in KS1 including a heat source.	<u>Making</u> - Order the main stages of making. - Follow procedures for hygiene. - Use a wider range of materials and components than KS1 including food ingredients and cooking techniques. - prepare and cook a variety of predominantly savoury dishes safely and hygienically including the use of a heat source. - How to use a range of techniques including, peeling, chopping, mixing, spreading, kneading and baking.	<u>Making</u> - Accurately measure, mark out, cut and shape materials and components. - Accurately assemble, join and combine materials and components. - Demonstrate resourcefulness with resources used for prototypes.	<u>Making</u> - Tinkering: disassemble bicycle components. - Select and use a range of tools competently. - Accurately disassemble/reassemble given components. - Demonstrate resourcefulness when tackling practical problems.
<u>Evaluating</u> - We will evaluate our final product and discuss how we could improve our product including what we would do different if we made it again.	<u>Evaluating</u> - Evaluate against their design criteria - Evaluate their products as they are developed, identifying strengths and possible changes they might make - Talk about their ideas, saying what they like and dislike about them	<u>Evaluating</u> - Consider the views of others, including intended users, to improve their work and evaluate their products.	<u>Evaluating</u> - Evaluate their products carrying out appropriate tests	<u>Evaluating</u> - Compare results to similar products made by peers - Identify strengths and weaknesses - Provide areas of improvement and what impact this may have on outcomes.	
<u>Technical Knowledge</u> - We will discuss the characteristics of the different materials we are using.					
<u>Continuous Provision</u> - To support learning the children will have access to many materials to design, make and evaluate bug hotels and other outdoor structures.					
<u>Key Vocabulary</u> Textile, stitch, sew, material, mural, evaluate, thread, buttons, applique.			<u>Subject Specific Vocabulary</u> Recipe, cooking, Viking, chopping, mixing.	<u>Technical Knowledge and Vocabulary</u> - How mechanical systems, such as cams, pulleys or gears create movement. - How to reinforce or strengthen a 3D structure.	

Design and Technology in Summer Term (2)

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Green Fingred Fun/ Creepy Crawlies	How Does My Garden Grow?/ It's a bug's life	Food and Farming	The Eden Valley	The World's Rainforest/ South America Study	India/ Ghana
	<u>Technical knowledge</u> Understand; - the simple working characteristics of materials and components. - the movement of simple mechanisms such as wheels and axles, - how freestanding structures can be made stronger, stiffer and more stable. - Use and understand the correct technical vocabulary for the projects they are undertaking. <u>Subject specific vocabulary</u> axels, sliders, wheels, movement, components, levers, criteria.	<u>Technical Knowledge</u> - That food ingredients can be fresh, pre-cooked and processed Cooking and Nutrition. - To know that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK. - That a healthy diet is made up of a balance of different food and drink, as depicted in the eat well plate. - How to prepare and cook a variety of dishes. - How to use a range of techniques such as chopping, slicing, grating, mixing, spreading, kneading and baking. <u>Subject specific vocabulary</u> kneading, local produce, healthy, balanced, ripe, herbs, vegetables, baking, processing.	<u>River inspired bag – Sewing</u> <u>Designing</u> - Share and clarify ideas through discussion. - Model their ideas using prototypes and pattern pieces. - Make design decisions that take account of the availability of resources. - Develop a clear idea of what has to be done, planning how to use materials, equipment and processes. - Evaluate products and identify criteria that can be used for their own designs <u>Making</u> - Use a wider range of materials and components than KS1 including textiles that require different stitches, weave and knit - Measure, tape or pin, cut and join fabric with some accuracy <u>Evaluating</u> - Identify the strengths and areas for development in their ideas and products. - Evaluate their work during and at the end of the assignment. <u>Technical Knowledge</u> - That materials have both functional properties and aesthetic qualities. <u>Subject Specific Vocabulary</u> Collage, sew, needle, textiles, materials, stitch, river.		<u>Evaluating</u> - Understand how key events in design and technology have helped shape the world. - Investigate developments in bicycle design over its history and analyse a range of existing products, considering how they are adapted for different purposes. - Consider cost, originality, sustainability and potential impact of their own design. <u>Technical Knowledge</u> - Use knowledge from Maths to help understand how products work (gear ratios). - Know how complex mechanical systems (levers and gears) create movement. - Know that materials have both functional and aesthetic qualities. <u>Subject Specific Vocabulary</u> mechanical engineering, component, disassemble, gear, cassette, bearing, friction

Subject Specific Vocabulary

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Clean, portions, fruit, vegetables, build, design, hygiene, cut, safe. Materials, equipment, measure, mark, cut, bond, effectiveness. Textile, stitch, sew, material, mural, evaluate, thread, buttons, applique.	Sandwich, cut, grate, chop, knife, nutrition, hygiene, groups, prepare. Construct, column, pile, road, product, industry, assemble. Sliders, levers, materials, movement, design, make, evaluate Axels, sliders, wheels, movement, components, levers, criteria.	Breathable, fabric, purpose, evaluate, back stitch, running stitch. Structure, framework, base, recycled, modelling, components, aesthetic. Strength, puppets, shadow, light, movement, improvement. Kneading, local produce, healthy, balanced, ripe, herbs, vegetables, baking, processing.	Shelter, strong structure, testing, saw, safety, process, permanent bonding. Electrical, circuit, flow, battery, bulb, torch, logo, functional. Recipe, cooking, Viking, chopping, mixing. Collage, sew, needle, textiles, materials, stitch, river.	Weight load, tension, support, stability, centre of gravity, tactile, supple, rigid, malleable, strength, suitable, purpose Air resistance, weight bearing, suitability, elasticity, acceleration, impact, deceleration	Nutrition, protein, carbohydrates, vitamins, minerals, fibre, seasonality, balanced diet Structural engineering, design brief, modelling, aesthetics, functionality Electrical system, electronics, electrical engineering, input, process, output, feedback, algorithm Mechanical engineering, component, disassemble, gear, cassette, bearing, friction

Teaching Design and Technology

All children are given the opportunity to access Design and Technology through a number of strategies and resources.

Children with special educational needs and disabilities have opportunities to access design and technology using Pre-learning, visual aids, Teacher support and scaffolded worksheets

Gifted and Talented Opportunities-