

Design and Technology Overview

National Curriculum Coverage, Progression in Skills and Knowledge and Supporting Resources/Schemes of Work

EYFS

| | 3 & 4-year-olds will be learning to: | Children in Reception will be learning to: | ELG |
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| Expressive Art and Design | <ul style="list-style-type: none"> Explore different materials freely, in order to develop their ideas about how to use them and what to make. Develop their own ideas and then decide which materials to use to express them. Join different materials and explore different textures. Create closed shapes with continuous lines, and begin to use these shapes to represent objects. Draw with increasing complexity and detail, such as representing a face with a circle and including details. Use drawing to represent ideas like movement or loud noises. Explore colour and colour mixing. Show different emotions in their drawings – happiness, sadness, fear etc. | <ul style="list-style-type: none"> Explore, use and refine a variety of artistic effects to express their ideas and feelings. Return to and build on their previous learning, refining ideas and developing their ability to represent them. Create collaboratively, sharing ideas, resources and skills. | <p>Creating with Materials</p> <ul style="list-style-type: none"> 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. Make use of props and materials when role playing characters in narratives and stories. |

Year 1

| Theme | National Curriculum | Progression in Skills | Disciplinary Knowledge | Substantive knowledge | | | Drivers & 50 things | British Values & Protective Characteristics | Schemes/ Resources/ Texts |
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| | | | | Key Questions | Key Facts | Key Vocab | | | |
| Autumn Castles Sliders and Levers Making moving cards Cooking a Royal feast <i>(Look and Cook Primary School Programme)</i> | Pupils to design purposeful, functional, appealing products for themselves and other users based on design criteria. Pupils will generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. Pupils to select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. They will select from and use a wide range of materials and components, including construction materials, | Developing, planning and communicating ideas. Draw on their own experience to help generate ideas Suggest ideas and explain what they are going to do Model their ideas in card and paper Working with tools, equipment, materials and components to make quality products | Research: Children will explore existing cards to establish the purpose (why people send them to each other). Technical Knowledge: Children will practise creating mechanisms for their cards. Design: Children will consider the purpose of their own card and incorporate this into their design. Make: | What are sliders and levers? Why do we send/give people cards? How can we make parts of our designs move? | A slider moves in a linear motion. A bridge secures the slider and controls its movement A lever moves in a curved motion A lever moves on a pivot Some reasons we give cards are for special occasions (e.g. Christmas, birthdays, Valentines etc.), to congratulate someone or to say get well soon. | Slider Lever Motion Pivot Curved | Skipton castle trip | | Projects on a Page The design and technology association King Leonard's Teddy by Phoebe Swan The Worst Princess by Anna Kemp |

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| | <p>textiles and ingredients, according to their characteristics.</p> <p>Pupils will explore and evaluate a range of existing products. They will evaluate their ideas and products against design criteria.</p> | <p>Make their design using appropriate techniques</p> <p>With help measure, mark out, cut and shape a range of materials Use tools e.g. scissors and a hole punch safely</p> <p>Assemble, join and combine materials and components together using a variety of temporary methods e.g. glues or masking tape</p> <p>Use simple finishing techniques to improve the appearance of their product.</p> <p>Evaluate their product by discussing how well it works in relation to the purpose</p> <p>Evaluate their products as they are developed, identifying strengths and possible changes they might make</p> | <p>Children will use cutting and joining techniques to create their card.</p> <p>Evaluation: Children will evaluate their product based on how well the mechanism works and how visually appealing their card is.</p> | <p>Possible Misconceptions:</p> <p>Students might think that sliders are simple and only move things from side to side. In reality, sliders can have various applications, including vertical movement (up and down) or diagonal motion.</p> | | | | |
| Oracy opportunities for Autumn term | Evaluations of existing products and the products the children create | | | | | | | |
| <p>Spring</p> <p>Eco-warriors</p> <p>Fruit Kebabs</p> <p>Making a healthy meal (<i>Look and Cook Primary School Programme</i>)</p> | <p>Pupils to design purposeful, functional, appealing products for themselves and other users based on design criteria.</p> <p>Pupils will generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.</p> <p>Pupils to select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. They will select from and use a wide range of materials and components, including construction materials,</p> | <p>Developing, planning and communicating ideas.</p> <p>Suggest ideas and explain what they are going to do</p> <p>Model their ideas in card and paper</p> <p>Working with tools, equipment, materials and components to make quality products (inc-food)</p> <p>Make their design using appropriate techniques</p> | <p>Research: Children will eat a variety of fruit and evaluate them based on taste and texture</p> <p>Technical Knowledge: Children will learn the difference between fruit and vegetables and why we should eat healthily</p> <p>Design: Children to be allowed a limited number of choices for their kebab and will choose from a range (giving reasons)</p> | <p>What are fruit and vegetables?</p> <p>Why do we need to eat healthily?</p> <p>What is a kebab?</p> <p>How can we describe different tastes? (e.g. sweet, sour etc.)</p> <p>How can we describe different textures? (hard, soft, crunchy etc.)</p> | <p>A fruit is a food that grows on plants and has a seed.</p> <p>A vegetable is a food that grows on plants but doesn't have seeds</p> <p>Eating healthily supports people to have more energy</p> <p>Foods have different tastes</p> <p>Foods have different textures</p> | <p>Fruit Vegetable Kebab Healthy Taste Texture Safety Peeling Sour Bitter Crunchy Slimy</p> | <p>Gardening in the school garden, lessons in the outside classroom</p> <p>Careers/ Aspirations week STEM visit</p> <p>Eatwell plate – nutrition lessons</p> | <p>Plastic planet</p> <p>The design and technology association</p> <p>Projects on a Page</p> |

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| | <p>textiles and ingredients, according to their characteristics.</p> <p>Pupils will explore and evaluate a range of existing products. They will evaluate their ideas and products against design criteria.</p> <p>To use the basic principles of a healthy and varied diet to prepare dishes</p> <p>To understand where food comes from</p> | <p>With help measure, mark out, cut and shape a range of materials</p> <p>Use tools e.g. scissors and a hole punch safely</p> <p>Assemble, join and combine materials and components together using a variety of temporary methods e.g. glues or masking tape</p> <p>Select and use appropriate fruit and vegetables, processes and tools</p> <p>Evaluate their product by discussing how well it works in relation to the purpose</p> <p>Evaluate their product by asking questions about what they have made and how they have gone about it.</p> | <p>Make: Children to cut, peel and skewer their ingredients.</p> <p>Evaluate: Children evaluate their kebabs on taste, texture, visual appeal (e.g. pattern), how easy it was to make and how healthy it is.</p> | <p>Possible Misconceptions:</p> <p>Children will have different, wrong assumptions about how certain fruit taste without even trying it.</p> <p>Children may think that preparing food in D&T is only about cooking recipes. In D&T food goes beyond cooking. It enables children to understand nutrition, modify recipes to meet health needs, and cook and evaluate various dishes</p> | | | | |
| Oracy opportunities for spring term | <p>Discussion- Why is it important to be healthy? Describing foods based on different criteria</p> | | | | | | | |
| <p>Summer</p> <p>Incredible India</p> <p>Freestanding Structures</p> <p>Indian Building</p> <p>Cooking Indian food</p> | <p>Pupils to design purposeful, functional, appealing products for themselves and other users based on design criteria.</p> <p>Pupils will generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.</p> <p>Pupils to select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing].</p> <p>They will select from and use a wide range of materials and components,</p> | <p>Developing, planning and communicating ideas.</p> <p>Suggest ideas and explain what they are going to do</p> <p>Working with tools, equipment, materials and components to make quality products (inc-food)</p> <p>Make their design using appropriate techniques</p> <p>With help measure, mark out, cut and shape a range of materials</p> | <p>Research: Children to explore different structures and how they stand on their own</p> <p>Technical knowledge: Children to practise techniques for joining and making structures more secure (including different materials)</p> <p>Design: Children to design their chair considering materials, shapes and joining techniques</p> | <p>What is a structure?</p> <p>What does freestanding mean?</p> <p>Why do we need structures to be freestanding?</p> <p>Why is it important for structures to be secure?</p> <p>How can we make structures stronger, stiffer, more secure?</p> | <p>A structure is a building or frame made from more than one part</p> <p>The taller a structure is the more likely it is to fall over</p> <p>A wider base makes a structure balance easier</p> <p>Parts of a structure can be joined in different ways</p> | <p>Structure Freestanding Balance Secure Base Join Materials</p> | <p>Indian food-cooking with parents</p> <p>50 things: Have a picnic</p> | <p>The design and technology association</p> <p>Projects on a Page</p> <p>Augustus and his Smile by Catherine Rayner</p> |

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| <i>(Look and Cook Primary School Programme)</i> | including construction materials, textiles and ingredients, according to their characteristics. Pupils will explore and evaluate a range of existing products. They will evaluate their ideas and products against design criteria. | Use tools eg scissors and a hole punch safely Select and use appropriate fruit and vegetables, processes and tools Use simple finishing techniques to improve the appearance of their product. Evaluate their product by asking questions about what they have made and how they have gone about it. | Make: Children to make and test their products Evaluate: Children to evaluate their chairs based on how well balance and secure they are | Possible Misconceptions: Children may think that freestanding structures are inherently stable without considering how to make them sturdy. | | | |
| Oracy opportunities for summer term | Discussion- What makes our structures stronger? Choosing materials and joining techniques giving reasons | | | | | | |

Year 2

| Theme | National Curriculum | Progression in Skills | Disciplinary Knowledge | Substantive knowledge | | | Drivers & 50 things | British Values & Protective Characteristics | Schemes/ Resources/ Texts |
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| | | | | Key Questions | Key Facts | Key Vocab | | | |
| Autumn The History of Flight Preparing Healthy Food Healthy snack - Flap jacks and seed bars | When designing and making, 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 Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] Explore and evaluate a range of existing products | Develop their design ideas through discussion, observation, drawing and modelling Identify a purpose for what they intend to design and make Identify simple design criteria Make simple drawings and label parts Begin to select tools and materials; use vocab to name and describe them Measure, cut and score with some accuracy | Research: Children to learn about where seeds and oats come from Technical knowledge: Children will learn kitchen safety and hygiene (washing hands, hair, clothes etc.) Design: Children to choose from a range of ingredients based on taste, texture, health etc) Make: Children to make a flapjack and a seed bar | What is a flapjack? What is a seed bar? Where do seeds come from? Where do oats come from? What is a recipe? How can we cook and prepare flapjacks/seed bars? How can we be safe and hygienic while cooking/handling food? | Seeds come from the inside of flowers and fruits. Oats are the edible seed of oat grass The word flapjack is believed to come from flipping or flapping a cake on a griddle pan. Seeds are a good source of protein Eating seeds everyday helps to keep your body healthy | Hygiene Safety Ingredients Seeds Oats Golden syrup Butter Brown sugar | Pilot Visit- aspirations | Sex: Amelia Earhart -female pilot | DT Association Projects on a Page Emma Jane's Aeroplane I am Amelia Earhart Taking Flight: How Wright Brothers Conquered the Skies Whoever heard of a flying bird |

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| <p>Preparing a healthy meal for a pilot <i>(Look and Cook Primary School Programme)</i></p> | <p>Evaluate their ideas and products against design criteria Technical knowledge</p> <p>To use the basic principles of a healthy and varied diet to prepare dishes</p> <p>To understand where food comes from</p> | <p>Use hand tools safely and appropriately</p> <p>Evaluate against their design criteria</p> <p>Evaluate their products as they are developed, identifying strengths and possible changes they might make</p> <p>Follow safe procedures for food safety and hygiene</p> <p>Choose and use appropriate finishing techniques</p> | <p>Evaluation: Children to evaluate and compare their seed bars and flapjack based on taste, texture, nutrition, ease of creation, visual appeal and decide which they prefer</p> | <p>Possible Misconceptions:</p> <p>All fruit grows on tress</p> <p>All seeds are edible</p> | | | <p>Cherry Blossom and Paper Planes</p> | |
| <p>Oracy opportunities for Autumn Term</p> | <p>Discussion- Why is it important to be healthy? Describing foods based on different criteria</p> | | | | | | | |
| <p>Spring</p> <p>My Country My City</p> <p>Making hand puppets</p> <p>Yorkshire Puddings <i>(Look and Cook Primary School Programme)</i></p> | <p>When designing and making, pupils should be taught to:</p> <p>Design purposeful, functional, appealing products for themselves and other users based on design criteria</p> <p>Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</p> <p>Select from and use a range of tools and equipment to perform practical</p> | <p>Cut, shape and join fabric to make a simple garment. Use basic sewing techniques</p> <p>Generate ideas by drawing on their own and other people's experiences</p> <p>Develop their design ideas through discussion, observation, drawing and modelling</p> <p>Identify a purpose for what they intend to design and make</p> | <p>Research: Children to learn about how puppets are used for different performances (Shadow, hand, string)</p> <p>Technical knowledge: Children to practise using different joining techniques to join fabric together</p> <p>Design: Children to design their product based on the performance they will be doing (identify the types</p> | <p>What are puppets?</p> <p>What are puppets made out of?</p> <p>Which materials can be used to make puppets?</p> <p>How can puppets be moved?</p> <p>How can we join fabric together?</p> | <p>The head and hands of a hand puppet can be made of materials that are either solid or flexible.</p> <p>Hand puppets usually have no legs; when they do have legs, these hang limply without being controlled.</p> <p>We can join materials together using staples, safety pins, glue, tape, stitching (running stitch)</p> | <p>Puppet Felt Plastic Thread Paper Card Stitch Staple Tape Stick</p> | <p>Pantomime experience in Alhambra theatre</p> <p>Mini pantomime in class using puppets made by students</p> <p>Careers/ Aspirations week STEM visit.</p> | <p>DT Association</p> <p>Seeds of friendship</p> <p>Invisible</p> <p>All Through the Night</p> <p>Small Mouse, Big City</p> <p>Beegu</p> <p>Fabric</p> <p>Threads</p> |

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| | <p>tasks [for example, cutting, shaping, joining and finishing]</p> <p>Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</p> <p>Explore and evaluate a range of existing products</p> <p>Evaluate their ideas and products against design criteria Technical knowledge</p> | <p>Identify simple design criteria</p> <p>Make simple drawings and label parts</p> <p>Evaluate against their design criteria</p> <p>Evaluate their products as they are developed, identifying strengths and possible changes they might make</p> <p>Talk about their ideas, saying what they like and dislike about them</p> | <p>of join and materials used)</p> <p>Make: Children to make their puppets</p> <p>Evaluate: Children to evaluate their puppets based on appearance and quality of joins</p> | <p>Possible Misconceptions:</p> <p>Children may confuse hand puppets with glove puppets. Hand puppets are worn over the hand, typically using the index finger for the neck and the thumb and middle finger for the arms. Glove puppets, on the other hand, are worn like gloves and cover the entire hand and finger</p> | | | | | Needles |
| Oracy opportunities for Spring Term | Mini Pantomime using puppets made by students | | | | | | | | |
| <p>Summer</p> <p>The Great British Seaside</p> <p>Wheels and Axles</p> <p>Windmills</p> <p>Fruit Lollies (Look and Cook Primary School Programme)</p> | <p>When designing and making, pupils should be taught to:</p> <p>Design purposeful, functional, appealing products for themselves and other users based on design criteria</p> <p>Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</p> <p>Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</p> <p>Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</p> <p>Explore and evaluate a range of existing products</p> | <p>Generate ideas by drawing on their own and other people's experiences</p> <p>Develop their design ideas through discussion, observation, drawing and modelling</p> <p>Assemble, join and combine materials and components together using a variety of temporary methods e.g. glues or masking tape</p> <p>Begin to select tools and materials; use vocab' to name and describe them</p> <p>Measure, cut and score with some accuracy</p> <p>Use hand tools safely and appropriately</p> | <p>Technical Knowledge: Children to learn how wheel and axle mechanisms work and have a go at making a simple version (wheels on a template)</p> <p>Research: Children to explore the different ways the mechanisms are used for different purposes (e.g. vehicles, tools) including a specific focus on windmills</p> <p>Children to explore different materials and how well suited they are to be used as blades for a windmill</p> <p>Design: Children to design their windmill, identifying the materials they are using</p> | <p>What is a wheel?</p> <p>What is an axle?</p> <p>What type of motion do they make?</p> <p>What products/structures use wheel and axle mechanisms?</p> <p>What are windmills used for?</p> | <p>A windmill is a structure with a wheel mechanism that creates energy by being spun around by wind.</p> <p>A wheel spins around an axle in a rotary motion (round and round).</p> <p>A windmill has blades that get pushed by wind</p> | <p>Wheel Axle Windmill Mechanism Energy Rotation Spin</p> | Seaside trip to Filey | Age: David Attenborough | <p>DT Association</p> <p>Projects on a Page</p> <p>Little Turtle and the Sea</p> <p>The Storm Whale</p> <p>The Big Book of The Blue</p> <p>One World</p> <p>Dolphin Boy</p> |

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| | <p>Evaluate their ideas and products against design criteria Technical knowledge</p> <p>Build structures, exploring how they can be made stronger, stiffer and more stable</p> <p>Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</p> | <p>Assemble, join and combine materials in order to make a product</p> <p>Identify a purpose for what they intend to design and make</p> <p>Identify simple design criteria</p> <p>Make simple drawings and label parts</p> <p>Evaluate their product by discussing how well it works in relation to the purpose</p> <p>Evaluate their products as they are developed, identifying strengths and possible changes they might make</p> <p>Evaluate their product by asking questions about what they have made and how they have gone about it</p> | <p>and where the mechanism will be</p> <p>Make: Children to make their windmills</p> <p>Evaluate: Children to evaluate their windmills based on how well the mechanism works (blow them and see if they spin)</p> | <p>Possible Misconceptions:</p> <p>Children may believe that fruit lollies are unhealthy due to their sweetness. Fruit lollies made with real fruit and natural yogurt can be a healthy treat.</p> | | | |
| Oracy opportunities for Summer Term | <p>Evaluations of products</p> <p>Reasons for choosing materials</p> | | | | | | |

Year 3

| Theme | National Curriculum | Progression in Skills | Disciplinary Knowledge | Substantive knowledge | | | Drivers & 50 things | British Values & Protective Characteristics | Schemes/ Resources/ Texts |
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| | | | | Key Questions | Key Facts | Key Vocab | | | |
| <p>Autumn</p> <p>Stone Age</p> <p>Levers and Linkages</p> <p>Page for a pop-up book</p> | <p>Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p> <p>Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting,</p> | <p>Explore, develop and communicate design proposals by modelling ideas</p> <p>Select tools and techniques for making their product</p> <p>Think about their ideas as they make progress</p> | <p>Research: Children to conduct “market research” by interviewing a younger year group about their interests (using existing examples as a prompt)</p> <p>Technical Knowledge: Children to practise creating different</p> | <p>How does a lever work?</p> <p>How do levers and linkages work together?</p> <p>What are the best levers to use?</p> <p>What are the best linkages to use?</p> | <p>Bridges are used to control the motion of a mechanism</p> <p>A lever mechanism can have multiple pivots</p> | <p>Linkage Input Output</p> | | | <p>DT Association</p> <p>Projects on a Page</p> <p>The First Drawing</p> <p>Low food mile food</p> |

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| <p>Create a meal with low food miles <i>(Look and Cook Primary School Programme)</i></p> | <p>shaping, joining and finishing], accurately</p> <p>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>To test, evaluate and refine their ideas and products against a specification, taking into account the views of intended users and other interested groups</p> <p>To understand and apply the principles of a healthy and varied diet</p> <p>To prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</p> <p>To understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed</p> | <p>and be willing change things if this helps them improve their work</p> <p>Evaluate their product against original design criteria e.g. how well it meets its intended purpose</p> <p>Demonstrate hygienic food preparation and storage</p> | <p>examples of lever mechanisms</p> <p>Design: Children to design their page with a clear theme and showing the moving parts with arrows</p> <p>Make: Children to make their pages</p> <p>Evaluate: Children to evaluate their product based on how well the mechanism works and how likely a child would be to want to read the story</p> | <p>Possible Misconceptions: Some students believe that levers are straightforward and only involve a single pivot point.</p> | | | | |
| <p>Oracy opportunities for Autumn term</p> | <p>Questions for younger children Evaluating their products</p> | | | | | | | |
| <p>Spring</p> <p>Here, There and Everywhere</p> <p>2D to 3D</p> <p>Badges</p> <p>Creating a balanced meal <i>(Look and Cook Primary School Programme)</i></p> | <p>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</p> <p>Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p> <p>Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</p> <p>Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according</p> | <p>Identify a purpose and establish criteria for a successful product.</p> <p>Make drawings with labels when designing</p> <p>Select tools and techniques for making their product</p> <p>Measure, mark out, cut, score and assemble components with more accuracy</p> <p>Work safely and accurately with a range of simple tools</p> <p>Measure, tape or pin, cut and join fabric with some accuracy</p> <p>Evaluate their product</p> | <p>Research: Children to look at different examples of badges (What they are made out of, how are they joined, what meaning do they have?)</p> <p>Technical Knowledge: Children to practise three types of stitches (running, back and cross)</p> <p>Design: Children to design their badge (identify the stitch used with a reason and consider the meaning)</p> <p>Make: Children to make their badges</p> <p>Evaluate:</p> | <p>What is a badge?</p> <p>What different types of stitch can we use?</p> <p>What materials would work well for a badge?</p> <p>How do we begin and finish a stitch?</p> | <p>A badge is a small piece of metal or fabric with a design on it</p> <p>They are used for uniforms to show membership of a group</p> <p>We can use running stitch, back stitch and cross stitch to join materials together</p> <p>Each type of stitch has advantages and disadvantages</p> <p>The eye of the needle is the place we push our thread through to join it</p> | <p>Badge 2D 3D Needle Running Back Stitch Cross Stitch</p> | <p>50 things – learn to sew on a button</p> <p>Careers/ Aspirations week STEM visit</p> | <p>Once Upon a Snowstorm</p> <p>Felt</p> <p>Pins Needles</p> <p>Examples of different fabrics</p> <p>Threads</p> |

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| | <p>to their functional properties and aesthetic qualities</p> <p>Investigate and analyse a range of existing products</p> <p>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> | <p>against original design criteria e.g. how well it meets its intended purpose</p> | <p>Children to evaluate their product based on accuracy of stitch, how secure it is and appearance</p> | | <p>To finish a stitch we tie a knot</p> <p>2D means an object only has a width and length. 3D also has a height</p> | | | | |
| | | | | <p>Possible Misconceptions:</p> <p>Children assume that stitching is purely used to join pieces of material. In reality, stitching can be decorative! Students should explore decorative stitches, embroidery, and embellishments to enhance their designs.</p> | | | | | |
| Oracy opportunities for spring term | Evaluations | | | | | | | | |
| <p>Summer</p> <p>Greeks</p> <p>Savoury dish (cultural link)</p> <p>Fajitas/Pitta</p> <p>Make a Greek salad</p> | <p>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</p> <p>Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p> <p>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</p> <p>Investigate and analyse a range of existing products</p> | <p>Generate ideas for an item, considering its purpose and the user/s</p> <p>Identify a purpose and establish criteria for a successful product.</p> <p>Plan the order of their work before starting Make drawings with labels when designing</p> <p>Measure, mark out, cut, score and assemble components with more accuracy</p> <p>Work safely and accurately with a range of simple tools</p> <p>Demonstrate hygienic food preparation and storage</p> | <p>Research: Children to be provided with a range of sandwiches using different recipes (mix of wrap and pitta) and evaluate which they like and why</p> <p>Technical Knowledge: Children to learn about the different food groups and a balanced diet</p> <p>Children to learn cutting, spreading and grating techniques</p> <p>Design: Children to design their sandwich identifying the type of breads, the fillings and what technique they will need for each one.</p> | <p>What types of food are considered healthy?</p> <p>What are the different food groups?</p> <p>Why do we use bread to contain ingredients?</p> <p>Why are some ingredients suited to sandwiches more than others?</p> <p>How do we prepare ingredients for a sandwich?</p> | <p>Fajitas are a Mexican dish consisting on ingredients encased in a tortilla wrap</p> <p>Pitta bread is a healthy alternative to sliced bread with more vitamins, minerals and fibre</p> <p>Food can be sorted into the following groups: Fruit and Vegetables Carbohydrates Protein Diary Spread and Oils</p> <p>A balanced diet consists of all the different groups but too much of some would be unhealthy</p> | <p>Sandwich Pitta Tortilla Wrap Filling Protein Dairy Oils Fibre Nutrition</p> | | | <p>DT Association</p> <p>Projects on a Page</p> <p>feta</p> <p>cucumber</p> <p>salad leaves</p> <p>lemon juice</p> <p>tomatoes</p> |

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| <i>(Look and Cook Primary School Programme)</i> | <p>To understand and apply the principles of a healthy and varied diet</p> <p>To prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</p> <p>To understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed</p> | | <p>Make: Children to make and eat their product</p> <p>Evaluate: Children to evaluate their product based on how secure it held the filling, taste, texture, appearance, how many food groups it uses, how healthy it is.</p> | <p>Possible Misconceptions:</p> <p>The base of all sandwiches is bread and butter. Students might also think sandwiches are limited to a specific style or filling. Children need to explore a range of different breads and spreads.</p> | | | |
| Oracy opportunities for summer term | Describing the examples during research Evaluations | | | | | | |

Year 4

| Theme | National Curriculum | Progression in Skills | Disciplinary Knowledge | Substantive knowledge | | | Drivers & 50 things | British Values & Protective Characteristics | Schemes/ Resources/ Texts |
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| | | | | Key Questions | Key Facts | Key Vocab | | | |
| Autumn Our Magical City Product with a fastening Bags/Purses/ Wallets | <p>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</p> <p>Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p> <p>Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according</p> | <p>Generate ideas, considering the purposes for which they are designing</p> <p>Make labelled drawings from different views showing specific features</p> <p>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</p> <p>Use simple graphical</p> | <p>Technical Knowledge: Children to practise attaching a fastener to a piece of fabric</p> <p>Research: Children to explore a range of existing bags/purses/wallets and identify how they are fastened and why someone would want to buy it</p> <p>Design: Children to design their bags, identifying materials, patterns and what fastener they will use and why. Also,</p> | <p>What is a fastening?</p> <p>What types of fastening are there?</p> <p>What is the purpose of a purse/wallet?</p> <p>What materials would we use for the product?</p> | <p>Fasteners are used to close textile products</p> <p>Types of fastening include velcro, zips, buttons</p> <p>People usually keep money and cards in their purses/wallets</p> <p>They need to be secure so money doesn't fall out</p> <p>Purses and wallets are also seen as fashion items so people want them to look attractive</p> | <p>Purse Wallet Fastener Velcro Zip Button Fashionable Secure</p> | | | <p>DT Association</p> <p>Projects on a Page</p> <p>Fruit</p> <p>Blender</p> <p>Milk</p> <p>Yoghurt</p> <p>Flour</p> <p>Eggs</p> |

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| Smoothies and cupcakes <i>(Look and Cook Primary School Programme)</i> | to their functional properties and aesthetic To select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately To understand and apply the principles of a healthy and varied diet To prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques To understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed | communication techniques Sew using a range of different stitches, weave and knit Join and combine materials and components accurately in temporary and permanent ways Measure, tape or pin, cut and join fabric with some accuracy | identify the intended customer Make: Children to make their purse/wallet Evaluate: Children to evaluate their bags based on visual appeal, how secure they are, how well the fastener works | Possible Misconceptions: Students might assume that all fastenings serve the same purpose, but each type has specific applications | | | | | | Butter Sugar Bun cases |
| Oracy opportunities for Autumn Term | Describing reasons for choosing example bags Evaluations | | | | | | | | | |
| Spring 17th Century Britain Simple electrical components Torches Pizzas and apple crumble <i>(Look and Cook Primary School Programme)</i> | 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 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 | 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 their work both | Research: Children to explore different flashlights with different types of switch (e.g. push to make, on/off, slider). Children to explain how each works. Technical Knowledge: Children to make and attach a range of switches using different techniques/materials to see which will be effective (e.g. paper clips, foil, split pins etc.) Design: | What is the purpose of an electric switch? Which materials should we use to make our switch? What different types of switches are there? How can we conceal our circuits? How do we make sure our circuit is safe? | An electric switch is used to control the flow of an electric current. If the switch is allowing the current to flow, the electric item will be on. If it is not allowing it to flow, the electric item will be off. To make a switch, we need to use materials which are conductors so that the electricity will pass through. | Conductor Insulator Switch Wire Conceal Current Battery Cell | Careers/ Aspirations week STEM visit | | DT Association Projects on a Page pizza bases apples flour sugar butter tomato puree cheese | |

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| | <p>improve their work</p> <p>Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</p> <p>To understand and apply the principles of a healthy and varied diet</p> <p>To prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</p> <p>To understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed</p> | <p>during and at the end of the assignment</p> <p>Evaluate products and identify criteria that can be used for their own designs</p> | <p>Children to design their flashlight, identifying where the electrical components will be and what type of switch. They will also create a circuit diagram to match.</p> <p>Make: Children to make their flashlights</p> <p>Evaluate: Children to evaluate their products based on how well the circuit works, how well it is attached/concealed</p> | <p>Possible Misconceptions: Students might think electric circuits are all about charge, but it's primarily about energy. When a battery no longer works, it's out of energy and the circuit fails to work.</p> | | | | | <p>pizza toppings</p> |
| Oracy opportunities for Spring Term | | | | | | | | | |
| <p>Summer</p> <p>The Great Escape</p> <p>CAD</p> <p>Packaging</p> <p>Rusk biscuits (to go inside the packaging made) <i>(Look and Cook Primary School Programme)</i></p> | <p>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</p> <p>Understand how key events and individuals in design and technology have helped shape the world.</p> <p>Apply their understanding of computing to program, monitor and control their products</p> <p>To understand and apply the principles of a healthy and varied diet.</p> | <p>Make labelled drawings from different views showing specific features</p> <p>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</p> <p>Select appropriate tools and techniques for making their product</p> <p>Measure, mark out, cut and shape a range of</p> | <p>Research: Children to explore a range of existing packaging. They will identify how it helps to sell the product and take it apart to see what 2D nets it creates</p> <p>Technical Knowledge: Children will use CAD to create some simple nets and turn them into a 3D shape</p> <p>Design: Children to design their product using the same CAD system thinking</p> | <p>What is CAD?</p> <p>What are the benefits of using computers rather than creating by hand?</p> <p>What is a 2D net?</p> <p>How does packaging for food help to sell a product?</p> | <p>Computer aided design can be used to make products that are difficult to do by hand</p> <p>CAD is useful for when we want to make more than one item because they will all look exactly the same</p> <p>2D nets can be used to make packaging for 3D products</p> <p>Packaging is often bright and colourful to attract people's attention in shops</p> | <p>Computer aided Packaging Net</p> <p>Accurate Replicating Hand-made</p> | <p>Enterprise</p> | | <p>DT Association</p> <p>Projects on a Page</p> <p>Escape from Pompeii</p> <p>Chariots & Champions</p> |

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| | <p>To prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.</p> <p>To understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</p> | <p>materials, using appropriate tools, equipment and techniques</p> <p>Join and combine materials and components accurately in temporary and permanent ways</p> <p>Evaluate their work both during and at the end of the assignment</p> <p>Evaluate their products carrying out appropriate tests</p> | <p>about colours, text and shapes</p> <p>Make/Evaluate: Children to assemble their nets and reproduce them multiple times</p> <p>Once done, they will present their product to the class (Dragon's Den style) and provide feedback</p> | <p>Possible Misconceptions:</p> <p>Students might think packaging design is solely about making products look attractive.</p> <p>Reality: Effective packaging considers functionality, protection, sustainability, and user experience. It's not just about visual appeal.</p> | | | |
| Oracy opportunities for Summer Term | Pitching their product to an audience | | | | | | |

Year 5

| Theme | National Curriculum | Progression in Skills | Disciplinary Knowledge | Substantive knowledge | | | Drivers & 50 things | British Values & Protective Characteristics | Schemes/ Resources/ Texts |
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| | | | | Key Questions | Key Facts | Key Vocab | | | |
| Autumn Adventures Bread Breads from around the world | <p>When designing and making, pupils should be taught to:</p> <p>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</p> <p>Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</p> <p>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</p> | <p>Generate ideas through brainstorming and identify a purpose for their product</p> <p>Draw up a specification for their design</p> <p>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</p> <p>Select appropriate materials, tools and techniques</p> | <p>Research: Children to taste breads from around the world, identifying locations on a map and rating the breads based on taste, texture and visual appeal</p> <p>Technical knowledge Children to observe the effects of including/excluding a raising agent on bread and sort different breads by whether they are leavened or unleavened</p> <p>Design: Children to write the ingredients for a recipe</p> | <p>How is bread made?</p> <p>What are the ingredients?</p> <p>What makes the dough rise?</p> <p>Where do different breads come from?</p> | <p>Bread contains: Flour, Water, Salt</p> <p>Some breads also use a raising agent such as yeast</p> <p>Ingredients such as seeds, raisins, garlic, herbs etc can be included for taste</p> <p>Leavened bread contains yeast or another raising agents, examples include: Brioche, Sourdough, Wholemeal etc.</p> <p>Unleavened bread doesn't include a</p> | <p>Raising agent Bake Yeast Flour Salt Leavened Unleavened Knead Fermentation</p> | | | <p>DT Association</p> <p>Projects on a Page</p> |

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| | <p>To understand and apply the principles of a healthy and varied diet</p> <p>To prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</p> <p>To understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed</p> | <p>Use skills in using different tools and equipment safely and accurately</p> <p>Weigh and measure accurately (time, dry ingredients, liquids)</p> <p>Evaluate a product against the original design specification</p> <p>Evaluate it personally and seek evaluation from others</p> <p>Measure and mark out accurately</p> | <p>they will use including whether their bread will be leavened or unleavened. They can also consider shape and any visual aspects they can alter (e.g. carving pattern into a leavened dough)</p> <p>Make: Children to make their breads making sure to take part in the mixing, kneading and baking process</p> <p>Evaluate: Children to evaluate their breads based on texture, taste and visual appeal (leavened options can evaluate how well it has risen)</p> | | <p>raising agent. Examples include: Naan, Tortilla, Flatbreads etc.</p> <p>When making bread, ingredients are mixed together, kneaded and left to rise. They are then baked.</p> | | | | |
| | <p>Possible Misconceptions:</p> <p>Students might think that bread-making is solely about shaping and decorating the loaf. Reality: While aesthetics matter, understanding the science behind bread (ingredients, yeast, fermentation) is crucial for successful baking.</p> <p>Some students may overlook the importance of yeast in bread-making. Reality: Yeast is a living organism that ferments sugars, producing carbon dioxide gas. This gas causes the dough to rise, resulting in a light, airy texture</p> | | | | | | | | |
| Oracy opportunities for Autumn term | Evaluations and describing the initial products | | | | | | | | |
| <p>Spring</p> <p>Beautiful Britain</p> <p>Frame Structures</p> <p>Bird Hide</p> <p>Follow a recipe to bake a Victoria Sponge (Look and Cook Primary School Programme)</p> | <p>When designing and making, pupils should be taught to:</p> <p>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</p> <p>Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</p> <p>Apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p> | <p>Generate ideas through brainstorming and identify a purpose for their product</p> <p>Draw up a specification for their design</p> <p>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</p> <p>Select appropriate materials, tools and techniques</p> | <p>Research: Children to explore a range of shell and frame structures and sort them into the correct category (explaining why)</p> <p>Technical Knowledge: Children to practise different ways of linking joining straws</p> <p>Children to explore which materials would work well for a tent (waterproof, strong enough to withstand wind)</p> <p>Design:</p> | <p>What is a frame?</p> <p>Why do we use frame structures?</p> <p>What are the advantages of a frame structure?</p> <p>Are all structures permanent?</p> <p>What does a shelter have to provide?</p> | <p>Frame structures are structures that use beams and columns to support an outer shell</p> <p>Triangular frames are the strongest shape because weight is distributed evenly on the sides and angles</p> <p>Frame structures are used for power masts, cranes, climbing frames, tents and tipis</p> | <p>Frame Reinforce Triangulation Stability Temporary Shell Waterproof Windproof</p> | <p>50 things: Bake a cake</p> <p>Careers/ Aspirations week STEM visit</p> | | <p>DT Association</p> <p>Projects on a Page</p> <p>Flour</p> <p>Eggs</p> <p>Sugar</p> <p>Icing sugar</p> <p>Jam</p> <p>Butter</p> |

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| | Investigate and analyse a range of existing products | Use skills in using different tools and equipment safely and accurately Cut and join with accuracy to ensure a good-quality finish to the product Evaluate a product against the original design specification Evaluate it personally and seek evaluation from others Measure and mark out accurately | Children to design their frame structure identifying materials, joins and reasons for choices Make: Children to make their frame structures Evaluate: Children to test their structures by pouring over a small amount of water and blowing air onto it Results will be used to evaluate how successful it is | Possible Misconceptions: Students may think frame construction is solely about aesthetics. Reality: Frame construction involves creating a supportive framework of beams and columns. It's like building the skeleton of a house, which provides stability and carries the building's weight. Walls and other features are added afterwards | | | | | |
| Oracy opportunities for spring term | | | | | | | | | |
| Summer The Industrial Age Combining Textiles with Art Cushions covers with tie-dye Rock cakes <i>(Look and Cook Primary School Programme)</i> | When designing and making, pupils should be taught to: Investigate and analyse a range of existing products 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 Understand how key events and individuals in design and technology have helped shape the world Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design | Generate ideas through brainstorming and identify a purpose for their product Draw up a specification for their design 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 Select appropriate materials, tools and techniques Use skills in using different tools and | Research: Children to research a range of existing cushions and describe their function (functional or aesthetic) Technical Knowledge: Children to explore some artists who have used tie-dyeing techniques and practise to decide on a pattern for their final product Children to explore a range of materials to use for their pillow and evaluate how useful each would be for stuffing and casing Design: | Are cushions just for sitting on? What materials work well for the stuffing of a cushion? What techniques can be used to add decoration to a pillow? | Cushions have a functional use or an aesthetic one (appearance) Soft materials are used for stuffing to make the cushion comfortable Tie-dyeing is the process of dyeing fabric by hand in which patterns are created by folding, twisting, crumpling, tying with string before applying the dye to the fabric Cushions are stitched together and need to be secure to make sure the stuffing remains in place. | Cushion Tie-dye Pattern Functional Aesthetic Casing Stuffing Comfort Shibori Tritik | | | DT Association Projects on a Page Thread Needles Fabric |

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| | Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work | <p>equipment safely and accurately</p> <p>Cut and join with accuracy to ensure a good-quality finish to the product</p> <p>Use results of investigations, information sources, including ICT when developing design ideas</p> <p>Evaluate a product against the original design specification Evaluate it personally and seek evaluation from others</p> | <p>Children to design their product, identifying what stitch type, what materials and the pattern they will use</p> <p>Make: Children to make their cushions</p> <p>Evaluate: Children to evaluate their cushions based on visual appeal and functionality</p> | <p>Possible Misconceptions:</p> <p>Children may use the wrong fabric or not use enough dye. Children should be allowed to explore tie-dying a range of fabrics.</p> | | | |
| Oracy opportunities for summer term | Evaluations | | | | | | |

Year 6

| Theme | National Curriculum | Progression in Skills | Disciplinary Knowledge | Substantive knowledge | | | Drivers & 50 things | British Values & Protective Characteristics | Schemes/ Resources/ Texts |
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| | | | | Key Questions | Key Facts | Key Vocab | | | |
| <p>Autumn</p> <p>Fighting Fit</p> <p>Sturdy Structures</p> <p>Anderson Shelters</p> <p>Ration packs (<i>Look and Cook Primary School Programme</i>)</p> | <p>Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making.</p> <p>They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].</p> <p>When designing and making, pupils should be taught to: Design use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose,</p> | <p>Communicate their ideas through detailed labelled drawings</p> <p>Develop a design specification</p> <p>Explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of ways</p> <p>Plan the order of their work, choosing appropriate materials, tools and techniques</p> | <p>Research: Children to research what Anderson shelters were used for, how they were made, and what materials were used and why.</p> <p>Technical Knowledge: Children to investigate the effect of corrugating material on how much weight it can carry</p> <p>Design: Children to design their shelters, identifying materials, joining</p> | <p>What was an Anderson Shelter? What did they need to provide?</p> <p>What effect does corrugating a material have?</p> <p>Can we make materials waterproof?</p> <p>How can we reinforce our structures?</p> | <p>Anderson shelters were a type of shelter people went into during an air raid to keep safe.</p> <p>The government gave an Anderson Shelter kit to families who lived in areas that were expected to be bombed by German planes.</p> <p>They were often made from corrugated metal frames dug into the ground</p> <p>They had to be very sturdy to withstand the impact of nearby bombs</p> | <p>Shelter Sturdy Corrugation Reinforce Bombing</p> | | | DT Association |

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| | <p>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</p> <p>Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</p> <p>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</p> <p>Apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p> <p>As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating.</p> <p>Pupils should be taught to: understand and apply the principles of a healthy and varied diet</p> <p>prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</p> <p>understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</p> | <p>Select appropriate tools, materials, components and techniques</p> <p>Assemble components make working models</p> <p>Use tools safely and accurately</p> <p>Weigh and measure accurately (time, dry ingredients, liquids)</p> <p>Apply the rules for basic food hygiene and other safe practices e.g. hazards relating to the use of ovens</p> | <p>techniques and measurements</p> <p>Make: Children to make their shelters</p> <p>Evaluate: Children to test their shelters by applying weight, shaking and dropping objects. This will inform evaluations</p> | | <p>Corrugating a material helps it to carry more weight</p> | | | | |
| <p>Oracy opportunities for Autumn Term</p> | <p>Evaluations</p> | | | | | | | | |

Possible Misconceptions:
 Many people believe that a structure needs to be heavy to be stable.
 Fact: Sturdiness is not solely determined by weight. Lightweight materials, such as reinforced concrete or steel, can create strong and stable structures. The key lies in proper design, load distribution, and material selection

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| <p>Spring Journeys</p> <p>Electrical components</p> <p>Alarm system</p> | <p>Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment</p> <p>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</p> <p>Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p> <p>Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</p> <p>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</p> <p>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> | <p>Communicate their ideas through detailed labelled drawings</p> <p>Develop a design specification</p> <p>Explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of ways</p> <p>Plan the order of their work, choosing appropriate materials, tools and techniques</p> <p>Select appropriate tools, materials, components and techniques</p> <p>Assemble components make working models</p> <p>Use tools safely and accurately</p> | <p>Research: Children to explore different types of alarm and what inputs cause them to go off (why is each appropriate for its purpose?)</p> <p>Technical Knowledge: Children to explore the different types of switch and what inputs will cause an output (push to make, push to break, light dependent, resistor)</p> <p>Design: Children to design their circuit, specifying their components and what input will set off their alarm</p> <p>Make: Children to make their alarm systems</p> <p>Evaluate: Children evaluate their alarm systems based on how effective it was (e.g. did the output occur at the right time?)</p> | <p>Why do we need alarm systems?</p> <p>What causes alarms to go off?</p> <p>What types of switches can be used and why?</p> <p>What is an input and an output?</p> | <p>Alarm systems are designed to make a loud noise when they are set off to alert people of something</p> <p>We can alter what input causes an output in a circuit by using a range of different switches and resistors.</p> <p>Push to make switches complete a circuit when they are pressed but stop when released.</p> <p>Push to break switches complete a circuit when they are pressed and released.</p> <p>Light dependent resistors allow current to flow through them when there is an input of enough light.</p> | <p>Alarm Current Circuit Bulb Buzzer</p> | <p>Careers/ Aspirations week STEM visit</p> | | <p>DT Association</p> <p>Projects on a Page</p> <p>Rethink food delivery</p> |
| <p>Oracy opportunities for Spring Term</p> | <p>Evaluations</p> | | | | | | | | |
| <p>Summer</p> <p>Back to Our Roots</p> | <p>Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose,</p> | <p>Communicate their ideas through detailed labelled drawings</p> | <p>Research: Children to taste a range of lasagnes and evaluate them based on</p> | <p>Where does our food come from?</p> <p>Why can't we get it all from the UK?</p> | <p>A lasagne is an Italian dish dating back to the middle ages</p> | <p>Lasagne Savoury Food mile Seasonality Climate Import</p> | <p>50 things: Help a local charity</p> | | <p>DT Association</p> <p>Projects on a Page</p> |

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| <p>Culture and Seasonality Savoury Meal (Lasagne)</p> <p>Ready Steady Cook (<i>Look and Cook Primary School Programme</i>)</p> | <p>aimed at particular individuals or groups</p> <p>Generate, develop, model and communicate their ideas through discussion and annotated sketches.</p> <p>Investigate and analyse a range of existing products</p> <p>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating.</p> <p>Pupils should be taught to: understand and apply the principles of a healthy and varied diet</p> <p>prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</p> <p>understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</p> | <p>Develop a design specification</p> <p>Explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of ways</p> <p>Plan the order of their work, choosing appropriate materials, tools and techniques</p> <p>Use tools safely and accurately</p> <p>Evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests</p> <p>Record their evaluations using drawings with labels</p> <p>Evaluate against their original criteria and suggest ways that their product could be improved</p> <p>Cut and join with accuracy to ensure a good-quality finish to the product</p> | <p>taste, appearance, healthiness and flavour.</p> <p>Technical Knowledge: Children to explore the concept of seasonality by finding out where ingredients from a recipe come from and why they may not be grown in the UK</p> <p>Design: Children to design their lasagne including details such as whether it's vegetarian, healthiness etc. (include food miles and the environmental impact of the meal)</p> <p>Make: Children to make their lasagne</p> <p>Evaluate: Children to evaluate their final lasagne based on taste, healthiness, and appearance</p> <p>They will then present their dish to an audience.</p> | <p>What is a lasagne?</p> <p>Why is lasagne a popular dish in the UK?</p> <p>What does savoury mean?</p> <p>What are food miles?</p> <p>What impact does importing and exporting ingredients have on the world?</p> | <p>Lasagne was originally a vegetarian dish</p> <p>The earliest lasagne recipes known are dated from the thirteenth century. At that time, tomatoes were not known to Europeans. This means that they couldn't have used them in the recipes.</p> <p>Lots of ingredients cannot be grown/produced in the UK because of our climate so they are imported from other places in the world</p> <p>Food miles is a way of measuring the environmental impact of the ingredients we use in our diets. It is based on the distance from the origin country to our own.</p> | <p>Export Environment</p> | | | |
| <p>Oracy opportunities for Summer Term</p> | <p>Evaluations and presentations</p> | | | | | | | | |

Possible Misconceptions:

All of our food comes from the UK – children may not consider that foods are imported

Children may not think that the UK exports any food