

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
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. 	Creating with Materials <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.

Nursery

Theme	EYFS Curriculum	Disciplinary Knowledge	Substantive Knowledge			Drivers & 50 things	British Values & Protective Characteristics	Resources and texts	
			Key Questions	Key Facts	Key Vocab				
Learning Overview	We will make crispy buns and gingerbread men to help us develop our fine motor skills. We will make gingerbread men with moving parts including split pins and treasury tags. We will ensure that we follow correct food hygiene procedures when handling and making food. We will use a variety of techniques and multimedia to create calendars and Christmas cards.								
Autumn Who Am I?	<p>Explore different materials freely, in order to develop their ideas about how to use them and what to make.</p> <p>Develop their own ideas and then decide which materials to use to express them.</p>	<p>I know how to combine ingredients to make crispy buns and gingerbread men</p> <p>I can use fine motor skills to decorate my gingerbread man</p> <p>I know that I have to wash my hands to get rid of germs before I start to prepare food</p> <p>I can use a variety of</p>	<p>What ingredients do you need to make crispy buns?</p> <p>What ingredients do you need to make gingerbread men?</p> <p>What must you always remember to do before preparing food?</p> <p>Possible misconceptions: If you glue your moving parts it will still move Once the chocolate has melted it won't set again</p>	<p>You need to warm chocolate in order to melt it</p> <p>You need to roll the dough out before you cut it</p>	<p>Ginger</p> <p>Rolling</p> <p>Cutter</p> <p>Mix</p> <p>Press</p> <p>Melt</p> <p>Set</p>				The Gingerbread Man

	Join different materials and explore different textures.	techniques to create pictures, collages etc						
Learning Overview	We will design and make an Easter card with a moving part. We will make some bread to make egg sandwiches. We will also make turnip soup (A). We will also make porridge with different toppings (B). We will ensure that we follow correct food hygiene procedures when handling and making food.							
Spring Cycle A: Amazing Nature Cycle B: Ready Steady Cook	Join different materials and explore different textures. Explore different materials freely, in order to develop their ideas about how to use them and what to make.	I can make an Easter card with a moving part. I can chop a vegetable into small cubes. I can knead dough	How can you make your Easter card move? What vegetables did you put in your soup? (A) What toppings did you choose for your porridge (B)	Turnips grow underground (A) Porridge is made with milk and oats (B) All birds lay eggs	Bird Egg Sandwich Bread Knead Dough Soup			The Odd Egg The Enormous Turnip
Learning Overview	We will make a sandwich and then select appropriate, healthy accompaniments for a picnic. We will taste different flavoured jams and use our favourite to make jam tarts for the Queen of Hearts.							
Summer Cycle A: All Creatures Great and Small Cycle B: Land of Make Believe	Develop their own ideas and then decide which materials to use to express them.	I can select healthy foods for my picnic I can combine butter and flour with my fingers to make pastry	What are you going to choose for your picnic? What flavour jam would you like for your jam tarts?	You need to have a balanced diet to be healthy When you put jam in the oven it melts	Picnic Healthy Flavour Combine			Dear Zoo Nursery rhymes Whatever next
			Possible misconceptions: Turnips grow on trees We can eat all types of eggs					
			Possible misconceptions: Chocolate is healthy					

Reception

Theme	EYFS Curriculum	Disciplinary Knowledge	Substantive Knowledge			Drivers & 50 things	British Values & Protective Characteristics	Resources and texts
			Key Questions	Key Facts	Key Vocab			
ELG	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.							
Learning Overview	We will make polar bear buns and chapattis to help us investigate textures. We will ensure that we follow correct food hygiene procedures when handling and making food. We will also explore textures in different ways. We will use a variety of techniques and multimedia to create calendars, Christmas decorations and Christmas cards.							

<p>Autumn</p> <p>Who Am I?</p>	<p>Explore, use and refine a variety of artistic effects to express their ideas and feelings.</p> <p>Return to and build on their previous learning, refining ideas and developing their ability to represent them.</p>	<p>I know how to combine ingredients to make buns and chapattis</p> <p>I can use a fork to create textures</p> <p>I know that I have to wash my hands to get rid of germs before I start to prepare food</p> <p>I can use a variety of techniques to create pictures, collages etc</p>	<p>What ingredients do you need to make buns?</p> <p>Why do we wash our hands before we prepare food?</p>	<p>You need butter, sugar, flour and eggs to make buns</p> <p>You need to follow a recipe in the right order to make buns</p> <p>Germs spread if we do not make sure we wash our hands</p>	<p>Flour Egg Sugar Ingredients Recipe Fork Weigh Amount Cut Stick Join Create Germs</p>			<p>The Bear that went Boo</p> <p>Chapatti Moon</p>
<p>Learning Overview</p> <p>We will design and make a caterpillar and join it using a variety of joining materials, including split pins. We will consider how we might adapt our caterpillars if we repeat the activity. We will be tasting different foods and categorising them into healthy and unhealthy. We also make some Easter nests.</p>								
<p>Spring</p> <p>Amazing Nature</p>	<p>Return to and build on their previous learning, refining ideas and developing their ability to represent them.</p> <p>Create collaboratively, sharing ideas, resources and skills.</p>	<p>I can use a variety of joining techniques to create a caterpillar</p> <p>I know which foods are healthy and and which foods are unhealthy food</p> <p>I can choose to best resources to join</p>	<p>Which food is healthy?</p> <p>Which food is unhealthy?</p> <p>What joining method was best for your caterpillar?</p>	<p>It is ok to eat unhealthy food sometimes as long as you eat a lot of healthy food.</p> <p>A join is fixing two pieces together.</p>	<p>Join Healthy Unhealthy Hole punch Staple Split pin Paper clip Treasury tag</p>			<p>Jack and the Beanstalk</p> <p>The Hungry Caterpillar</p>
<p>Learning Overview</p> <p>We will make and taste different types of biscuits. We will design and make boats to use in our science experiment.</p>								
<p>Summer</p> <p>All Creatures Great and Small</p>	<p>Explore, use and refine a variety of artistic effects to express their ideas and feelings.</p> <p>Return to and build on their previous learning, refining</p>	<p>I know how to combine ingredients to make biscuits</p> <p>I know that I have to wash my hands to get rid of germs before I start to prepare food</p> <p>I can choose the best material to make my boat float</p>	<p>What ingredients do you need for shortbread?</p> <p>What ingredients do you need for chocolate chip cookies?</p> <p>Which biscuit was your favourite?</p> <p>Which material floated</p>	<p>You need to use different methods to make different types of biscuits</p> <p>Not all materials will float</p>	<p>Biscuit Shortbread Cookie Method Float Sink Waterproof</p>			<p>Mr Gumpy's Outing</p> <p>The Goat and the Stoat and the Boat</p> <p>Frog can Float</p>

ideas and developing their ability to represent them.	the best?						
	Possible misconceptions: Biscuits with dried fruit in are healthier						
Create collaboratively, sharing ideas, resources and skills.							

Year 1

Theme	National Curriculum	Progression in Skills	Disciplinary Knowledge	Substantive knowledge			Drivers & 50 things	British Values & Protective Characteristics	Schemes/ Resources/ Texts
				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, 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.	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 Make their design using appropriate techniques With help measure, mark out, cut and shape a range of materials Use tools e.g. scissors and a hole punch safely Assemble, join and combine materials and components together using a variety of temporary methods e.g. glues or masking tape	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: Children will use cutting and joining techniques to create their card. Evaluation: Children will evaluate their product based on how well the mechanism works and how visually appealing their card is.	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 holds the slider in place 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 Linear motion	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

		<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>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, 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>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>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</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>Make: Children to cut, peel and skewer their ingredients.</p> <p>Evaluate: Children evaluate their kebabs on taste, texture, visual appeal (e.g.</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 Healthy Taste Texture 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>

	<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>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>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 (<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].</p> <p>They will select from and use a wide range of materials and components, including construction materials, 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>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>Use tools eg scissors and a hole punch safely</p> <p>Select and use appropriate fruit and vegetables, processes and tools</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>Make: Children to make and test their products</p> <p>Evaluate: Children to evaluate their chairs based on how well balance and secure they are</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>Structure Freestanding Balance Secure Base 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>	

		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.		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
				Key Questions	Key Facts	Key Vocab			
Autumn The History of Flight Preparing Healthy Food Healthy snack - Flap jacks and seed bars Preparing a healthy meal for a pilot	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 Use hand tools safely and appropriately	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 Evaluation:	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 be safe and hygienic while cooking and touching 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 in a pan. Eating seeds everyday helps to keep your body healthy	Hygiene Seeds Oats Golden syrup Butter Brown sugar Ingredients	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 Cherry Blossom and Paper Planes

<p><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>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>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>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 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>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>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</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 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>What are puppets?</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 do not usually have legs</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 Glue 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> <p>Needles</p>

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

	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.	Identify simple design criteria Make simple drawings and label parts Evaluate their product by discussing how well it works in relation to the purpose Evaluate their products as they are developed, identifying strengths and possible changes they might make Evaluate their product by asking questions about what they have made and how they have gone about it	Evaluate: Children to evaluate their windmills based on how well the mechanism works (blow them and see if they spin)	Possible Misconceptions: 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.			
Oracy opportunities for Summer Term	Evaluations of products Reasons for choosing materials						

Year 3

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

<p>Create a meal with low food miles <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>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>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>Measure, mark out, cut, score and assemble components with more accuracy</p>	<p>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 to their functional properties and aesthetic qualities</p> <p>Investigate and analyse a range of existing products</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>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 against original design criteria e.g. how well it meets its intended purpose</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: Children to evaluate their product based on accuracy of stitch, how secure it is and appearance</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>To finish a stitch we tie a knot</p> <p>2D means an object only has a width and</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>	

	To understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed		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.	Possible Misconceptions: 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.			
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
				Key Questions	Key Facts	Key Vocab			
Autumn Our Magical City Product with a fastening Bags/Purses/Wallets Smoothies and cupcakes	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 Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic	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 Use simple graphical communication techniques	Technical Knowledge: Children to practise attaching a fastener to a piece of fabric 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 Design: Children to design their bags, identifying materials, patterns and what fastener they will use and why. Also, identify the intended customer	What is a fastening? What types of fastening are there? What is the purpose of a purse/wallet? What materials would we use for the product?	Fasteners are used to close textile products Types of fastening include velcro, zips, buttons People usually keep money and cards in their purses/wallets They need to be secure so money doesn't fall out Purses and wallets are also seen as fashion items so people want them to look attractive	Purse Wallet Fastener Velcro Zip Button Fashionable Secure			DT Association Projects on a Page Fruit Blender Milk Yoghurt Flour Eggs Butter

<i>(Look and Cook Primary School Programme)</i>	<p>To 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>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>Sew using a range of different stitches, weave and knit</p> <p>Join and combine materials and components accurately in temporary and permanent ways</p> <p>Measure, tape or pin, cut and join fabric with some accuracy</p>	<p>Make: Children to make their purse/wallet</p> <p>Evaluate: Children to evaluate their bags based on visual appeal, how secure they are, how well the fastener works</p>	<p>Possible Misconceptions:</p> <p>Students might assume that all fastenings serve the same purpose, but each type has specific applications</p>			<p>Sugar</p> <p>Bun cases</p>	
Oracy opportunities for Autumn Term	Describing reasons for choosing example bags Evaluations							
<p>Spring</p> <p>17th Century Britain</p> <p>Simple electrical components</p> <p>Torches</p> <p>Pizzas and apple crumble <i>(Look and Cook Primary School Programme)</i></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>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>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>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>Evaluate their work both 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>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.</p> <p>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.)</p> <p>Design: 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:</p>	<p>What is the purpose of an electric switch?</p> <p>Which materials should we use to make our switch?</p> <p>What different types of switches are there?</p> <p>How can we conceal our circuits?</p> <p>How do we make sure our circuit is safe?</p>	<p>An electric switch is used to control the flow of an electric current.</p> <p>If the switch is allowing the current to flow, the electric item will be on.</p> <p>If it is not allowing it to flow, the electric item will be off.</p> <p>To make a switch, we need to use materials which are conductors so that the electricity will pass through.</p>	<p>Conductor Insulator Switch Wire Conceal Current Battery Cell</p>	<p>Careers/ Aspirations week STEM visit</p>	<p>DT Association</p> <p>Projects on a Page</p> <p>pizza bases</p> <p>apples</p> <p>flour</p> <p>sugar</p> <p>butter</p> <p>tomato puree</p> <p>cheese</p> <p>pizza toppings</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>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>					
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>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 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 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>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 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>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>

		Evaluate their products carrying out appropriate tests		<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
				Key Questions	Key Facts	Key Vocab			
Autumn Adventures Bread Breads from around the world	When designing and making, 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 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	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 taste breads from around the world, identifying locations on a map and rating the breads based on taste, texture and visual appeal 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+ Design: Children to write the ingredients for a recipe they will use including whether their bread will	How is bread made? What are the ingredients? What makes the dough rise? Where do different breads come from?	Bread contains: Flour, Water, Salt Some breads also use a raising agent such as yeast Ingredients such as seeds, raisins, garlic, herbs etc can be included for taste Leavened bread contains yeast or another raising agents, examples include: Brioche, Sourdough, Wholemeal etc. Unleavened bread doesn't include a	Raising agent Bake Yeast Flour Salt Leavened Unleavened Knead Fermentation			DT Association Projects on a Page

	<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>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>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>Investigate and analyse a range of existing products</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>Use skills in using different tools and</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 bird hide (waterproof, strong enough to withstand wind)</p> <p>Design: Children to design their frame structure identifying materials,</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>

		<p>equipment safely and accurately</p> <p>Cut and join with accuracy to ensure a good-quality finish to the product</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>joins and reasons for choices</p> <p>Make: Children to make their frame structures</p> <p>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</p>	<p>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</p>					
Oracy opportunities for spring term									
<p>Summer</p> <p>The Industrial Age</p> <p>Combining Textiles with Art</p> <p>Cushions covers with tie-dye</p> <p>Rock cakes (<i>Look and Cook Primary School Programme</i>)</p>	<p>When designing and making, pupils should be taught to:</p> <p>Investigate and analyse a range of existing products</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>Understand how key events and individuals in design and technology have helped shape the world</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>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</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>Use skills in using different tools and equipment safely and accurately</p> <p>Cut and join with accuracy to ensure a good-quality finish to the product</p>	<p>Research: Children to research a range of existing cushions and describe their function (functional or aesthetic)</p> <p>Technical Knowledge: Children to explore some artists who have used tie-dyeing techniques and practise to decide on a pattern for their final product</p> <p>Children to explore a range of materials to use for their pillow and evaluate how useful each would be for stuffing and casing</p> <p>Design: 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>Are cushions just for sitting on?</p> <p>What materials work well for the stuffing of a cushion?</p> <p>What techniques can be used to add decoration to a pillow?</p>	<p>Cushions have a functional use or an aesthetic one (appearance)</p> <p>Soft materials are used for stuffing to make the cushion comfortable</p> <p>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</p> <p>Cushions are stitched together and need to be secure to make sure the stuffing remains in place.</p>	<p>Cushion</p> <p>Tie-dye</p> <p>Pattern</p> <p>Functional</p> <p>Aesthetic</p> <p>Casing</p> <p>Stuffing</p> <p>Comfort</p> <p>Shibori</p> <p>Tritik</p>			<p>DT Association</p> <p>Projects on a Page</p> <p>Thread</p> <p>Needles</p> <p>Fabric</p>

		Use results of investigations, information sources, including ICT when developing design ideas Evaluate a product against the original design specification Evaluate it personally and seek evaluation from others	Evaluate: Children to evaluate their cushions based on visual appeal and functionality	Possible Misconceptions: Children may use the wrong fabric or not use enough dye. Children should be allowed to explore tie-dying a range of fabrics.			
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
				Key Questions	Key Facts	Key Vocab			
Autumn Fighting Fit Sturdy Structures Anderson Shelters Ration packs <i>(Look and Cook Primary School Programme)</i>	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]. 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,	Communicate their ideas through detailed labelled drawings Develop a design specification Explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of ways Plan the order of their work, choosing appropriate materials, tools and techniques	Research: Children to research what Anderson shelters were used for, how they were made, and what materials were used and why. Technical Knowledge: Children to investigate the effect of corrugating material on how much weight it can carry Design: Children to design their shelters, identifying materials, joining	What was an Anderson Shelter? What did they need to provide? What effect does corrugating a material have? Can we make materials waterproof? How can we reinforce our structures?	Anderson shelters were a type of shelter people went into during an air raid to keep safe. The government gave an Anderson Shelter kit to families who lived in areas that were expected to be bombed by German planes. They were often made from corrugated metal frames dug into the ground They had to be very sturdy to withstand the impact of nearby bombs	Shelter Sturdy Corrugation Reinforce Bombing			DT Association

	<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

<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 Culture and Seasonality</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>Communicate their ideas through detailed labelled drawings</p> <p>Develop a design specification</p>	<p>Research: Children to taste a range of lasagnes and evaluate them based on taste, appearance, healthiness and flavour.</p>	<p>Where does our food come from?</p> <p>Why can't we get it all from the UK?</p> <p>What is a lasagne?</p>	<p>A lasagne is an Italian dish dating back to the middle ages</p> <p>Lasagne was originally a vegetarian dish</p>	<p>Lasagne Savoury Food mile Seasonality Climate Import Export</p>	<p>50 things: Help a local charity</p>		<p>DT Association</p> <p>Projects on a Page</p>

<p>Savoury Meal (Lasagne)</p> <p>Ready Steady Cook (Look and Cook Primary School Programme)</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>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>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>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>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>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