



LONG TERM PLAN

DESIGN AND TECHNOLOGY

School Organisation

Pupils in Nursery to Year 2 are taught as single-entry year groups.

Key Stage 2 pupils are divided into 3 classes. This consists of one mixed Year 3/4 class, one mixed Year 4/5 class and one mixed Year 5/6 class.

There are three possible journeys pupils can take through key Stage 2. Each pupil will spend two years in one of the Key Stage 2 classes. The majority of pupils spend two years in Deer Class (Years 4/5).

How our Curriculum Cycles are organised so that there is coverage of all National Curriculum objectives in all subjects.

Subject Leaders have rigorously planned the curriculum cycles so that all pupils are taught the full National Curriculum, in a sequence which ensures that learning builds on prior learning, no matter how pupils travel through Key Stage 2.

- Pupils from Nursery to Year 2 are taught in single cohorts so no cycle organisation is required.
- A 3-year cycle is in place for pupils who are taught in Rabbit and Deer Class. (Years 3, 4 and some Year 5 pupils)
- A 2-year cycle is in place for pupils who are taught in Stag Class. (Some Year 5 pupils and all Year 6 pupils)

All pupils will complete 4 out of the 5 Curriculum Cycles. Subject Leaders have ensured that the full National Curriculum objectives are taught, no matter which Curriculum Cycle a pupil misses.

How is the curriculum sequenced?

The units have been written to encourage children to learn through a variety of creative and practical activities - through these activities pupils are equipped with the knowledge, understanding and skills to engage successfully and with increasing independence in the process of designing and making.

Pupils in Nursery are taught the basic skills of exploring and experimenting with varied materials and media to develop their gross motor skills and fine motor skills with a focus of physical development and expressive arts and design. This is extended in Reception where children are starting to think about what they are going to create and talking about what they have created. Each lesson has been written with an emphasis on cross-curricular links so children see how design and technology is integral to the modern world in which they live.

Autumn

Spring

Summer

Nursery	<p>If you go down to the woods today (families/bears/woods)</p> <p>Ready Steady Cook (Colours, Celebrations and environment)</p> <ul style="list-style-type: none"> To explore a range of joining techniques - <p>To be able to use Pritt Stick to join two items together.</p> <ul style="list-style-type: none"> <i>Use their imagination as they consider what they can do with different materials. (Development Matters)</i> <i>Explore different materials freely, to develop their ideas about how to use them and what to make. (Development Matters)</i> <p>Cooking and Nutrition</p> <ul style="list-style-type: none"> To use of the following tools and techniques to make; porridge, bread, cakes, soup, fruit salad, with adult supervision. <p>Tools</p> <ul style="list-style-type: none"> Spoons of various sizes Knives Sieve Cutters <p>Techniques</p> <ul style="list-style-type: none"> Stir Drip Shake/sprinkle Pour Sieve Knead Cut once to chop in half. Cut (using cutters) <ul style="list-style-type: none"> To be able to wash own hands <p>Dishes - porridge, bread, cakes, soup, fruit salad</p> <p>Ingredients grown from our Allotment/Orchard - apples, blackberries</p>	<p>Winter Wonderland (Winter)</p> <p>Once upon a time (Traditional Tales)</p> <ul style="list-style-type: none"> To explore a range of joining techniques - <p><i>To be able to use PVA glue and glue spreader to join two items together.</i></p> <ul style="list-style-type: none"> <i>Use their imagination as they consider what they can do with different materials. (Development Matters)</i> <i>Explore different materials freely, to develop their ideas about how to use them and what to make. (Development Matters)</i> <p>Cooking and Nutrition</p> <ul style="list-style-type: none"> To use the additional tools and techniques to make food including Snowflake and Gingerbread biscuits with adult supervision <p>Tools</p> <ul style="list-style-type: none"> Rolling Pins <p>Techniques</p> <ul style="list-style-type: none"> Roll <p>Dish - Snowflake and Gingerbread biscuits, easter nests,</p> <p>Ingredients grown from our Allotment/Orchard - ginger grown inside? Harvest in Autumn and keep?</p>	<p>All Change (Minibeasts/lifecycles/growing and changing)</p> <p>Ahoy there! (Seaside, marine life, pirates, mermaids)</p> <ul style="list-style-type: none"> To explore a range of joining techniques - <p><i>To be able to use PVA glue and glue spreader to join two items together.</i></p> <ul style="list-style-type: none"> <i>Uses tools for a purpose (Birthto5Matters)</i> <i>Use their imagination as they consider what they can do with different materials. (Development Matters)</i> <i>Explore different materials freely, to develop their ideas about how to use them and what to make. (Development Matters)</i> Make use of props when role playing characters in stories they know. <p>Cooking and Nutrition</p> <ul style="list-style-type: none"> To be familiar with the use of tools and techniques used to make a variety of foods. <p>Tools</p> <ul style="list-style-type: none"> Spoons of various sizes Knives Sieve Cutters Rolling pins <p>Techniques</p> <ul style="list-style-type: none"> Stir Drip Shake/sprinkle Pour Sieve Knead Cut once to chop in half. Cut (using cutters) Roll <p>Dish - butterfly cakes, banana ice lollies, bean stew, pizza with salad</p> <p>Ingredients grown from our Allotment/Orchard - beans, salad leaves.</p>
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			Herbs for Mud kitchen and playdough
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Reception	<p>If you go down to the woods today (families/bears/woods)</p> <p>Ready Steady Cook (Colours, Celebrations and environment)</p> <ul style="list-style-type: none"> To explore a range of joining techniques - <p>To be able to join materials using PVA glue, Pritt Stick sellotape/masking tape.</p> <ul style="list-style-type: none"> <i>To work with a purpose in mind in both 2D & 3D.</i> <p>Cooking and Nutrition</p> <ul style="list-style-type: none"> To use the following tools and techniques to make; porridge, bread, cake, vegetable soup, Fruit salad, fruit pattern kebabs. <p>Tools</p> <ul style="list-style-type: none"> – spoons of various sizes – Knives – Sieve – Cutters – Colander <p>Techniques</p> <ul style="list-style-type: none"> - Stir - Drip - Shake/Sprinkle - Pour - Sieve - Scrape - Knead - Cut once to chop in half. - Cut (using cutters) - Pierce (fruit kebabs) <ul style="list-style-type: none"> <i>To know that they need to wash their hands before handling or preparing food.</i> <p>Dishes - porridge, bread, cake, vegetable soup, Fruit salad, fruit pattern kebab</p> <p>Ingredients grown from our Allotment/Orchard - Apples</p>	<p>Winter Wonderland (Winter)</p> <p>Once upon a time (Traditional Tales)</p> <ul style="list-style-type: none"> To explore a range of joining techniques - <p>To be able to join materials using a flange, treasury tags, paper clips and weaving.</p> <ul style="list-style-type: none"> <i>To work with a purpose in mind in both 2D & 3D</i> <p>Cooking and Nutrition</p> <ul style="list-style-type: none"> To name and use the additional tools and techniques below to make food including Gingerbread biscuits <p>Tools</p> <ul style="list-style-type: none"> - Rolling pins <p>Techniques</p> <ul style="list-style-type: none"> - Roll - Cut several times to divide. <ul style="list-style-type: none"> <i>Without prompting, wash their hands before handling or preparing food</i> <p>Dish - Gingerbread biscuits</p> <p>Ingredients grown from our Allotment/Orchard -</p>	<p>All Change (Minibeasts/lifecycles/growing and changing)</p> <p>Ahoy there! (Seaside, marine life, pirates, mermaids)</p> <ul style="list-style-type: none"> Explore a range of joining techniques and select according to particular purpose. Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. (Early Learning Goal) Share their creations, explaining the process they have used. (Early Learning Goal) Make use of props and materials when role playing characters in narratives and stories. (Early Learning Goal) <p>Cooking and Nutrition</p> <ul style="list-style-type: none"> To use tools safely and independently To be able to carry out techniques efficiently - Stir Drip Shake/Sprinkle Pour Sieve Scrape Knead Cut once to chop in half. Cut (using cutters) Pierce (fruit kebabs) Roll Cut several times to divide <ul style="list-style-type: none"> <i>Without prompting, wash their hands before handling or preparing food.</i> <p>Dish -</p> <p>Ingredients grown from our Allotment/Orchard -</p> <p>Herbs for Mud kitchen and playdough</p>
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Year 1	<p>Topic Name: Time Travellers (Sensational salad): Design, make and evaluate a healthy salad to persuade someone to eat healthy foods for their wellbeing and health.</p> <p>Focus: Cooking and Nutrition This unit will teach children about peeling, zesting, cutting safely and applying these skills when preparing healthy dishes. Children will learn key information about healthy eating linking with science focus and where their food comes from. Make links with the history focus and which fruits and vegetables they had – make links with climate change and carbon footprint (where our food comes from now). They will gain some practical ideas about ingredients that can be combined to make interesting and healthy salads.</p> <p>LEARNING OBJECTIVES</p> <ul style="list-style-type: none"> ▫ Use the basic principles of a healthy and varied diet to prepare dishes ▫ Understand where food comes from. <p>Dish - Root vegetable salad</p> <p>Ingredients grown from our Allotment/Orchard - carrots, potatoes, radishes, beetroot.</p>	<p>Topic Name: Toys that time forgot: Design, make and evaluate a moving book/poster that informs others about toys from the past.</p> <p>Focus: Mechanical Systems (sliders and leavers) In this unit, children explore and evaluate a collection of books and everyday products that have moving parts, including those with levers and sliders. Using their knowledge, they will then generate a simple design criterion and develop their ideas for through talking, drawing and making mock-ups of their ideas with paper and card. Children will select and use tools, explaining their choices, to cut, shape and join paper and card using simple finishing techniques suitable for the product they are creating.</p> <p>LEARNING OBJECTIVES</p> <p>Design</p> <ul style="list-style-type: none"> ▫ 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 <p>Make</p> <ul style="list-style-type: none"> ▫ select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] ▫ select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics <p>Evaluate</p> <ul style="list-style-type: none"> ▫ explore and evaluate a range of existing products ▫ evaluate their ideas and products against design criteria <p>Technical knowledge</p> <ul style="list-style-type: none"> ▫ build structures, exploring how they can be made stronger, stiffer and more stable (Not taught in this unit) ▫ explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. 	<p>Topic Name: Great fire of London: Design, make and evaluate a Tudor house using recycled materials to place together.</p> <p>Focus: Structures (Frame)</p> <p>LEARNING OBJECTIVES</p> <p>Design</p> <ul style="list-style-type: none"> ▫ 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 <p>Make</p> <ul style="list-style-type: none"> ▫ select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] ▫ select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics <p>Evaluate</p> <ul style="list-style-type: none"> ▫ explore and evaluate a range of existing products ▫ evaluate their ideas and products against design criteria <p>Technical knowledge</p> <ul style="list-style-type: none"> ▫ 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. (Not taught in this unit)
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Topic Name: Make a toy car

Design, make and evaluate a toy car for a toddler

Focus: Mechanical Systems (*wheels and axles*)

In this unit, children will explore and evaluate a range of wheeled products such as toys and everyday objects before undertaking the fun task of designing, making and evaluating their own moving object. They will learn all about wheels, axles and chassis and how they are combined to make the framework of the vehicle, as well as how to create an eye-catching body. Finally, the children will evaluate their finished product, communicating how it works and how it matches their design criteria, including any changes they made.

LEARNING OBJECTIVES

Design

- 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

Make

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

Evaluate

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

Technical knowledge

- build structures, exploring how they can be made stronger, stiffer and more stable **(Not taught in this unit)**
- explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.

Topic Name: Dips and dippers

Design, make and evaluate dips and dippers to persuade someone to eat healthy.

Focus: Cooking and Nutrition

This Dips and Dippers unit will teach your class about good food hygiene rules and using kitchen equipment to prepare food safely. Children will apply these skills when making and evaluating a healthy dip and dippers. The unit develops children's understanding of the eat well plate and explains the importance of eating a healthy and varied diet

LEARNING OBJECTIVES

- Use the basic principles of a healthy and varied diet to prepare dishes
- Understand where food comes from.

Dish -

Crudites – carrots, cucumber, celery, peppers with dips – tzatziki, red pepper hummus and sour cream chive dip.

Ingredients grown from our Allotment/Orchard -

Peppers
Cucumber
Celery
Carrots
Chives
Mint
Garlic

Topic Name: Let's Celebrate with Fabric bunting!

Design, make and evaluate fabric bunting for a celebration.

Focus: Structures (*Textiles*)

This Fabric Bunting unit will teach your class about working with fabric. It starts with children evaluating a range of existing bunting with a theme around counting. Children are then set a design criteria. They will learn how to use a graphics program to create a design and template for their bunting. Working with felt, children will cut out a bunting shape and use a simple running stitch. Children will be given the chance to explore different fabrics that they could use to enhance their designs. Using techniques such as sewing, stapling and gluing, children will decorate their felt flag. Finally, children will evaluate their product

LEARNING OBJECTIVES

Design

- 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

Make

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

Evaluate

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

Technical knowledge

- 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. **(Not taught in this unit)**

<p style="text-align: center;">Cycle A</p> <p style="text-align: center;">Year 3/4/5</p>	<p>Topic Name: Mechanical poster Design, make and evaluate a mechanical poster.</p> <p>Focus: Mechanical Systems (levers and linkages) This 'Mechanical Posters' unit gives children opportunities to develop their understanding of mechanical systems. Following instructions on how to make different types of lever and linkage mechanisms gives children experience and information to draw on when developing their own ideas. They sketch a design based on their ideas, make a prototype, and then create their 'Lever and Linkage Poster' using the context of recycling. Finally, children will evaluate their finished product.</p> <p>LEARNING OBJECTIVES</p> <p>Design -</p> <ul style="list-style-type: none"> ▫ Use research and develop design criteria to inform the design of innovative, functional and appealing products that are fit for purpose, aimed at particular individuals or groups. <p>Make -</p> <ul style="list-style-type: none"> ▫ Select from and use a wider range of tools and equipment to perform practical tasks 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. <p>Evaluate -</p> <ul style="list-style-type: none"> ▫ Investigate and analyse a range of existing products ▫ Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work ▫ <u>Understand how key events and individuals in design and technology have helped to shape the world.</u> <p>Technical knowledge</p> <ul style="list-style-type: none"> ▫ Apply their understanding of how to strengthen, stiffen and reinforce more complex structures ▫ Understand and use electrical systems in their products (Not taught in this unit) ▫ Apply their understanding of computing to program, monitor and control their products. (Not taught in this unit) 	<p>Topic Name: Let's go fly a kite Design, make and evaluate a kite</p> <p>Focus: Structures (Frame) This Let's Go Fly a Kite unit gives children opportunities to develop their understanding of frame structures and how they can be strengthened and stiffened. Children will discover information about a key event involving a kite that helped shape the world. Children will gain knowledge and understanding about the parts and shapes of kites. This will help them when designing and making their own kites. Finally, children will test and evaluate their kites against design criteria they have created.</p> <p>LEARNING OBJECTIVES</p> <p>Design -</p> <ul style="list-style-type: none"> ▫ Use research and develop design criteria to inform the design of innovative, functional and appealing products that are fit for purpose, aimed at particular individuals or groups. <p>Make -</p> <ul style="list-style-type: none"> ▫ Select from and use a wider range of tools and equipment to perform practical tasks 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. <p>Evaluate -</p> <ul style="list-style-type: none"> ▫ Investigate and analyse a range of existing products ▫ Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work ▫ <u>Understand how key events and individuals in design and technology have helped to shape the world.</u> <p>Technical knowledge</p> <ul style="list-style-type: none"> ▫ Apply their understanding of how to strengthen, stiffen and reinforce more complex structures ▫ Understand and use electrical systems in their products (Not taught in this unit) ▫ Apply their understanding of computing to program, monitor and control their products. (Not taught in this unit) 	<p>Topic Name: Edible garden Design, make and evaluate a food made from plants grown in the garden</p> <p>Focus: Cooking and Nutrition This unit provides an opportunity for children to learn where and how a variety of ingredients are grown. Firstly, children will learn how to plant seeds and care for their plants so they yield produce that can be used in their cooking. They will learn how to cook with the ingredients they are growing; following recipes and using different kitchen equipment. The lessons take into account the appropriate safety and hygiene rules.</p> <p>LEARNING OBJECTIVES</p> <ul style="list-style-type: none"> ▫ Understand and apply the principles of a healthy and varied diet ▫ Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. ▫ Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. <p>Dish – Chutneys, jams & preserves to accompany bread & cheese, etc (check tolerances) – 'Ploughman's'</p> <p>Ingredients grown from our Allotment/Orchard – Rhubarb, apples, blackberries, onions, tomatoes, etc.</p>
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Cycle B Year 3/4/5	<p>Topic Name: Battery operated light Design, make and evaluate a battery-operated light</p> <p>Focus: Electrical Systems: (Series circuits and switches) This 'Battery Operated Lights' unit gives children opportunities to enhance their knowledge and understanding of electrical systems. In this unit children will develop understanding about series and parallel circuits and different types switches. They will then be given the chance to apply their knowledge about electric circuits in a purposeful way by designing and making a battery-operated light which will be controlled by a homemade switch. Children will decide upon the design criteria for the light by considering who will use it, where it will be used and what for. Finally, children will complete a detailed evaluation of their final product.</p> <p>LEARNING OBJECTIVES Design -</p> <ul style="list-style-type: none"> ▫ Use research and develop design criteria to inform the design of innovative, functional and appealing products that are fit for purpose, aimed at particular individuals or groups. <p>Make -</p> <ul style="list-style-type: none"> ▫ Select from and use a wider range of tools and equipment to perform practical tasks 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. <p>Evaluate -</p> <ul style="list-style-type: none"> ▫ Investigate and analyse a range of existing products ▫ Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work ▫ <u>Understand how key events and individuals in design and technology have helped to shape the world.</u> <p>Technical knowledge</p> <ul style="list-style-type: none"> ▫ Apply their understanding of how to strengthen, stiffen and reinforce more complex structures (Not taught in this unit) ▫ Understand and use electrical systems in their products 	<p>Topic Name: Juggle balls Design, make and evaluate a circus themed juggling ball</p> <p>Focus: Structures (Textiles) This Juggling Balls unit will teach your class how to make juggling balls. They will start by exploring and evaluating different juggling balls. Children are then given a design brief, asking them to design and make a circus themed juggling ball. A hemming and overcast stitch will be introduced during this unit. Children will learn about decoration techniques; getting the chance to use tie-dye and fabric paints. Finally, when they have completed the making of their juggling ball, children will evaluate their product against design criteria.</p> <p>LEARNING OBJECTIVES Design -</p> <ul style="list-style-type: none"> ▫ Use research and develop design criteria to inform the design of innovative, functional and appealing products that are fit for purpose, aimed at particular individuals or groups. <p>Make -</p> <ul style="list-style-type: none"> ▫ Select from and use a wider range of tools and equipment to perform practical tasks 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. <p>Evaluate -</p> <ul style="list-style-type: none"> ▫ Investigate and analyse a range of existing products ▫ Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work ▫ <u>Understand how key events and individuals in design and technology have helped to shape the world.</u> <p>Technical knowledge</p> <ul style="list-style-type: none"> ▫ Apply their understanding of how to strengthen, stiffen and reinforce more complex structures ▫ Understand and use electrical systems in their products (Not taught in this unit) ▫ Apply their understanding of computing to program, monitor and control their products. (Not taught in this unit) 	<p>Topic Name: Buon Appetito! Design, make and evaluate an Italian meal for a family using home grown ingredients.</p> <p>Focus: Cooking and Nutrition Children will develop understanding of seasonality and use herbs, tomatoes etc to create range of savoury dishes – pesto, pasta, tomato-based sauces, bruschetta, etc. Children will learn to select and use a range of utensils and use a range of techniques as appropriate to prepare ingredients hygienically including the bridge and claw technique, grating, peeling, chopping, slicing, mixing, spreading, kneading and baking. This unit will strengthen links to their studies of Italy in Geography.</p> <p>LEARNING OBJECTIVES</p> <ul style="list-style-type: none"> ▫ Understand and apply the principles of a healthy and varied diet ▫ Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques ▫ Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. <p>Dishes – Pasta dishes including; Arabiatta, Pesto Pasta, garlic bread, pizza</p> <p>Ingredients grown from our Allotment/Orchard - Tomatoes, Basil Garlic Onions Red Peppers</p> <p>Lettuce</p>

	<ul style="list-style-type: none">▫ Apply their understanding of computing to program, monitor and control their products. (Not taught in this unit)		
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<p style="text-align: center;">Cycle C Year 3/4/5</p>	<p>Topic Name: Seasonal Food Design, make and evaluate a seasonal meal.</p> <p>Focus: Cooking and Nutrition Children will investigate a range of food products and explore the principles of a varied and healthy diet. They will gather information about existing products available relating to their final product and learn how a variety of ingredients used in products are grown and harvested, reared, caught and processed. Children will then learn to select and use a range of utensils and use a range of techniques as appropriate to prepare ingredients hygienically to complete their final product.</p> <p>LEARNING OBJECTIVES</p> <ul style="list-style-type: none"> ▫ Understand and apply the principles of a healthy and varied diet. ▫ Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques ▫ Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed. <p style="text-align: center;">Dish – ‘Panackelty’ Rhubarb & Apple Crumble</p> <p style="text-align: center;">Ingredients grown from our Allotment/Orchard - Apples and blackberries, rhubarb, Potatoes, onions, carrots</p>	<p>Topic Name: Alarms Design, make and evaluate an alarm</p> <p>Focus: Mechanical Systems (Levers and linkages) This unit gives children opportunities to develop their understanding of mechanisms. Children will explore how to make different types of mechanisms, such as levers, wheels and sliders, gives children experience and information to draw on when developing their own ideas. They sketch a design based on their ideas and then create their moving product and then evaluate their finished product.</p> <p>LEARNING OBJECTIVES</p> <p>Design -</p> <ul style="list-style-type: none"> ▫ Use research and develop design criteria to inform the design of innovative, functional and appealing products that are fit for purpose, aimed at particular individuals or groups. <p>Make -</p> <ul style="list-style-type: none"> ▫ Select from and use a wider range of tools and equipment to perform practical tasks 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. <p>Evaluate -</p> <ul style="list-style-type: none"> ▫ Investigate and analyse a range of existing products ▫ Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work ▫ <u>Understand how key events and individuals in design and technology have helped to shape the world.</u> <p>Technical knowledge</p> <ul style="list-style-type: none"> ▫ Apply their understanding of how to strengthen, stiffen and reinforce more complex structures ▫ Understand and use electrical systems in their products (Not taught in this unit) ▫ Apply their understanding of computing to program, monitor and control their products. (Not taught in this unit) 	<p>Topic Name: Roller Coasters Design, make and evaluate your own roller coaster.</p> <p>Focus: Structures (Frame) Children will develop and understanding of frame structures and how they can be strengthened and stiffened. They will discover information about events in Design and Technology help shape the world and will explore existing products and experiment with materials for suitability against the design criteria before designing and making their own product. Finally, children will test and evaluate their products against design criteria they have created.</p> <p>LEARNING OBJECTIVES</p> <p>Design -</p> <ul style="list-style-type: none"> ▫ Use research and develop design criteria to inform the design of innovative, functional and appealing products that are fit for purpose, aimed at particular individuals or groups. <p>Make -</p> <ul style="list-style-type: none"> ▫ Select from and use a wider range of tools and equipment to perform practical tasks 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. <p>Evaluate -</p> <ul style="list-style-type: none"> ▫ Investigate and analyse a range of existing products ▫ Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work ▫ <u>Understand how key events and individuals in design and technology have helped to shape the world.</u> <p>Technical knowledge</p> <ul style="list-style-type: none"> ▫ Apply their understanding of how to strengthen, stiffen and reinforce more complex structures ▫ Understand and use electrical systems in their products (Not taught in this unit) ▫ Apply their understanding of computing to program, monitor and control their products. (Not taught in this unit) ▫
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Cycle A Year 5/6	<p>Topic Name: Felt phone case Design, make and evaluate a phone case</p> <p>Focus: Structures (Textiles) This Felt Phone Cases unit will teach your class about how to write their own design criteria. They will design products with the user in mind thinking about aesthetics and functionality. Annotated designs will be used to communicate ideas as well as step by step plans. Children will learn how to make a paper template and how to sew a running stitch, backstitch, whip stitch and blanket stitch. Finally, when they have made their felt phone case, children will learn how to write a detailed evaluation.</p> <p>LEARNING OBJECTIVES Design -</p> <ul style="list-style-type: none"> ▫ Use research and develop design criteria to inform the design of innovative, functional and appealing products that are fit for purpose, aimed at particular individuals or groups. <p>Make -</p> <ul style="list-style-type: none"> ▫ Select from and use a wider range of tools and equipment to perform practical tasks 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. <p>Evaluate -</p> <ul style="list-style-type: none"> ▫ Investigate and analyse a range of existing products ▫ Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work ▫ <u>Understand how key events and individuals in design and technology have helped to shape the world.</u> <p>Technical knowledge</p> <ul style="list-style-type: none"> ▫ Apply their understanding of how to strengthen, stiffen and reinforce more complex structures ▫ Understand and use electrical systems in their products. (Not taught in this unit) ▫ Apply their understanding of computing to program, monitor and control their products. (Not taught in this unit) 	<p>Topic Name: Global food - Food from Around the World. Design, make and evaluate traditional dishes from different countries.</p> <p>Focus: Cooking and Nutrition This Global Food unit will give your children the chance to discover the exciting and diverse choice of food available around the world. The first part of the unit provides an opportunity for children to learn where in the world a variety of ingredients flourish. They will then build on their understanding of the Eatwell plate, placing different ingredients into the correct food groups. This will develop a deeper understanding that although food can be extremely varied, it still comes under the same basic food groups. Children will then have the chance to learn some basic and advanced cooking techniques, they will apply these skills when making some traditional dishes from different countries.</p> <p>LEARNING OBJECTIVES</p> <ul style="list-style-type: none"> ▫ Understand and apply the principles of a healthy and varied diet ▫ Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques ▫ Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. <p>Linked to Destination Sao Paulo Dish -</p> <p>Savory Dish – Feijoada (stew with meat)</p> <p>Sweet dish – Brigadeiro (traditional sweet dish)</p> <p>Ingredients grown from our Allotment/Orchard -</p> <p>Beans, peas, carrots</p>	<p>Topic Name: Automata Animals Design, make and evaluate a moving animal toy for children learning about rainforest animals.</p> <p>Focus: Mechanical Systems (Cams) This 'Automata Animals' unit gives children opportunities to further develop their understanding of mechanical systems. Children learn about controlling movement with a cam mechanism as part of an automata animal. They develop their designing skills through using information sources to research ideas about animals which are then incorporated into the design criteria and designs. They make a simple cam mechanism to formulate an understanding of how different shaped cams can be used to produce different movements. Children extend their making skills by developing techniques in cutting, shaping and joining to combine components and by selecting tools and equipment to measure and cut wood and card accurately. Through these activities they gain an understanding of the working characteristics of the materials and components and how they can be combined to create more useful properties. Peer assessment is used to improve designs and evaluate final products.</p> <p>LEARNING OBJECTIVES Design -</p> <ul style="list-style-type: none"> ▫ Use research and develop design criteria to inform the design of innovative, functional and appealing products that are fit for purpose, aimed at particular individuals or groups. <p>Make -</p> <ul style="list-style-type: none"> ▫ Select from and use a wider range of tools and equipment to perform practical tasks 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. <p>Evaluate -</p> <ul style="list-style-type: none"> ▫ Investigate and analyse a range of existing products ▫ Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work ▫ <u>Understand how key events and individuals in design and technology have helped to shape the world.</u>
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<p style="text-align: center;">Cycle B</p> <p style="text-align: center;">Year 5/6</p>	<p>Topic name: Celebrating culture and seasonality Design, make and evaluate a meal which celebrates culture and seasonality.</p> <p>Focus: Cooking and Nutrition Celebrating culture and seasonality In this unit, children will carry out relevant research into existing products to include personal/cultural preferences, ensuring a healthy diet, meeting dietary needs and the availability of locally sourced/seasonal/organic ingredients. They will carry out sensory evaluations of a variety of existing food products and ingredients relating to the project and explore which ingredients could be added to a basic recipe such as herbs, spices, vegetables, or cheese. Children will also learn how to measure out, cut, shape, and combine e.g., knead, beat, rub and mix ingredients use appropriate utensils and equipment that the children may use safely and hygienically. This knowledge will be used to develop and make a purposeful product.</p> <p>LEARNING OBJECTIVES</p> <ul style="list-style-type: none"> ▫ Understand and apply the principles of a healthy and varied diet ▫ Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques ▫ Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. <p>Linked to Tudors from Monarchs through the ages Dish - Pottage Stew (Savory Dish) Rhubarb pudding (Sweet dish)</p> <ul style="list-style-type: none"> ▫ Ingredients grown from our Allotment/Orchard - ▫ Apples, rhubarb ▫ Parsnips, onions, green beans, carrots 	<p>Topic name: Design, make and evaluate a _____ (product) for a (user) for (purpose)</p> <p>Focus: Structures (Textiles) + Mechanical Systems (Cams) Children will investigate and evaluate a range of existing textiles products and how they have been constructed using disassembly, and evaluate what the fabric shapes look like, how the parts have been joined, how the product has been strengthened and stiffened, what fastenings have been used and why. They will then develop computer-aided design (CAD) skills by using pattern making software to generate, modify, scale, save and print pattern pieces. Children will develop their sewing skills and then develop a design specification for their product. They will use CAD software to produce pattern pieces and art programmes to produce decoration and design prints that can be applied to textiles to make high quality products.</p> <p>LEARNING OBJECTIVES</p> <p>Design -</p> <ul style="list-style-type: none"> ▫ Use research and develop design criteria to inform the design of innovative, functional and appealing products that are fit for purpose, aimed at particular individuals or groups. <p>Make -</p> <ul style="list-style-type: none"> ▫ Select from and use a wider range of tools and equipment to perform practical tasks 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. <p>Evaluate -</p> <ul style="list-style-type: none"> ▫ Investigate and analyse a range of existing products ▫ Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work ▫ <u>Understand how key events and individuals in design and technology have helped to shape the world.</u> <p>Technical knowledge</p> <ul style="list-style-type: none"> ▫ Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. (Not taught in this unit) 	<p>Topic Name: Electrifying Design, make and evaluate your own buzzer</p> <p>Focus: Electrical Systems (Series circuits with switches and bulbs). Children will explore a range of relevant products (such as nightlights, garden lights, alarm systems, security lighting, electronic moneyboxes) that respond to changes in the environment using a computer control program. They will investigate sensors such as light dependent resistors (LDRs) and a range of switches such as push-to-make, push-to-break, toggle, micro and reed switches. Children will then generate innovative ideas by drawing on research and develop a design specification for their product, carefully considering the purpose and needs of the intended user. They will then make high quality products, applying knowledge, understanding and skills from earlier tasks.</p> <p>LEARNING OBJECTIVES</p> <p>Design -</p> <ul style="list-style-type: none"> ▫ Use research and develop design criteria to inform the design of innovative, functional and appealing products that are fit for purpose, aimed at particular individuals or groups. <p>Make -</p> <ul style="list-style-type: none"> ▫ Select from and use a wider range of tools and equipment to perform practical tasks 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. <p>Evaluate -</p> <ul style="list-style-type: none"> ▫ Investigate and analyse a range of existing products ▫ Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work ▫ <u>Understand how key events and individuals in design and technology have helped to shape the world.</u> <p>Technical knowledge</p> <ul style="list-style-type: none"> ▫ Apply their understanding of how to strengthen, stiffen and reinforce more complex structures (Not taught in this unit) ▫ Understand and use electrical systems in their products
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□ Understand and use electrical systems in their products **(Not taught in this unit)**
 Apply their understanding of computing to program, monitor and control their products.

□ Apply their understanding of computing to program, monitor and control their products. **(Not taught in this unit)**

Crop family list

Roots crops	Brassicas	Onions and Legumes	Potato Family
Carrot	Cabbage	Onion	Potato
Beetroot	Cauliflower	Shallot	Tomato
Parsnip	Brussels sprout	Leek	Aubergine
Celery	Broccoli	Garlic	
	Calabrese	Spring onion	
	Mustard	Broad bean	
	Turnip	Early pea	
	Swede	Mangetout	
	Radish	French bean	
	Chinese Leaf	Runner bean	

Sowing and growing vegetables

It is useful to know how long different vegetable seeds take to germinate, to avoid unnecessary worry that seeds are not going to grow and to realise that you just have to be patient. Remember, however, that germination is dependent on soil temperature and moisture so if the soil is very cold or dry seed won't germinate.

It is also essential when gardening in school to plan your sowing so you can harvest the crops in school term time. Here is a useful guide that should assist you with your planning.

Speedy crops can be ready for harvest in one term, 3 to 13 weeks (up to three months) after sowing or planting;

Beetroot	Carrots
Cucumber	French beans,
Lettuce	Marrows & courgettes
Peas (spring term),	Potatoes (first early)
Radish	Spinach
Turnip.	

Medium-term crops are sown or planted in one term to harvest in the next term, 14 to 25 weeks (three to six months) later.

Broad beans	Cabbage (early) from seed and plugs,
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Onion sets (spring) Peas (autumn sown)
Sweet corn Tomatoes.

Slow-growing or long-season crops are sown or planted in one term to harvest in the next term or even the following term, 26 to 52 weeks (six months or more) later.

Broccoli Onion sets (autumn planting)
Brussels spouts Parsnips
Leeks Potatoes (main crop)