



# Edmondsley Primary Long-Term Plan

## Design & Technology



### Continuous Provision

- Focused design activities linked to children’s learning in other subjects to increase interest and develop cross-curricular links.
- Easter egg competition – children design and make a scene (dependent on their topic) involving eggs and other materials.
- Easter Enterprise fortnight – Involves each class designing, pitch, making, evaluating and selling a product and game.
- Christmas performances – Each class to make/bake an item to sell to parents.
- Summer fete – Children design and make a game to raise money for school fund with links to Fairtrade.
- Boxtrolls designs by children, linked to our school’s focus on environment using recycled materials.
- Growing and using own produce in their cooking.
- Career’s day – June, visitors in to share information about their industry.
- Visits to different places of industry.

	Autumn	Spring	Summer
Year 1	<p><b>Toys that time forgot:</b> Design, make and evaluate a moving book/poster that informs others about toys from the past.</p> <p><b>Focus: Mechanisms; sliders and leavers</b> 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><b>Time Travellers:</b> Design, make and evaluate a healthy salad to persuade someone to eat healthy foods for their wellbeing and health.</p> <p><b>Focus: Preparing fruit and vegetables</b> 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><b>Great fire of London:</b> Design, make and evaluate a Tudor house using recycled materials to place together to demonstrate the reasons why the fire spread so quickly. If possible, set fire the houses.</p> <p><b>Focus: Structures: Free-standing structures.</b> This unit gives children the opportunity to develop their understanding of structures. The exploration of different types of structures gives children the experience and information to draw on when developing their own ideas. The children create their ideas following the design criteria, given at the beginning of the project, and go on to create models from reclaimed materials. Children will also gain a basic understanding about how structures can be made stronger, stiffer and more stable.</p>

Year 2	<p><b>Topic Name:</b> Design, make and evaluate a _____ (product) for _____ (user) for _____ (purpose). <b>To be completed by teacher to make links to other learning where possible</b></p> <p><b>Focus: Mechanisms; wheels and axles</b> 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.</p>	<p><b>Topic Name:</b> Design, make and evaluate a _____ (product) for _____ (user) for _____ (purpose). <b>To be completed by teacher to make links to other learning where possible</b></p> <p><b>Focus: Preparing fruit and vegetables</b> This unit will build upon prior learning allow children to examine a range of fruit/vegetables using questioning to develop children’s understanding. They will have opportunities for children to handle, smell and taste fruit and vegetables in order to describe them. The children will develop a deeper understanding of the Eatwell plate and the importance of eating a healthy and varied diet. Children will be taught about good food hygiene rules and using kitchen equipment to prepare food safely, before applying these skills when making and evaluating their products.</p>	<p><b>Topic Name:</b> Design, make and evaluate a _____ (product) for _____ (user) for _____ (purpose). <b>To be completed by teacher to make links to other learning where possible</b></p> <p><b>Focus: Textiles: Templates and joining techniques</b> In this unit, the children will learn all about different fabrics. They will explore and become familiar with the names of different fabrics and learn how to choose and manipulate fabrics to create different effects; they will also learn how to join fabrics in a variety of ways, including running stitch. Finally, children get the chance to apply all of these skills to help them create their own fabric-based product which they will evaluate.</p>
Year 3 /4 Year 4/5 Cycle A	<p><b>Topic Name:</b> Design, make and evaluate a _____ (product) for _____ (user) for _____ (purpose). <b>To be completed by teacher to make links to other learning where possible</b></p> <p><b>Focus: Healthy and Varied Diet</b> 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><b>Topic Name:</b> Design, make and evaluate a _____ (product) for _____ (user) for _____ (purpose). <b>To be completed by teacher to make links to other learning where possible</b></p> <p><b>Focus: Mechanical systems: Levers and linkages</b> 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><b>Topic Name:</b> Design, make and evaluate a _____ (product) for _____ (user) for _____ (purpose). <b>To be completed by teacher to make links to other learning where possible</b></p> <p><b>Focus: Frame Structures</b> 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 style="text-align: center;">Year 4/5 Year 3/4 Cycle B</p>	<p><b>Topic Name:</b> Design, make and evaluate a _____ (product) for _____ (user) for _____ (purpose). <b>To be completed by teacher to make links to other learning where possible</b></p> <p><b>Focus: Electrical systems: Simple circuits and switches</b> Children will discuss, investigate and, where practical, disassemble different examples of relevant battery-powered products, including those which are commercially available to gain an understanding of how they work. Children will then develop a design brief, discussing the purpose of the battery-powered products that they will be designing and making and who they will be for. They will use annotated sketches, cross-sectional and exploded diagrams, as appropriate, ask the children to develop, model and communicate their ideas.</p>	<p><b>Topic Name:</b> Design, make and evaluate a _____ (product) for _____ (user) for _____ (purpose). <b>To be completed by teacher to make links to other learning where possible</b></p> <p><b>Focus: Textiles : 2-D shape to 3-D product</b> In this unit, children will investigate a range of textile products that have a selection of stitches, joins, fabrics, finishing techniques, fastenings and purposes. They will have the opportunity to disassemble appropriate textiles products to gain an understanding of 3-D shape, patterns and seam allowances. Children will create a design criterion and learn a range of stitching techniques and create a paper pattern using 2-D shapes in order to create a 3-D product.</p>	<p><b>Topic Name:</b> Design, make and evaluate an Italian meal for a family using home grown ingredients.</p> <p><b>Focus: Healthy and Varied Diet</b> 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 style="text-align: center;">Year 4/5 Year 3/4 Cycle C</p>	<p><b>Topic Name:</b> Design, make and evaluate a _____ (product) for _____ (user) for _____ (purpose). <b>To be completed by teacher to make links to other learning where possible</b></p> <p><b>Focus: Shell structures using computer-aided design (CAD)</b> Children will investigate a collection of different shell structures including packaging, using questions to develop children’s understanding of how it was constructed. They will learn how to use simple drawing software such as Techsoft 2D Primary or Microsoft Word to design and make their own products using computer-aided design (CAD) software to create nets, addressing the needs of the user and the purpose. Finally, children will evaluate throughout their final products against the intended purpose and with the intended user, where safe and practical, drawing on the design criteria previously agreed.</p>	<p><b>Topic Name:</b> Design, make and evaluate a _____ (product) for _____ (user) for _____ (purpose). <b>To be completed by teacher to make links to other learning where possible</b></p> <p><b>Focus: Food: A Healthy and varied diet</b> Children will investigate a range of food products and link to the principles of a varied and healthy diet as well as carrying out sensory evaluations on the contents of the food. They will find out how a variety of ingredients used in products are grown and harvested, reared, caught and processed and learn to select and use a range of utensils and use a range of techniques as appropriate to prepare ingredients hygienically in order to develop and make a product that is authentic and meaningful. Finally, children will evaluate the final product against the intended purpose and user, reflecting on the design criteria previously agreed.</p>	<p><b>Topic Name:</b> Design, make and evaluate a _____ (product) for _____ (user) for _____ (purpose). <b>To be completed by teacher to make links to other learning where possible</b></p> <p><b>Focus: Mechanical systems: Pneumatics</b> Children will investigate, analyse and evaluate familiar objects that use air to make them work e.g. bicycle pump, balloon, inflatable swimming aids, foot pump for inflating an air bed. They will experiment with a range of pneumatic mechanisms using syringes, tubing, balloons and plastic bottles and explore ways in which pneumatic systems can be used to operate levers. After developing a design brief, the children will then be designing and making a product for their intended user, including pneumatics. Finally, they will evaluate the final products against the design criteria previously agreed.</p>

<p style="text-align: center;"><b>Year 5/6 Cycle A</b></p>	<p><b>Topic Name:</b> Design, make and evaluate a _____ (product) for _____ (user) for _____ (purpose). <b>To be completed by teacher to make links to other learning where possible</b></p> <p><b>Focus: Using computer-aided design (CAD) in textiles</b> 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><b>Topic Name:</b> Design, make and evaluate a _____ (product) for _____ (user) for _____ (purpose). <b>To be completed by teacher to make links to other learning where possible</b></p> <p><b>Focus: Food from Around the World.</b> In this unit, children will have the chance to discover the exciting and diverse choice of food available around the world. They will learn where in the world a variety of ingredients flourish and 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><b>Topic Name:</b> Design, make and evaluate a moving animal toy for children learning about rainforest animals.</p> <p><b>Focus: Mechanical Systems - Cams</b> Children will develop their understanding of mechanical systems as they learn about controlling movement with a cam mechanism. Using research ideas, they will design and make a simple cam mechanism. 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.</p>
<p style="text-align: center;"><b>Year 5/6 Cycle B</b></p>	<p><b>Topic Name:</b> Design, make and evaluate a _____ (product) for _____ (user) for _____ (purpose). <b>To be completed by teacher to make links to other learning where possible</b></p> <p><b>Focus: Food: Celebrating culture and seasonality</b> 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><b>Topic Name:</b> Design, make and evaluate a _____ (product) for _____ (user) for _____ (purpose). <b>To be completed by teacher to make links to other learning where possible</b></p> <p><b>Focus: Electrical systems: Monitoring and control</b> 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><b>Topic Name:</b> Design, make and evaluate a _____ (product) for _____ (user) for _____ (purpose). <b>To be completed by teacher to make links to other learning where possible</b></p> <p><b>Focus: Textiles: Combining different fabric shapes</b> In this unit, children will learn how to write their own design criteria and 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 product, the children will learn how to write a detailed evaluation.</p>