

Year 3	Area of Study – Design Technology	Key Skills	End Points
	<p><u>Packaging</u> Learn about strengthening sheet material to make a strong shell structure that can be used for a variety of packaging</p> <p>Gain knowledge about nets and about how complex 3D shapes can be made by using a net</p> <p>Develop designing skills by investigating, disassembling and evaluating a range of commercial packaging</p> <p>Develop making skills through focussed tasks – measuring, marking out, cutting and assembling a box</p> <p>Investigate pattern</p> <ul style="list-style-type: none"> <li>• Describe different patterns</li> <li>• Understand how to make a repeat pattern</li> </ul> <p>Make a template to use to create a repeated pattern for a sheet of wrapping paper</p> <p>Make biscuits</p>	<p><u>Generating ideas:</u></p> <ul style="list-style-type: none"> <li>• Use Polydron to make nets - clip together to make 3D cubes – to enable an understanding of where flaps should be placed</li> </ul> <p><u>Making:</u></p> <ul style="list-style-type: none"> <li>• To use net knowledge to accurately draw 2D cube net and cut, score, fold and stick into a cube</li> </ul> <p><u>Knowledge:</u></p> <ul style="list-style-type: none"> <li>• Examine pieces of grocery packaging and open out into nets</li> <li>• What can be found on a grocery package?</li> <li>•</li> </ul> <p><u>Generating ideas:</u></p> <ul style="list-style-type: none"> <li>• Use sketchbooks to produce starting points for repeated pattern ideas and select from these initial thoughts</li> </ul> <p><u>Making:</u></p> <ul style="list-style-type: none"> <li>• Produce simple templates of two chosen ideas</li> <li>• Use spatial awareness skills to use templates in the most efficient and pleasing way</li> <li>• Choose a pleasing colour palette with a complimentary background</li> </ul>	<p><u>Generating ideas:</u></p> <ul style="list-style-type: none"> <li>• Create at least 2 nets to fold to create 3D cubes</li> </ul> <p><u>Making:</u></p> <ul style="list-style-type: none"> <li>• Accurately measure and draw to create a 3D net on card</li> </ul> <p><u>Evaluating:</u></p> <ul style="list-style-type: none"> <li>• Think carefully about finished cube – does it fit together properly?</li> <li>• If not, how could this problem be rectified?</li> </ul> <p><u>Knowledge:</u></p> <ul style="list-style-type: none"> <li>• Being able to name 2D and 3D shapes</li> </ul> <p><u>Generating ideas:</u></p> <ul style="list-style-type: none"> <li>• Plan, refine and alter drawings as necessary</li> </ul> <p><u>Making:</u></p> <ul style="list-style-type: none"> <li>• Use a template to create a repeated pattern on paper exploring ways in which to lay the templates onto the paper</li> <li>• Choose a colour palette to produce a pleasing finished pattern</li> </ul> <p><u>Evaluating:</u></p> <ul style="list-style-type: none"> <li>• Take time to reflect upon what they like and dislike about their work in order to improve it</li> </ul> <p><u>Knowledge:</u></p> <ul style="list-style-type: none"> <li>• To understand how patterns can be created using shapes, pictures, numbers, etc.</li> </ul>

	<p><u>Picture Frames</u></p> <p>How can materials be stiffened to make stable structures through the context of free-standing photo frames.</p> <p>Investigation of a variety of commercially made photo frames focussing on the structure used to enable the frame to stand</p> <p>Design a picture frame for personal use or as a gift for a particular user</p> <p>Select ways in which to decorate and personalise the frame</p>	<p><u>Generating ideas:</u></p> <ul style="list-style-type: none"> <li>Investigate a variety of commercially produced picture frames through observation</li> <li>Try to answer the following questions: How well have these frames been designed and made? What materials have been used in their construction? Name the components parts of a picture frame</li> <li>Choose two differing frames to draw and label</li> <li>Generate ideas for their own picture frame – draw and label</li> <li>Identify a recipient for their frame and establish a criteria for a successful product</li> </ul> <p><u>Making:</u></p> <ul style="list-style-type: none"> <li>Explore two ways to make a back for their picture frame – which would they like to use based on stability and strength?</li> <li>Remembering their recipient, decorate the front of the frame using a variety of embellishments</li> <li>Ensure that all the elements of their frame are securely glued</li> </ul>	<p><u>Generating ideas:</u></p> <ul style="list-style-type: none"> <li>To produce a criteria for a successful product</li> <li>To produce a labelled drawing from which to work</li> <li>To be able to plan the order of their work before starting</li> </ul> <p><u>Making:</u></p> <ul style="list-style-type: none"> <li>Fold, cut and assemble component parts accurately</li> <li>Use finishing techniques to improve the appearance of their product</li> </ul> <p><u>Evaluating:</u></p> <ul style="list-style-type: none"> <li>Evaluate their finished product against the original design criteria i.e. how well does it meet its intended purpose?</li> </ul>
	<p><u>Healthy Sandwich Snacks</u></p> <p>What is healthy eating?</p>	<p><u>Generating ideas:</u></p> <ul style="list-style-type: none"> <li>Learn about the different food groups that go to make a healthy diet and complete an 'Eat well Plate' understanding that to be active and</li> </ul>	<p><u>Generating ideas:</u></p> <ul style="list-style-type: none"> <li>Record information using pictures, labels and charts</li> <li>Express opinions on ingredients</li> </ul> <p><u>Making:</u></p>

	<p>Investigate the food groups that go to make a healthy diet</p> <p>Develop designing skills by using their own experiences of eating sandwiches and through evaluating existing products</p> <p>Discuss and develop criteria for their design proposals for a healthy sandwich and suggest ways to proceed</p> <p>Develop making skills by learning to combine ingredients according to taste, appearance or texture to create a product that contributes to a healthy diet</p> <p>Learn about basic food preparation techniques and ways of combining components to create a sandwich snack</p>	<p>healthy, food and drink are needed to provide energy for the body and that a balance of food groups is needed to achieve this</p> <ul style="list-style-type: none"> <li>Investigate the variety of breads available to buy – this may include tasting and ranking breads in order of preference</li> <li>Think about combinations of ingredients that could be used to make a healthy sandwich snack and draw and label their ideas</li> <li>Produce a written recipe for their proposed sandwich</li> </ul> <p><u>Making:</u></p> <ul style="list-style-type: none"> <li>Understand how to prepare a healthy sandwich safely and hygienically – basic hygiene rules of the kitchen, use of refrigeration</li> <li>Use a range of techniques such as chopping, slicing, grating, spreading and slicing</li> </ul> <p><u>Evaluating:</u></p> <ul style="list-style-type: none"> <li>Be flexible and change ideas should their proposed ingredients be unavailable</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrate hygienic food preparation and storage</li> <li>Select the correct tools and techniques needed to complete the task</li> </ul> <p><u>Evaluating:</u></p> <ul style="list-style-type: none"> <li>Evaluate their finished product against their original recipe</li> <li>Could any changes be made to improve the finished snack?</li> </ul> <p><u>Knowledge:</u></p> <ul style="list-style-type: none"> <li>Become aware of the food groups that should be eaten in a healthy diet</li> </ul>
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<b>Year 4</b>	<b>Area of Study – Design Technology</b>	<b>Key Skills</b>	<b>End Points</b>
	<p><u>Pop-up Books</u></p> <p>Research the content and design of pop-up books</p> <p>Through focussed practical tasks, children develop further skills and understanding relating to the construction and assembly of a range of simple mechanisms that could be put into a book with moving parts</p> <p>Produce a piece of work to a high standard with pages that incorporate moving parts including linkages and levers</p> <p>Ability to work in a group or as an individual is developed as decisions are made about the finished project</p>	<p><u>Generating ideas:</u></p> <ul style="list-style-type: none"> <li>• Research different types of pop-up books and books with mechanisms – what mechanisms have been used? Can you describe how they work?</li> <li>• Research target market for books investigated</li> <li>• Begin to formulate possible ideas for creating own pop-up book</li> </ul> <p><u>Making:</u></p> <ul style="list-style-type: none"> <li>• Develop drawing and presentation skills</li> <li>• Use a selection of simple tools and materials and use them safely</li> <li>• Accurately measure, mark out, cut and fold paper and card</li> <li>• Effectively join materials</li> <li>• Use ideas to creatively design pages</li> </ul> <p><u>Evaluating:</u></p> <ul style="list-style-type: none"> <li>• On-going evaluation of work throughout the process</li> </ul> <p><u>Knowledge:</u></p> <ul style="list-style-type: none"> <li>• Understand how certain mechanisms work and be able to make decisions as to which ones suit their page ideas the best</li> </ul>	<p><u>Generating ideas:</u></p> <ul style="list-style-type: none"> <li>• Develop possible ideas to a high standard of creativity</li> </ul> <p><u>Making:</u></p> <ul style="list-style-type: none"> <li>• Practise drawing skills</li> <li>• Develop accuracy and precision when marking out, cutting, folding, etc.</li> <li>• Demonstrate safe use of simple tools</li> <li>• Produce a high quality, finished product</li> </ul> <p><u>Evaluating:</u></p> <ul style="list-style-type: none"> <li>• Test product and modify if necessary – does it meet the intended target market?</li> <li>• Evaluate own work against the work of others</li> </ul> <p><u>Knowledge:</u></p> <ul style="list-style-type: none"> <li>• To be able to tell someone else three types of mechanism that could be used in a pop-up book and how they work</li> </ul>

	<p><u>Light It Up</u></p> <p>Look at how torches can be made for specific purposes</p> <p>Design and make a press torch using cells and a diode for a named group or person</p>	<p><u>Generating ideas:</u></p> <ul style="list-style-type: none"> <li>• Research a selection of lighting and discuss purposes, functions and locations</li> <li>• Investigate circuits/switches – component parts – follow on from science lessons</li> <li>• Draw and label a design for a press torch</li> <li>• Consider your target market – it could be for a club you belong to or for a member of your family</li> <li>• Produce a design criteria, order of work and a list of required materials for your project</li> </ul> <p><u>Making:</u></p> <ul style="list-style-type: none"> <li>• Accurately mark out and cut materials required for the press torch</li> <li>• Test circuit which uses a diode and cells amend if necessary</li> <li>• Effectively join pieces together</li> </ul> <p><u>Evaluating:</u></p> <ul style="list-style-type: none"> <li>• On-going evaluation of design and make during the process</li> </ul> <p><u>Knowledge:</u></p> <ul style="list-style-type: none"> <li>• Understand that electrical circuits must be constructed in a particular way to make them work</li> </ul>	<p><u>Generating ideas:</u></p> <ul style="list-style-type: none"> <li>• Develop possible ideas to a high standard including a detailed, labelled design</li> </ul> <p><u>Making:</u></p> <ul style="list-style-type: none"> <li>• Develop accuracy and precision when marking out and cutting materials</li> <li>• Develop patience and tenacity when making and testing circuit</li> <li>• Effectively join all materials together</li> </ul> <p><u>Evaluating:</u></p> <ul style="list-style-type: none"> <li>• Test finished product against original design specification</li> <li>• Consider if there are areas for development of the product in both appearance and function</li> </ul> <p><u>Knowledge:</u></p> <ul style="list-style-type: none"> <li>• Know the component parts of an electrical circuit</li> <li>• Be able to explain how an electrical circuit works</li> </ul>
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<u>Year 5</u>	<u>Area of Study – Design Technology</u>	<u>Key Skills</u>	<u>End Points</u>
	<p><u>Design and create a biscuit</u></p> <p>Through the study of commercially produced biscuits, students increase their understanding and knowledge of food and the skills needed to design and produce their own</p> <p>Students learn how to adapt a basic recipe to develop a product with specified criteria</p> <p>Investigation of existing products from all cultures will inform designs</p> <p>Biscuit designs will be based around a theme</p>	<p><u>Generating ideas:</u></p> <ul style="list-style-type: none"> <li>• Begin to understand that biscuits are designed for specific target markets</li> <li>• Generate ideas for their own biscuit design based on their knowledge of the product after brainstorming session and tasting</li> <li>• Develop a clear idea of what has to be done, planning using drawings and labels</li> </ul> <p><u>Making:</u></p> <ul style="list-style-type: none"> <li>• Apply the rules for basic food hygiene and other safe practices in the kitchen</li> <li>• Follow a recipe, using scales and other equipment in an appropriate way</li> <li>• Add chosen ingredients understanding how they may change the basic mixture that has been made</li> </ul> <p><u>Evaluating:</u></p> <ul style="list-style-type: none"> <li>• On-going evaluation during all parts of the planning and making process</li> </ul> <p><u>Knowledge:</u></p> <ul style="list-style-type: none"> <li>• Use the knowledge gained when tasting commercially produced biscuits that certain ingredients change the texture and flavour of the finished product</li> </ul>	<p><u>Generating ideas:</u></p> <ul style="list-style-type: none"> <li>• Produce 2 detailed designs, fully labelled and explained, of possible biscuits</li> </ul> <p><u>Making:</u></p> <ul style="list-style-type: none"> <li>• Follow a recipe and listen to instructions</li> <li>• Accurately read a scale on a pair of weighing scales</li> <li>• Chose equipment and use it appropriately and safely</li> </ul> <p><u>Evaluating:</u></p> <ul style="list-style-type: none"> <li>• Evaluate against an original design criteria</li> <li>• Be able to make positive criticism of product with a view to improving/amending</li> </ul> <p><u>Knowledge:</u></p> <ul style="list-style-type: none"> <li>• Know and apply basic hygiene rules relating to the preparation and cooking of food</li> <li>• To be able to explain physical and chemical changes that occur in food when it is heated or cooled</li> </ul>

<u>Year 6</u>	<u>Area of Study – Design Technology</u>	<u>Key Skills</u>	<u>End Points</u>
	<p><u>Design and make a slipper for a specified user</u></p> <p>Students will look at the range of slippers available to buy and take <u>ideas from what they have seen</u></p> <p>They will learn about the importance of using a pattern when producing an item to be worn</p> <p>They will discover the parts needed to make a slipper successfully</p> <p>Children will design their own slipper for a particular user and then make it using joining techniques and decorating techniques discussed during the planning stage</p>	<p><u>Generating ideas:</u></p> <ul style="list-style-type: none"> <li>• Research styles of slippers and their target markets</li> <li>• Use this research to develop a design criteria for a slipper of their choice</li> <li>• Create a detailed design drawing fully labelled – include further annotations regarding materials and finishes to be used</li> <li>• Plan an order of work using a flow chart</li> </ul> <p><u>Making:</u></p> <ul style="list-style-type: none"> <li>• Make a paper template to ensure consistent sizing</li> <li>• Learn how to pin, sew and stitch component parts together</li> <li>• Select from a wider range of materials and components</li> <li>• Select from a wider range of tools and equipment to perform practical tasks</li> </ul> <p><u>Evaluating:</u></p> <ul style="list-style-type: none"> <li>• Make on-going improvements and amendments to project</li> </ul> <p><u>Knowledge:</u></p> <ul style="list-style-type: none"> <li>• Understand that slippers are made from component parts and these parts are then joined together</li> <li>• Learn three different sewing stitches</li> <li>• Understand how to handle appropriate tools and materials safely and</li> </ul>	<p><u>Generating ideas:</u></p> <ul style="list-style-type: none"> <li>• Generate, develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams and pattern pieces</li> </ul> <p><u>Making:</u></p> <ul style="list-style-type: none"> <li>• Ensure consistency of product by using an accurately produced template for the intended user</li> <li>• Produce an appealing product that is fit for purpose</li> <li>• Accurately apply a range of finishing techniques</li> </ul> <p><u>Evaluating:</u></p> <ul style="list-style-type: none"> <li>• Identify the strengths and areas for development in their ideas and products against the original design criteria</li> </ul> <p><u>Knowledge:</u></p> <ul style="list-style-type: none"> <li>• Consider how much products cost to make and how sustainable they are</li> </ul>

		effectively i.e. non-wastage of materials	
	<p><u>Design and construct an electrical 'Loop Game'</u></p> <p>As an extension to electricity studies in this year group, the children will be asked to design and construct a simple 'Loop Game' for the Christmas market</p> <p>Pre-task work will include being able to recognise symbols used when writing a circuit map then learning how to construct a simple circuit incorporating a light and then a buzzer</p> <p>Children will work in pairs for this design and construct task and will be allowed freedom to design within the broad theme of Christmas and will be encouraged to make their required circuit independently – they will incorporate firstly, a light and then a buzzer</p> <p>Students will learn the importance of safety during this task and when they should ask for adult assistance or supervision</p>	<p><u>Generating ideas:</u></p> <ul style="list-style-type: none"> <li>• Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers construct circuits, incorporating a battery or power supply and a range of switches, to make electrical devices work</li> <li>• Use research to develop a design criteria to inform the design of a functional, appealing product that is fit for purpose and aimed at particular individuals or groups</li> <li>• Generate, develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams</li> </ul> <p><u>Making:</u></p> <ul style="list-style-type: none"> <li>• select from and use a wider range of tools, equipment and materials to perform practical tasks accurately according to their functional properties and aesthetic qualities</li> </ul> <p><u>Evaluating:</u></p> <ul style="list-style-type: none"> <li>• Evaluate during each step of the making process</li> </ul> <p><u>Knowledge:</u></p> <ul style="list-style-type: none"> <li>• Associate the brightness of a lamp or the volume of a buzzer with the</li> </ul>	<p><u>Generating ideas:</u></p> <ul style="list-style-type: none"> <li>• Communicate ideas through labelled drawings</li> <li>• Develop a design specification</li> <li>• Plan the order of work</li> </ul> <p><u>Making:</u></p> <ul style="list-style-type: none"> <li>• Select appropriate tools, materials and components</li> <li>• Assemble components to make a working model</li> <li>• Use tools safely</li> <li>• Construct product using permanent joining techniques</li> <li>• Make modifications along the way</li> </ul> <p><u>Evaluating:</u></p> <ul style="list-style-type: none"> <li>• Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</li> </ul> <p><u>Knowledge:</u></p> <ul style="list-style-type: none"> <li>• To use recognised symbols when representing a simple circuit in a diagram</li> </ul>



	Once the games have been completed, children will have an opportunity to play and test each other's games	number and voltage of cells used in the circuit	
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