



Design and Technology Curriculum Coverage

Suggested DT projects. Teachers may choose another suitable DT project as long as it involves designing and making a product for someone for a particular purpose.

Please note that these are just ideas, not project titles. The project title should make clear who the product is for and its purpose.

	Textiles	Mechanisms	Structures	Electrical Controls <i>KS2 only</i>	Food and Nutrition
Reception	Collage of self <i>(All about me)</i> Story map collage <i>(Bear Hunt)</i> Making the three little pigs houses <i>(Fairy tales)</i>	Split pin dinosaur <i>(Dinosaurs)</i> Paper plate frog (moving tongue) <i>(Minibeasts)</i>	Ongoing junk modelling across the year: castle/ cave/ minibeast habitat <i>(Cinderella, We're Going on a Bear Hunt, Minibeasts)</i> Building 3D shapes using a net <i>(Under the sea)</i>		Cookery lessons. <i>(on going throughout the year)</i> Biscuit making <i>(Squirrel's Busy Day)</i> Cress growing <i>(Fairy tales)</i>
Year 1		Pop-up greeting cards <i>(R.E.: Christmas/Easter)</i> Story book/moving picture <i>(History: Transport)</i>	Chair for the 3 bears <i>(English: fairy tales)</i> Hansel and Gretel gingerbread house <i>(English: fairy tales)</i> Roman/Viking shield <i>(History: battles and invasions)</i>		Sandwiches for afternoon tea <i>(Geography: our country)</i> Smoothies/Fruit salad <i>(English: Handa's surprise)</i>
Year 2	Puppets <i>(English: adventure stories)</i> Simple kilt/rain hat <i>(Geography: Katie Morag)</i> Poppy brooch <i>(History: Remembrance)</i>	Tower of London with moving draw bridge <i>(History)</i> Create a carriage for the Queen <i>(History: Queen Victoria)</i>			Quesadillas Guacamole <i>(Geography: Mexico)</i> Fruity popsicles <i>(Science: plants)</i>
Year 3	Christmas tree decorations/stockings <i>(RE: Christmas)</i> Rainforest applique collage <i>(Geography: rainforests)</i> Apron for Bruce Bogtrotter <i>(English: Matilda)</i>		Canopic jar <i>(History: Egyptians)</i> Food packaging <i>(Geography: food miles)</i> Iron Age roundhouse <i>(History: Stone Age-Iron Age)</i> Egyptian sarcophagus <i>(History: Egyptians)</i>		Seasonal, local food for class picnic Fair Trade biscuits <i>(Geography: food miles)</i> Polish food <i>(Geography: comparing London with Malopolska)</i> Lunch for a cave man <i>(History: Stone Age)</i>



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<p>Year 4</p>		<p>Olympic mascot <i>(History: Greeks)</i> Roman catapults <i>(History: Romans)</i> Pandora's box <i>(English: myths)</i> Animal trap <i>(English: alternative fairy tales)</i></p>		<p>Torches/lamps/lanterns <i>(RE: Hinduism/Diwali)</i> Security Alarm <i>(English: Elgin marbles)</i> Night lights <i>(PSHE: feelings and emotions)</i></p>	<p>Greek salad or souvlaki <i>(History: Greeks)</i> Roman bread or pizza <i>(History: Romans)</i></p>
<p>Year 5</p>	<p>Purse to carry Viking coins <i>(History: Britain's Settlers)</i> Aztec jewellery <i>(History: Mayan civilisation)</i> Scarf for visiting Alaska <i>(Geography: Alaska)</i></p>		<p>Shelter for a desert island <i>(English: Kensuke's Kingdom)</i> Bridge to cross a river <i>(Geography: rivers)</i> Bird house <i>(Science: living things and habitats)</i></p>		<p>Hot cross buns <i>(RE: Easter)</i> Healthy snack <i>(PSHE: health and wellbeing)</i> Flat bread <i>(RE: Passover)</i> Honey cake <i>(RE: Rosh Hashana)</i></p>
<p>Year 6</p>		<p>Moving/pop-up plane <i>(History: Battle of Britain)</i> Rotating prayer wheel <i>(RE: Buddhism)</i> Rescue winch <i>(Geography: tsunamis and hurricanes)</i></p>		<p>Air raid siren <i>(History: Battle of Britain/WW2)</i> LED Christmas cards <i>(RE: Christianity)</i> Lighthouse</p>	<p>WW2 rationing recipes VE day street party <i>(History: WW2)</i> Prepare Alms suitable for a monk <i>(RE: Buddhism)</i></p>



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Pupils should be able to...					
	Textiles	Mechanisms	Structures	Electrical Controls	Food and Nutrition
Year 1		<p><u>Sliders and Levers</u></p> <ul style="list-style-type: none"> • Generate ideas and simple design criteria • Develop and communicate ideas through drawings and mock-ups • Explore sliders and levers; understanding types of movement 	<p><u>Free Standing Structures</u></p> <ul style="list-style-type: none"> • Select tools and a mixture of new and recycled materials • Explore existing free-standing structures • Know how to strengthen structures 		<p><u>Preparing fruit and vegetables</u></p> <ul style="list-style-type: none"> • Design appealing products for a user • Investigate fruit and vegetables • Use simple utensils and equipment • Taste and evaluate against criteria • Understand where ingredients come from and the basis of a healthy diet
Year 2	<p><u>Templates and Joining Techniques</u></p> <ul style="list-style-type: none"> • Design a functional, appealing product • Use a range of textiles tools and equipment • Understand how 3D textile products are made using templates to create two identical shapes and joining them together 	<p><u>Wheels and Axles</u></p> <ul style="list-style-type: none"> • Generate ideas and simple design criteria • Develop and communicate ideas through drawings and mock-ups • Explore wheels and axles 			



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Year 3	<p><u>2D shape to 3D product</u></p> <ul style="list-style-type: none"> • Generate design criteria for an appealing, functional product and test finished product against the criteria • Produce annotated sketches, prototypes, final product sketches and pattern pieces • Select fabrics and fastenings according to functional characteristics • Investigate a range of 3D textile products 		<p><u>Shell structures (with/without CAD-computer aided design)</u></p> <ul style="list-style-type: none"> • Generate and develop realistic ideas and criteria through analysing existing products • Order the stages of making • Select and use tools with some accuracy • Investigate and evaluate shell structures • Test and evaluate products against purpose and criteria • <i>Use CAD to model and communicate ideas</i> • <i>Use computer generated finishing techniques</i> • <i>Develop knowledge of nets of cubes and cuboids and more complex 3D shapes in order to construct stiff, shell structures</i> 		<p><u>Healthy and Varied Diet</u></p> <ul style="list-style-type: none"> • Design appealing products for a user • Plan main stages of a recipe • List ingredients, utensils and equipment • Select from a range of ingredients to make appropriate products • Know whether ingredients are grown, reared or caught • Carry out and record evaluations
Year 4		<p><u>Levers and Linkages and/or Pneumatics</u></p> <ul style="list-style-type: none"> • Generate realistic ideas and use annotated sketches and prototypes to develop and communicate ideas • select and use tools with some accuracy to cut, shape and join paper and card • Investigate and analyse product with lever and linkage mechanisms • Understand lever and linkages, fixed and loose pivots • <i>Select and join materials such as tubing, syringes and balloons</i> • <i>Investigate products with pneumatic mechanisms and understand how to use them</i> 		<p><u>Simple Programming and Control</u></p> <ul style="list-style-type: none"> • Use annotated sketches, cross-sectional and exploded diagrams to develop and communicate ideas • Select and use tools with some accuracy to cut, shape, join and finish • Use construction materials and electrical components according to functional properties and aesthetic qualities • Understand and use electric systems in products such as series circuits with switches, bulbs and buzzers • Understand and use computing to program and control products with electrical systems 	



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Year 5	<p><u>Combining different fabric shapes</u></p> <ul style="list-style-type: none"> • Generate innovative ideas through research • Produce detailed lists of equipment and fabrics and formulate step-by-step plans for making • Investigate and analyse textile products linked to final product • Know that a 3D textile product can be made from a combination of pattern pieces, fabric shapes and different fabrics and that these can be strengthened, stiffened or reinforced 		<p><u>Frame Structures</u></p> <ul style="list-style-type: none"> • Research user needs and existing products • Formulate a step-by-step plan with list of tasks and resources • Use tools to mark, measure, cut, shape and join materials to make frameworks • Use finishing techniques suitable for the product and critically evaluate • Research key event and individuals relevant to frame structures 		<p><u>Celebrating Culture and Seasonality</u></p> <ul style="list-style-type: none"> • Generate and explore innovative ideas through research and discussion • Write a step-by-step recipe including a list of ingredients, equipment and utensils • Using equipment accurately, make, decorate, present and evaluate a food product for intended user and purpose • Understand seasonality and the source of different food products
Year 6		<p><u>Pulleys and Gears and/or Cams</u></p> <ul style="list-style-type: none"> • Generate ideas through research and create a simple design specification involving pulleys and gears/cams • Use a range of tools to make products that are accurately assembled and well finished within constraints of time, resources and cost • Test the quality of the design, manufacture and functionality • Investigate famous manufacturing and engineering companies relevant to the project 		<p><u>Complex Switches and Circuits</u></p> <ul style="list-style-type: none"> • Develop a design specification for a functional product that responds automatically to changes in the environment • Formulate a step-by-step plan to make the product • Use a computer control program to enable an electrical product to work automatically and respond to changes • Test and evaluate the system and demonstrate its effectiveness for intended user 	