

Building Design Technology Skills

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p><i>EYFS Creating with Materials</i> <i>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Share their creations, explaining the process they have used. Make use of props and materials when role playing characters in narratives and stories.</i> <i>Linked Early Learning Goals: Communication and Language, - Listening and attention, Speaking. Physical Development, Gross and Fine Motor Skills Communities, Past and Present</i></p>							
<p><i>High quality provision indoors and out to support the use of materials, tools and skills</i></p>							
Structures	<p>Group structure Build a train and the Three Little Pigs House.</p> <ul style="list-style-type: none"> ✓ Children explore the properties of different materials. ✓ Children reason why some of the properties are not suited for structures and which material is the strongest structure. ✓ Children explore different ways of building structures with blocks and which technique is stronger. 	<p>Freestanding structure</p> <ul style="list-style-type: none"> ✓ Children can measure, mark out, cut, shape, joining and finishing techniques with a range ✓ of tools and new and reclaimed materials that children are likely to use to make their structures. ✓ Children can build and explore a variety of freestanding structures using construction kits. 	<p>Freestanding structure</p> <ul style="list-style-type: none"> ✓ Children can design a structural base that is stable and stiff ✓ Children can join materials using tape, blue tac and other joining techniques (strawbees) ✓ Children can create a plan, considering the tools they need ✓ Children can confidently and clearly present findings to the class (oracy) 	<p>Shell structure</p> <ul style="list-style-type: none"> ✓ Children can join materials using, tape, blu tac and other joining techniques (KNEX) ✓ Children can accurately measure and mark out various lengths of paper using a ruler ✓ Children can identify possible health and safety risks associated with using scissors. ✓ Children can test a range of joining methods using pieces of paper/ plastic/ card. ✓ Children can evaluate which joining methods are most effective and why. 	<p>Shell structure</p> <ul style="list-style-type: none"> ✓ The children can make a shell structure out of a net. ✓ The children will use a scoring technique to help fold their nets into a shell structure. ✓ Children will use cutting to make a shell structure. ✓ Children can mark out, measure, score, cut and join. Children can apply finishing techniques to their product including drawing, painting. ✓ Children can produce annotated sketches and CAD images of their proposed product. 	<p>Frame structure</p> <ul style="list-style-type: none"> ✓ Children can accurately measure and mark out various lengths of wood using a ruler ✓ Children can competently cut sectioned wood using a junior hacksaw and a g-clamp. ✓ Children can design structures that incorporate triangulation ✓ Children can join materials using, tape, blu tac and other joining techniques (KNEX) ✓ Children can apply finishing techniques to their product including; painting, colouring, joining of materials. 	<p>Frame structure</p> <ul style="list-style-type: none"> ✓ Children can use simple 3D CAD software such as Tinkercad to design their structure ✓ Children can use the inbuilt simulation tools to test their structures. ✓ Children can accurately measure and mark out various lengths of wood using a ruler ✓ Children can competently cut sectioned wood using a junior hacksaw and a g-clamp. ✓ Children can apply finishing techniques to their product including; painting, colouring, joining of materials.

Mechanisms	Lift the Flap mechanism	Sliders and levers	Wheels and axles	Levers and linkages	Pneumatics	Cams	Gears and pulleys
Food	<p>Decorating biscuits– fine motor skills</p> <p>Faith Week: Using pastry cutters, spoons, rolling pins (Faith Week)</p> <p>Design, make and evaluate a fruit tart for themselves.</p> <p>Crushing/squeezing: potato masher & fork</p>	<p>Juice - using a juicer to extract juice, e.g. orange</p> <p>Peel - with a swivel peeler with adult support</p> <p>Mix/stir - with increasing thoroughness to combine ingredients</p> <p>Measure - using different size measuring spoons, e.g. liquids - refer to ingredients in simple fractions, e.g. half, quarter</p>	<p>Peel - with a swivel peeler with adult support</p> <p>Measure - using different size measuring spoons, e.g. liquids - refer to ingredients in simple fractions, e.g. half, quarter</p> <p>Cut out - ingredients neatly with a cutter - use a table knife to cut dough in equal portions, e.g. cheese straws</p>	<p>Peel - with a swivel peeler with supervision</p> <p>Measure - using a measuring jug with support to obtain accuracy - using digital scales with support to obtain accuracy</p> <p>Cut - medium resistance foods with a vegetable knife, e.g. cucumber. - use a fork or the claw grip to</p>	<p>Press - using a garlic press</p> <p>Peel - with a swivel peeler with supervision</p> <p>Spread - ingredients evenly over another food</p> <p>Mix/stir - any ingredients thoroughly - whisk foods using a hand whisk</p> <p>Measure - using a measuring jug with support to obtain accuracy - using digital</p>	<p>Peel - with a swivel peel to create food ribbons to be used in a dish, e.g. beetroot/carrot ribbons with supervision</p> <p>Spoon - be able to use measuring spoons to measure ingredients and to add liquid to the dry mixture.</p> <p>Measure - using a measuring jug</p>	<p>Spoon - be able to use measuring spoons to measure ingredients and to add liquid to the dry mixture.</p> <p>Mix/rubbing in – rub fat and flour together and then mix with ingredients carefully</p> <p>Measure - using a measuring jug independently and</p>

	<p>Peeling: peel by hand Shaping: rolling pin Mixing: mixing spoons Measuring: spoons & cups Cutting: butter knife & cutters</p>	<p>Grate - soft foods, e.g. cheese, cucumber Cut - low resistance foods with a table knife in to equal size pieces/slices, e.g. canned pineapple slices, sticks of pepper, mushrooms - use a fork to secure foods Follow - a simple recipe supported by an adult Carryout - instructions with a little support</p>	<p>Thread - thread soft foods onto cocktail sticks, e.g. fruit kebab – strawberries, Satsuma segments Cut - low resistance foods with a table knife in to equal size pieces/slices, e.g. canned pineapple slices, sticks of pepper, mushrooms - use a fork to secure foods Follow - a simple recipe supported by an adult Carryout - instructions with a little support</p>	<p>secure foods - medium resistant or partly prepared foods using a bridge hold, e.g. cut half a tomato into a quarter, halve canned potatoes, halve large grapes Follow - a simple recipe with guidance from an adult Carryout - instructions independently</p>	<p>scales with support to obtain accuracy Cut - medium resistance foods with a vegetable knife, e.g. cucumber. - use a fork or the claw grip to secure foods - medium resistant or partly prepared foods using a bridge hold, e.g. cut half a tomato into a quarter, halve canned potatoes, halve large grapes Follow - a simple recipe with guidance from an adult Carryout - instructions independently</p>	<p>independently and accurately - using digital and analogue scales accurately and independently Grate - using the zesting part of a grater, e.g. radish Snip - with greater dexterity and control, e.g. to shred kale or spinach Cut - higher resistance food with a vegetable knife, using the claw grip, e.g. celery, carrots - higher resistant foods from whole using the bridge hold, e.g. butter Follow - a simple recipe independently Carryout - modifications to recipes</p>	<p>accurately - using digital and analogue scales accurately and independently Knead – to work the moistened flour into a dough. To shape and mould to create visually appealing scones Grate - using the zesting part of a grater, e.g. radish Snip - with greater dexterity and control, e.g. to shred kale or spinach Cut - higher resistance food with a vegetable knife, using the claw grip, e.g. celery, carrots - higher resistant foods from whole using the bridge hold, e.g. butter Follow - a simple recipe independently Carryout - modifications to recipes</p>
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<p>Textiles – Faith Week – Christmas Decoration</p>	<p>Design, make and evaluate a Christmas tree for a Christmas decoration</p> <ul style="list-style-type: none"> ✓ Paper/ card weaving ✓ Cut vertical cuts in the coloured card, but not quite to the edge. ✓ Weave strips of ribbon through the card. ✓ Stick loose ends with glue or Sellotape/masking 	<p>Textile weaving</p> <ul style="list-style-type: none"> ✓ Children can cut vertical cuts in the coloured card, but not quite to the edge. ✓ Children can weave strips of loom/wool through the card. ✓ Children can stick loose ends with glue or Sellotape/masking tape on the reverse of the weaving. 	<p>Stitch: Overstitch</p> <ul style="list-style-type: none"> ✓ Children can use a needle and thread to sew an overstitch to join two pieces of felt ✓ Children can use scissors to cut and mark out templates to shape their felt ✓ Children can use fabric pens and paints to apply finishing techniques to decorate their product. 	<p>Stitch: Running stitch</p> <ul style="list-style-type: none"> ✓ Children can use a needle and thread to sew a running stitch to join two pieces of felt ✓ Children can use scissors to cut and mark out templates to shape their felt ✓ Children can decorate their product using applique finishing techniques. Using a straight stitch/gluing 	<p>Stitch: Blanket stitch</p> <ul style="list-style-type: none"> ✓ Children can use a needle and thread to sew a blanket stitch to join two pieces of felt ✓ Children can use scissors to cut and mark out templates to shape their felt ✓ Children can decorate their product using a straight stitch for embroidery 	<p>Stitch: Cross stitch</p> <ul style="list-style-type: none"> ✓ Children can use a needle and thread to embroider cross stitch patterns onto binca canvas fabric ✓ Children can use a straight stitch to applique cross stitch design onto their product ✓ Children can apply previous learned stitches (blanket, running, overstitch) 	<p>Recap range of stitches.</p> <ul style="list-style-type: none"> ✓ Children can use a needle and thread to join two pieces of fabric using a range of stitches (overstitch, running stitch, blanket stitch) ✓ Children can decorate their product using a satin stitch for embroidery ✓ Children can sew a button onto their product as a fastener
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	<ul style="list-style-type: none"> ✓ tape on the reverse of the weaving. ✓ Gluing- Glue pieces of ribbon/card together or down. Some may work better than others. Will need to be left to dry. 			<p>fabric, children can applique a second piece of fabric to their product.</p>	<ul style="list-style-type: none"> ✓ Children can decorate their product using applique finishing techniques. Using a straight stitch/gluing fabric, children can applique a second piece of fabric to their product. 	<p>to join two pieces of fabric</p> <ul style="list-style-type: none"> ✓ Children can apply a range of previous learned finishing techniques (fabric paints, embroidery, applique) to decorate their product. 	<p>to join two pieces of fabric</p> <ul style="list-style-type: none"> ✓ Children can apply a range of previous learned finishing techniques (fabric paints, embroidery, applique) to decorate their product ✓ Children can cut, mark an measure a range of different templates to shape their fabrics.
Electrical Systems					<p>Simple circuits and switches</p> <ul style="list-style-type: none"> ✓ To be able to un pick a simple circuit to make sure it is complete and works effectively. ✓ To be able to put together a circuit using key components ✓ Children can measure, cut and assemble the housing for their bedside lamp. ✓ Children can apply finishing techniques to their products. 		<p>More complex switches</p> <ul style="list-style-type: none"> ✓ Children can use measuring, marking out, cutting and joining skills with construction materials to create their electrical products. Children can make secure electrical connections ✓ Children can explore a range of electrical systems that could be used to control their products, including a simple series circuit where a single output device is controlled, a series circuit where two output devices are controlled by one switch and parallel circuits where two

							<p>output devices are controlled independently by two separate switches.</p> <ul style="list-style-type: none">✓ Children can write computer control programs that include inputs, outputs and decision making.
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