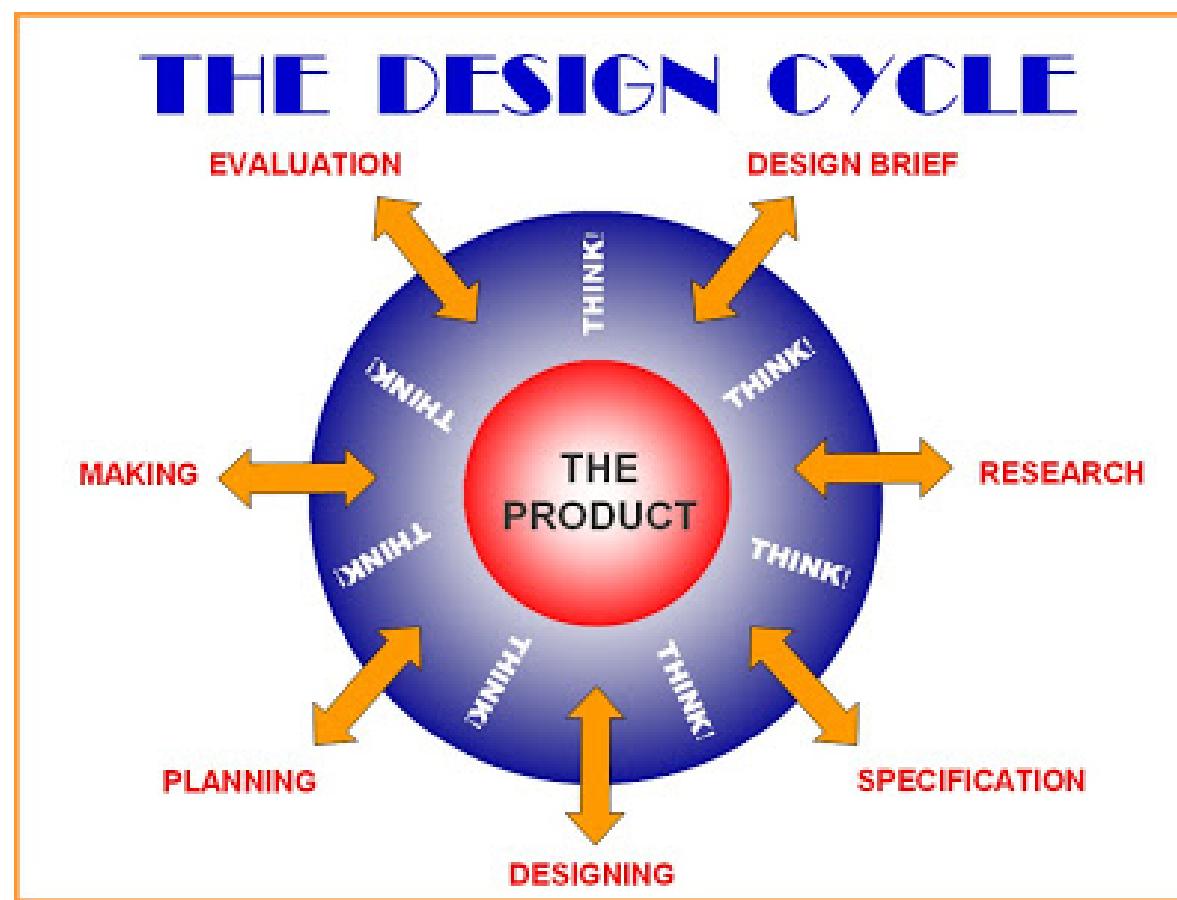


Design Technology Curriculum Overview

This document outlines:

- The vision and three I statements
- Key vocabulary mapped across each year group
- Knowledge overview
- Progression of skills



Design Technology Curriculum Map

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Autumn	<u>Toys through the Ages</u> <i>Materials & textiles</i> Hand Puppets	<u>Olympics</u> <i>Cooking & nutrition</i> Fruit Salad	<u>Stone Age</u> <i>Materials & textiles</i> Stone Age Tunic - Running Stitch	<u>Ancients Greeks</u> <i>Materials & textiles</i> Greek clothes	<u>Discoveries:</u> <i>Structures & Mechanisms</i> Egyptology Pop-up Book - Pulleys, Levers & and Pop-ups	<u>Significant Women in the 21st Century</u> <i>Cooking & Nutrition</i> Visit from a Qatari Chef: Create a Qatari Recipe
Spring	<u>The Victorians</u> <i>Cooking & nutrition</i> Make Porridge	<u>Rainforest:</u> <i>Materials & textiles</i> Make Your Own Dinosaur	<u>Choccywoccydoodah:</u> <i>Cooking & nutrition</i> Benefits of a Healthy Diet	<u>Raiders and Traders</u> <i>Structures & Mechanisms</i> Viking ships	<u>Africa:</u> <i>Cooking & nutrition</i> South African Date Balls	<u>WW1:</u> <i>Structures & Mechanisms</i> Trench dioramas
Summer	<u>Great Fire of London</u> <i>Structures & Mechanisms</i> Build Houses	<u>Lady with a Lamp</u> <i>Structures & Mechanisms</i> Create a Freestanding Structure	<u>Revolting Romans:</u> <i>Structures & Mechanisms</i> Roman Catapult - Lever and Linkage	<u>What a Wonderful World</u> <i>Cooking & nutrition</i> Grow fresh food & make sandwiches	<u>Modern World</u> <i>Materials & textiles</i> Nasa Mission Patch	<u>Mayans</u> <i>Materials & textiles</i> Mayan Masks

Key Vocabulary							
Vocabulary - Textiles							
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6		
Pattern, join, mark out, decorate, running stitch, needle, fabric.	Template, quality, suitable, features, dye, overstitch, design, fray, mock-up, seam	Fastening, compartment, zip, finishing technique, function, prototype, back stitch, felted, woven, knitted, bonded.	Aesthetics, seam allowance, pinning, embroidery, back/blanket/cross stitch	Specification, tacking, working drawing, clasp, pinking shears, design criteria, hem, reinforce, stem stitch, satin stitch, tie dye.	Applique, annotate, evaluate, innovation, functionality, renewable, authentic, chain stitch.		
Vocabulary - Mechanisms							
Wheels & Axles: Wheel, axle, fixed, free, design, make, cutting, joining, hacksaw, vice, dowel, body, cab, shaping	Slider & Levers: Mechanism, lever, slider, slot, pivot, guide/bridge, masking tape, fastener, pull/push, down, straight, work, design, evaluate, purpose	Levers & linkages: Loose/fixed pivot, system, input, process	Levers & Linkages: Loose pivot, fixed pivot, system, input, process, output, linear, rotary, reciprocating, innovative, appealing, linkage, oscillating	Pulleys or Gears: Pulley, gear, driver, follower, rotation, motor, belt, spindle, motor, circuit, switch, ratio, transmit, annotated drawings, exploded diagrams, functionality	Pulleys or Gears: Transmit, annotated drawings, exploded diagrams, functionality		
Vocabulary - Structures							
Freestanding Structures: Cut, fold, join, fix, weak, strong	Freestanding Structures: Structure, base, underneath, thicker, thinner, corner, point, straight, curved, rectangle, cube, cuboid, cylinder	Shell Structures: Shell, structure, net, marking out, material, joining, three dimensional, stiff	Shell Structures: Assemble, prism, vertex, breadth, capacity, scoring, adhesives, reduce, reuse, recycle, corrugating, ribbing, laminating	Frame Structures: Reinforce, triangulation, stability, temporary, permanent, prototype, innovation, functional, design brief			
Vocabulary - Nutrition							
Preparing Fruit & Vegetables: Fruit, vegetables, soft, juicy, crunchy, sticky, smooth, sharp, crisp, sour hard, flesh, skin, seed pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning, tasting, arranging	Healthy & Varied Diet: Texture, taste, appearance, preference, greasy, moist, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested		Celebrating Culture & Seasonality: Ingredients, yeast, dough, wholemeal, unleavened, baking soda, spice, herbs, carbohydrate, sugar, fat, protein, vitamins, nutrients, gluten, allergy, intolerance, savoury, seasonality, pour, mix, knead, whisk, beat, combine, fold, rubbing in				

Intent, Implementation & Impact

Progression Skills Document

Intent	Implementation	Impact
<p>Our design and technology curriculum aims to provide our children with the ability to think creatively and solve problems both as individuals and as members of a team.</p> <p>Our children should be able to build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users, critique, evaluate and test their ideas and products and the work of others and understand and apply the principles of nutrition and learn how to cook.</p> <p>"Design is a funny word. Some people think design means how it looks. But of course, if you look deeper, it's really how it works."</p> <p>Steve Jobs</p>	<p>Design & technology will be taught once every half term and each unit of work and will begin by researching and gathering various design ideas; then making the product using a wide range of materials and components and finally the evaluation stage whereby products are evaluated against the success criteria and the views of others are considered to improve their own work. In order to competently cover all areas of the National Curriculum, we have split the skills into three main areas: materials and textiles, cooking and nutrition and structure, construction and mechanism.</p>	<p>Children will have clear enjoyment and confidence in design and technology that they will then apply to other areas of the curriculum. They will ultimately know more, remember more and understand more about Design Technology, demonstrating this knowledge when using tools or skills in other areas of the curriculum and in opportunities out of school. As designers, children will develop skills and attributes they can use beyond school and into adulthood.</p>

National Curriculum requirements

<p>Pupils should be taught:</p> <p><u>Design, Make and Evaluate</u></p> <ul style="list-style-type: none"> • Design purposeful, functional, appealing products based on design criteria • Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology • Select from and use a range of tools and equipment to perform practical tasks • Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics • Explore and evaluate a range of existing products • Evaluate their ideas and products against design criteria <p><u>Technical Knowledge</u></p> <ul style="list-style-type: none"> • Build structures, exploring how they can be made stronger, stiffer and more stable • Explore and use mechanisms in their products. <p><u>Cooking & Nutrition</u></p> <ul style="list-style-type: none"> • Use the basic principles of a healthy and varied diet to prepare dishes 	<p>Pupils should be taught:</p> <p><u>Design, Make and Evaluate</u></p> <ul style="list-style-type: none"> • Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups • Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design • 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 • 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 • Understand how key events and individuals in design and technology have helped shape the world <p><u>Technological Knowledge</u></p> <ul style="list-style-type: none"> • Apply their understanding of how to strengthen, stiffen and reinforce more complex structures
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<ul style="list-style-type: none"> Understand where food comes from. 	<ul style="list-style-type: none"> Understand and use mechanical systems in their products Understand and use electrical systems in their products Apply their understanding of computing to programme, monitor and control their products. <p><u>Cooking & Nutrition</u></p> <ul style="list-style-type: none"> Understand and apply the principles of a healthy and varied diet Cook a repertoire of predominantly savoury dishes so that they are able to feed themselves and others a healthy and varied diet Become competent in a range of cooking techniques [for example, selecting and preparing ingredients; using utensils and electrical equipment; applying heat in different ways; using awareness of taste, texture and smell to decide how to season dishes and combine ingredients; adapting and using their own recipes] Understand the source, seasonality and characteristics of a broad range of ingredients
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Progression of Skills			
	Autumn - Materials & Textiles	Spring - Cooking & Nutrition	Summer - Structures & Construction & Mechanism
Year 1	<p>Developing</p> <ul style="list-style-type: none"> Cut a range of papers and cards. Colour using fabric paints, printing or painting. Explain how to thread a needle and have a go. <p>Connecting</p> <ul style="list-style-type: none"> Join fabrics by using a running stitch, staples and tape. Begin to understand the process of weaving using paper. <p>Applying</p> <ul style="list-style-type: none"> Using running stitch and weaving techniques to mark make. 	<p>Developing</p> <ul style="list-style-type: none"> Cut and peel (by hand) a range of ingredients. Recognise some ingredients by sight and taste. <p>Connecting</p> <ul style="list-style-type: none"> Mix, stir and combine a small amount of cold ingredients in a bowl. (E.g. fruit salad) Identify where food comes from Understand that recipes provide instructions <p>Applying</p> <ul style="list-style-type: none"> Describe a dish they could create for a special occasion using the skills and knowledge they've been taught. 	<p>Developing</p> <ul style="list-style-type: none"> With help measure, mark out, cut and shape a range of materials. <p>Connecting</p> <ul style="list-style-type: none"> Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their product. Explore using tools e.g. scissors and a hole punch safely. Begin to assemble, join and combine materials and components together using a variety of temporary methods e.g. glues or masking tape. <p>Applying</p> <ul style="list-style-type: none"> Begin to build structures, exploring how they can be made stronger, stiffer and more stable
	<p>Design, make and Evaluate</p> <ul style="list-style-type: none"> Follow verbal instructions. Name the tools they are using. Select materials from a limited range that will meet the design criteria. Select pictures to help develop ideas. Select pictures to help develop ideas. Describe what they need to do next. Explore ideas with kits, reclaimed materials. Explain what they are making and which materials they are using. Discuss their work as it progresses. Use my own ideas to make something 		

Year 2	<p>Developing</p> <ul style="list-style-type: none"> Cut out a simple template shape from felt. Decorating with beads, sequins, braids or ribbons. Gain confidence in threading a needle. <p>Connecting</p> <ul style="list-style-type: none"> Join fabrics by using a running stitch and over sewing. Use weaving techniques with plastic bags and grass through sticks. <p>Applying</p> <ul style="list-style-type: none"> Using running stitch, over sewing and weaving techniques to mark make. 	<p>Developing</p> <ul style="list-style-type: none"> Grate and chop a range of ingredients. Recognise a range of familiar ingredients. <p>Connecting</p> <ul style="list-style-type: none"> Mix, stir and combine wet and dry ingredients (E.g. muffins). Sieve flour into a bowl. Explain what a balanced diet is. Follow simple recipes either in simple sentences or using pictures. <p>Applying</p> <ul style="list-style-type: none"> Describe an eat well plate they could create using the skills and knowledge they've been taught. 	<p>Developing</p> <ul style="list-style-type: none"> With help measure, cut and score with some accuracy. <p>Connecting</p> <ul style="list-style-type: none"> Learn to use hand tools safely and appropriately. Start to assemble, join and combine materials in order to make a product. <p>Applying</p> <ul style="list-style-type: none"> Build structures, exploring and discussing how they can be made stronger, stiffer and more stable.
	<ul style="list-style-type: none"> Select and name tools needed to work with the materials. Use pictures and words to show what you want to design and make. Select appropriate techniques, explaining the basic steps. Describe models and drawings of ideas and intentions. Use drawings to record ideas as they are developed. Use kits/reclaimed materials to develop an idea. Add notes to design to help discuss and evaluate their work 		
Year 3	<p>Developing</p> <ul style="list-style-type: none"> Use simple patterns as a template, to cut different fabrics. Confidently thread a needle using a large eye. <p>Connecting</p> <ul style="list-style-type: none"> Join fabrics using running stitch, over sewing and backstitch. Adding applique decorations using running stitch. Use weaving with threads to knot, plait and twist. <p>Applying</p> <ul style="list-style-type: none"> Using running stitch, over sewing, backstitch and weaving techniques to mark make. 	<p>Developing</p> <ul style="list-style-type: none"> Using a peeler to peel harder fruit and vegetables e.g. apples and potatoes. Recognise a broad range of ingredients (cereals, meat, fish). <p>Connecting</p> <ul style="list-style-type: none"> Sieve (a range of ingredients), mix, stir and combine wet and dry ingredients into a bowl (E.g. to form a dough). Use hands to rub fat into flour (E.g. scones, apple crumble). Use a potato masher to mash potatoes, swedes, carrots, etc. Read and follow a simple recipe. <p>Applying</p> <ul style="list-style-type: none"> Describe/design a healthy breakfast they could create using the skills and knowledge they've been taught including how they could garnish it. 	<p>Developing</p> <ul style="list-style-type: none"> Measure, mark out, cut, score and assemble components with more accuracy. Work safely with a range of simple tools. <p>Connecting</p> <ul style="list-style-type: none"> Explain their choice of tools and equipment in relation to the skills and techniques they will be using. Start to understand that mechanical systems such as levers and linkages or pneumatic systems create movement. Start to understand that mechanical and electrical systems have an input, process and output. <p>Applying</p> <ul style="list-style-type: none"> Use their knowledge of mechanical systems to build a structure/moving product.
	<ul style="list-style-type: none"> Investigate products to give a starting point for a design. Record the plan by drawing or writing. Select the most appropriate tools and techniques for a given task. Investigate products to understand their purpose and how they are made. Plan a sequence of actions to make a product. Begin to analyse products by drawing and sketching them to understand how they are made. 		

	<ul style="list-style-type: none"> Prove the design meets the criteria by evaluating their design against the knowledge of the product. 		
Year 4	<p>Developing</p> <ul style="list-style-type: none"> Draw their own pattern and cut in a range of fabrics. Confidently thread a needle using a smaller eye. <p>Connecting</p> <ul style="list-style-type: none"> Join fabrics using over sewing, backstitch and blanket stitch. Adding applique decorations using over sewing and running stitch. Using weaving as a technique as a basis to stitch embroidery. <p>Applying</p> <ul style="list-style-type: none"> Using blanket stitch, over sewing, backstitch and weaving techniques to mark make. 	<p>Developing</p> <ul style="list-style-type: none"> Cut a range of ingredients into evenly sized strips or cubes. Crack an egg with some precision. Use simple food descriptors to describe ingredients. <p>Connecting</p> <ul style="list-style-type: none"> Cream, sieve (a range of ingredients), mix, stir and combine wet and dry ingredients into a bowl (E.g. Victoria Sponge). Use a garlic press to crush garlic. Read and follow a recipe ensuring they understand each step. <p>Applying</p> <ul style="list-style-type: none"> Describe and design a pudding they could create using the skills and knowledge they've been taught including appropriate portion sizes for serving. 	<p>Developing</p> <ul style="list-style-type: none"> Measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques. <p>Connecting</p> <ul style="list-style-type: none"> Start to join and combine materials and components in temporary and permanent ways. Know how mechanical systems such as cams or pulleys or gears create movement. <p>Applying</p> <ul style="list-style-type: none"> Using their knowledge of construction, explain how to reinforce and strengthen a 3D framework.
	<ul style="list-style-type: none"> Analyse products by drawing and sketching to understand how they are made. Explain choice of tools and techniques for a given task. Develop more than one design. Suggest improvements for my design. Produce a clear, sequenced plan and explain it. Adapting initial designs to create new ones. Use ideas from other people when evaluating their own design. 		
Year 5	<p>Developing</p> <ul style="list-style-type: none"> Decide on pattern layout and cut using a range of fabrics. Select some needles to match the thread. <p>Connecting</p> <ul style="list-style-type: none"> Joining buttons and loops using over sewing and backstitch. Adding applique decorations, beads, sequins using over sewing and backstitch. Begin to use 3d weaving by building up textures using plaiting, twisting and knotting. <p>Applying</p> <ul style="list-style-type: none"> Use over sewing, backstitch with buttons and weaving techniques to mark make. 	<p>Developing</p> <ul style="list-style-type: none"> Use fine graters to grate ingredients e.g. parmesan cheese. Cut evenly, sized finer pieces of ingredients. Crack an egg cleanly. Using a range of food descriptors relating to flavour, texture and appearance with a wider range of food. <p>Connecting</p> <ul style="list-style-type: none"> Use an electric hand mixer to cream fat and sugar together and combine with wet and dry ingredients. Sieve with precision. Read and follow a detailed recipe. <p>Applying</p> <ul style="list-style-type: none"> Describe and design a balanced cooked meal for a they could create using the skills and knowledge they've been taught including appropriate portion sizes for serving. 	<p>Developing</p> <ul style="list-style-type: none"> With growing confidence, cut and join with accuracy to ensure a good-quality finish to the product. <p>Connecting</p> <ul style="list-style-type: none"> Demonstrate how mechanical systems such as cams or pulleys or gears create movement. Understand that mechanical and electrical systems have an input, process and output. <p>Applying</p> <ul style="list-style-type: none"> Use finishing techniques to strengthen and improve the appearance of their product using a range of equipment

	<ul style="list-style-type: none"> Research a range of ideas from different sources to understand how products are made. Use a range of tools and equipment competently. Make prototypes to support the final design. Produce a clear, detailed plan for final design based on the prototype. Suggest alternative plans; outlining the positive features and drawbacks when evaluating.
Year 6	<p>Developing</p> <ul style="list-style-type: none"> Decide and use complex pattern layouts and cut using a range of fabrics of their choice. Choose from a range of needles to match the appropriate thread for the material of choice. <p>Connecting</p> <ul style="list-style-type: none"> Joining a variety of fabrics using a range of stitches. Choose their own decorations and stitches to fit their purpose. Confidently use a range of 2d and 3d weaving in a range of techniques and on different textiles. <p>Applying</p> <ul style="list-style-type: none"> Use a range of stitches and weaving techniques to mark make. <p>Developing</p> <ul style="list-style-type: none"> Choose appropriate cutting equipment to cut and peel a range of ingredients. Crack an egg and begin to separate yolk from white. Comparing different versions of the same dish for flavour, texture and appearance. <p>Connecting</p> <ul style="list-style-type: none"> Use a food processor or electric hand blender to combine, mash, puree and blend wet and dry ingredients. Use an electric whisk to beat an egg white. Identify how they would change a recipe to improve the food they have made. <p>Applying</p> <ul style="list-style-type: none"> Describe and design a balanced three course meal they could create using the skills and knowledge they've been taught including appropriate portion sizes for serving and presentation of dish.
	<ul style="list-style-type: none"> Use market research to inform and plan ideas. Use a range of tools including a computer to model ideas competently. Plan a sequence of work using a storyboard to show the final design of the prototype. Follow and refine plans. Explain how products should be stored and give reasons Justify plans in a convincing way. Consider culture and society in plans and designs. Test and evaluate products.