


Curriculum Narrative: Design Technology (All Saints Stibbard) 2024-25

Early Years

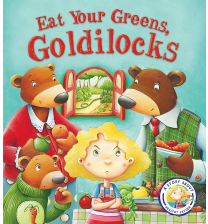
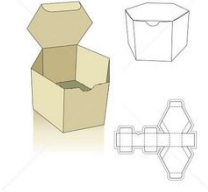

Nursery 0-3: Children will explore different materials, using all of their senses to investigate them. They will manipulate and play with different materials. Children will use their imagination as they consider what they can do with different materials. Children make simple models which express their ideas.

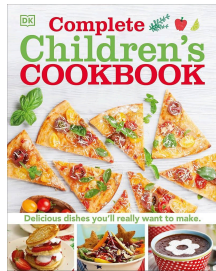
Nursery 3-4: Children will explore different materials freely, to develop their ideas about how to use them and what to make. Children will develop their own ideas and then decide which materials to use to express them. Children will join different materials and explore different textures.

<u>Design Technology in Reception</u> <u>Cherry Class</u>	Children will return to and build on their previous learning, refining ideas and developing their ability to represent them. Children will create collaboratively, sharing ideas, resources and skills.		
<p>Construction (leading to Structures) During constructive play, children use toys, loose parts or materials to build or create something new. Children build towers and cities with blocks, play in the sand or construct contraptions on the woodworking bench. Successful construction requires skills such as: planning, drawing, cutting, assembling, moulding, stacking and testing.</p>	<p>Mechanisms Design and make a moving toy incorporating two simple mechanisms (slider and pivot). Link to a class focus (for example: work on animals/ visit to the zoo, aliens, dinosaurs, puppets for a play).</p> 	<p>Textiles Children work with materials such as fabrics, wool, thread, string, felt, ribbon and cotton wool. Through experimentation and play with threads, fibres and fabrics, they begin to develop knowledge and understanding of the potential of the materials. Children will use fabric in imaginative play through den-making and tent-making or dressing up in different clothes. Children can use threading with beads and laces.</p>	<p>Cooking and Nutrition Children will explore health by looking at 'our bodies' and be introduced to the health plate. Make a birthday cake. Group to work together to make a batch of cupcakes to celebrate the birthdays each half term.</p>

DT	Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Summer 2
Year 1 Elm	<p>Construction/ leading to structures Make a paper toy</p>	<p>Structures Build a strong bridge Evaluate a range of different bridges. Learn to build and strengthen structures and how to</p>		<p>Mechanisms Make a moving vehicle Wheels and Axles</p>		<p>Cooking and Nutrition Make a fruit salad</p>

<p>Class</p>	<p>Learn to use scissors to cut along lines and cut out shapes. Evaluate a range of paper toys and learn to fold accurately to create a paper toy. Design and make a paper toy illusion</p> 	<p>join components together to create a finished product. Design and make a bridge for the Billy Goats.</p> <p>Text - The three Billy Goats Gruff</p> 	<p>Design a moon buggy to help Bob with his jobs on the Moon. Investigate how wheels move</p> <p>Text: Man on the moon</p> 	<p>Research favourite fruits Design and make a fruit salad. Evaluate product.</p> <p>Text - Oliver's Fruit salad & Oliver's Vegetables.</p> 
<p>Year 2</p> <p>Beech Class</p>	<p>Mechanisms: (5 sessions) Pulleys link to Great Fire of London</p> <p>Explore the use of pulleys in everyday uses. Use a simple pulley to lift a fire in front of a Tudor house.</p> 	<p>Textiles (4 sessions) Make a fabric keyring for bookbag</p> <p>Explore different fabrics. Sew and join fabrics using running stitch and use stitching to attach a ring for a key.</p> 	<p>Structures (3 sessions) Use strengthening techniques</p> <p>Explore the stability of different shapes and learn how to strengthen materials. Design and make a chair for baby bear.</p> <p>VOCAB: Function, Man-made, Mould, Natural, Stable, Stiff, Strong, Structure, Test, Weak, Stability</p> 	<p>Cooking and Nutrition (6 sessions) Design and make a cous-cous salad</p> <p>Use a basic principle of a healthy and varied diet to prepare dishes.</p> <p>1st Half Term, Taste and evaluate food - ie tomatoes, spring onions, cous-cous, quinoa and a range of dressings. Also test a mixed cous-cous salad.</p> <p>2nd Half Term, design and make their own healthy cous-cous salad.</p> 

<p>Year 3</p> <p>Hazel Class</p>	<p>Cooking and Nutrition (4 sessions) Design and make a healthy sandwich</p> <p>Discuss healthy foods, use the food pyramid to explain. Design, make and evaluate a healthy sandwich for a class picnic.</p> <p>VOCAB: Design, Sandwich, Evaluate, Smell, Taste, Texture</p> 	<p>Mechanisms: Pneumatic systems: (4 sessions) Make a pneumatic toy</p> <p>Investigate syringe and tube models and other pneumatic systems. Design and build a model toy/ monster which operates using a pneumatic system.</p> <p>Vocab: Pneumatic, inflatable, pressure, force, syringe.</p>	<p>Structures: (4 sessions) Free standing Gift Boxes</p> <p>Design and make purposeful, functional appealing products for themselves and others based on a design criteria. Children draw their own nets using 2D shapes learned in maths: pyramid, prism, square top pyramid, flower top, curved side, triangular side nets.</p> 	<p>Mechanisms: (6 sessions) Design and make a Pop-Up Book with a range of pop-up mechanisms.</p> <p>Practice making different pop up mechanisms and test on Reception Class - use this feedback to create ... pop up books.</p> <p>VOCAB: Rotate, Pivot, Lever, Linkage Design criteria, Critique, Evaluate, Purposeful, Functional , Strengthen, Reinforce, Mechanical</p>  <p>Any pop up book showing a range of mechanisms (lift the flap, spinning wheel, levers, pivots and pop ups) would work here. Good author Robert Sabuda.</p>
<p>Year 4</p> <p>Birch Class</p>	<p>Textiles: (4 sessions) Design and make a money holder Build on sewing skills to create a drawstring bag, suitable for holding coins.</p> <p>VOCAB: Sewing, functionality, running stitch, fabric, needles, pins, thread, draw string, seam allowance, reverse.</p>	<p>Cooking and Nutrition (6 sessions) Evaluate, design and make a healthy pizza Revise healthy foods and the food pyramid. Evaluate a range of bought pizzas. Design, make and evaluate a healthy pizza.</p> <p>VOCAB: nutrition, mixing, kneading, slicing, presentation, taste, texture</p>	<p>Electrical systems: (Control): (3 sessions) Use Makey Makey to control musical instruments</p> <p>Children learn to use control equipment (Makey Makey) and use it to make a working piano.</p>	<p>Electrical systems: (5 sessions) Design and make a torch with a working switch.</p> <p>Use a range of materials to create a torch. Torch should include a working electrical circuit and a switch to turn the torch on and off.</p>



VOCAB: Conductive material, input device, touchpads, Coding, crocodile clips, connector wires, USB cable, Earth, ground, grounded, key, non conductor.

VOCAB: reflector, circuit, switch, bulb, wires.

Year 5 and Year 6

Hawthorne and Sycamore Classes

Mechanisms:
Design and make a boat powered by elastic band mechanisms

Children will work together to investigate how the design of a boat can affect the mass it can hold and learn how a simple mechanism can be used to power a boat. They will work independently to make, test and refine their own elastic band powered boat.

VOCAB: Float, sink, force, water resistance, upthrust, cargo, paddle, oars, kinetic energy, potential energy, stabilise, test, evaluate, refine, adjust, improve

Electrical systems:
Control:
Use Makey Makey kits to time how long a ball takes to fall in a maze.

Children should build on knowledge of the control devices Makey Makey and explore how to use a scratch timer as a stopwatch. Children will be challenged to work as a small team to make a shoe box maze (using wooden scraps) that allows the ball to fall in exactly 10 seconds (or as close to it as possible).

VOCAB: Conductive material, input device, touchpads, Coding, crocodile clips, connector wires, USB cable, Earth, ground, grounded, key, non conductor, Scratch, maze.

Mechanisms&Structures:
Design and make a toy using a CAM mechanism

Children will understand the use of a CAM mechanism and explore how CAMs work before designing a 'Victorian style' toy using a working CAM mechanism. Children will make and evaluate a 'Victorian style' toy using a working CAM mechanism.

VOCAB: Mechanical, cam (round, egg, ellipse, eccentric, hexagonal, snail, pear), friction drive, follower, slider, handle, phase, 10mm wood, 5mm dowel, strengthen, support, clamp, bench hook, hacksaw, drill, drill bit, tubing, audience.

Cooking and Nutrition
Bombay potatoes

Children test and evaluate a range of bombay potato dishes and spices. Compare recipes. Design and make own version of bombay potatoes

Skills Progression

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Design	Selects appropriate resources and adapts work where necessary.	Explore and investigate existing products. <ul style="list-style-type: none"> • Draw on their own experience to help generate ideas • Suggest ideas and explain what they are going to do • Talk about their design as they develop and identify good and bad points • Note changes made during the making process as annotation to plans/drawings. 	Generate ideas by drawing on their own and other people's experiences <ul style="list-style-type: none"> • Develop their design ideas through discussion, observation, drawing and modelling • Identify a purpose for what they intend to design and make • Identify simple design criteria • Make simple drawings and label parts 	Generate ideas for an item, considering its purpose and the user/s <ul style="list-style-type: none"> • Identify a purpose and establish criteria for a successful product. • Plan the order of their work before starting • Explore, develop and communicate design proposals by modelling ideas • Make drawings with labels when designing 	Generate ideas, considering the purposes for which they are designing <ul style="list-style-type: none"> • Make labelled drawings from different views showing specific features • Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making, if the first attempts fail • Evaluate products and identify criteria that can be used for their own designs 	Generate ideas through brainstorming and identify a purpose for their product <ul style="list-style-type: none"> • Draw up a specification for their design • Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making if the first attempts fail • Use results of investigations, information sources, including ICT when developing design ideas 	Communicate their ideas through detailed labelled drawings <ul style="list-style-type: none"> • Develop a design specification • Explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of ways • Plan the order of their work, choosing appropriate materials, tools and techniques
Make	-Selects tools and techniques needed to shape, assemble and join materials they are using. -Constructs with a purpose in mind, using a variety of resources. -Uses simple tools and techniques competently and appropriately.	Make their design using appropriate techniques <ul style="list-style-type: none"> • With help measure, mark out, cut and shape a range of materials. • Use tools eg scissors and a hole punch safely • Assemble, join and combine materials and components together. • Select and use 	Begin to select tools and materials; use vocab' to name and describe them <ul style="list-style-type: none"> • Measure, cut and score with some accuracy • Use hand tools safely and appropriately • Assemble, join and combine materials in order to make a product 	<ul style="list-style-type: none"> • Select tools and techniques for making their product • Measure, mark out, cut, score and assemble components with more accuracy • Work safely and accurately with a range of simple tools • Think about their ideas as they make 	Select appropriate tools and techniques for making their product <ul style="list-style-type: none"> • Measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques • Join and combine materials and components accurately in 	Select appropriate materials, tools and techniques <ul style="list-style-type: none"> • Measure and mark out accurately • Use skills in using different tools and equipment safely and accurately • Weigh and measure accurately (time, dry ingredients, liquids) • Apply the rules for 	Select appropriate tools, materials, components and techniques <ul style="list-style-type: none"> • Assemble components make working models • Use tools safely and accurately • Construct products using permanent joining techniques • Make

		<p>appropriate fruit and vegetables, processes and tools</p> <ul style="list-style-type: none"> • Use basic food handling, hygienic practices and personal hygiene • Use simple finishing techniques to improve the appearance of their product. 	<ul style="list-style-type: none"> • Cut, shape and join fabric to make a simple garment. <p>Use basic sewing techniques</p> <ul style="list-style-type: none"> • Follow safe procedures for food safety and hygiene • Choose and use appropriate finishing techniques 	<p>progress and be willing to change things if this helps them improve their work. Measure, tape or pin, cut and join fabric with some accuracy</p> <ul style="list-style-type: none"> • Demonstrate hygienic food preparation and storage • Use finishing techniques strengthen and improve the appearance of their product using ICT 	<p>temporary and permanent ways</p> <ul style="list-style-type: none"> • Sew using a range of different stitches • Measure, tape or pin, cut and join fabric with some accuracy. • Use simple graphical communication techniques 	<p>basic food hygiene and other safe practices e.g. hazards relating to the use of ovens</p> <ul style="list-style-type: none"> • Cut and join with accuracy to ensure a good-quality finish to the product 	<p>modifications as they go along</p> <ul style="list-style-type: none"> • Pin, sew and stitch materials together create a product • Achieve a quality product
Evaluate	Adapts work where necessary	<ul style="list-style-type: none"> • Evaluate their product by discussing how well it works in relation to the purpose and attempting to say why. • Evaluate their product by asking questions about what they have made and how they have gone about it. 	<p>Evaluate against their design criteria</p> <ul style="list-style-type: none"> • Evaluate their products as they are developed, identifying strengths and possible changes they might make • Talk about their ideas, saying what they like and dislike about them 	<ul style="list-style-type: none"> • Evaluate their product against original design criteria e.g. how well it meets its intended purpose • Disassemble and evaluate familiar products 	<p>Evaluate their work both during and at the end of the assignment</p> <ul style="list-style-type: none"> • Evaluate their products carrying out appropriate tests 	<p>Evaluate a product against the original design specification</p> <ul style="list-style-type: none"> • Evaluate it personally and seek evaluation from others 	<p>Evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests</p> <ul style="list-style-type: none"> • Record their evaluations using drawings with labels • Evaluate and suggest ways that their product could be improved