

St John & St James' C of E Primary School

Design and Technology Skills Progression Map



	Autumn 2 STEAM – construction focus	Spring 2 STEAM – food focus	Summer 2 STEAM – textiles focus
Year 1	<p>Science unit: Everyday Materials To build a bridge Key designer: Norman Foster</p>	<p>Science unit: Animals including humans (parts of body & senses) To make a fruit salad Key chef: Ainsley Harriott</p>	<p>Science unit: Animals including humans (classification of animals) To make tie-dye fashion Key designer: Michael Fowler</p>
	<p>Research Draw on their own experience to help generate ideas. Research existing structures.</p> <p>Plan Communicate ideas through talking, drawing, templates and mock-ups.</p> <p>Make Make design using appropriate techniques. With help, measure, mark out and cut shapes. Use tools, eg. scissors Assemble, join and combine materials together using a variety of temporary methods, eg. glue, masking tape</p> <p>Evaluate Evaluate bridge based on the design criteria</p> <p>Technical knowledge Develop techniques for how freestanding structures can be made stronger, stiffer and more stable</p>	<p>Research Research fruit and vegetables in terms of the five senses Generate ideas by drawing on their own experiences.</p> <p>Plan Use basic principle of a healthy diet to prepare dish</p> <p>Make Cut and peel ingredients safely and hygienically Measure or weigh using scales Assemble ingredients Prepare simple dishes safely and hygienically, without using a heat source</p> <p>Evaluate Evaluate fruits salad in relation to the 5 senses</p> <p>Food and nutritional knowledge That everyone should eat at least five portions of fruit and vegetables every day</p>	<p>Research Use simple design criteria to help develop their ideas. Use knowledge of existing products to help come up with ideas.</p> <p>Plan Develop and communicate ideas by talking and drawing Select from a range of tools and equipment. Plan by suggesting what to do next.</p> <p>Make To manipulate fabric appearance</p> <p>Evaluate Make simple judgements about their products and ideas against design criteria Suggest how their products could be improved</p> <p>Technical knowledge Use elastic bands to manipulate dyes and form different tie-dye effects</p>
Year 2	<p>Science unit: Plants To construct a model garden Key designer: Shigemori Mirei</p>	<p>Science unit: Animals including humans To make a pizza Key chef: Jamie Oliver</p>	<p>Science unit: Use of everyday materials To weave a bookmark Key designer: Terra Fuller</p>
	<p>Research Say whether their products are for themselves or other users Describe what their products are for</p> <p>Plan Design an appealing garden using ideas from artist such Monet & Japanese art showing tranquil garden scenes.</p>	<p>Research Research existing products.</p> <p>Plan Communicate their ideas, saying what they like and dislike about them. Make a labelled diagram of their product.</p>	<p>Research Use knowledge of existing products to help come up with ideas Say how they will make their products suitable for their intended users</p> <p>Plan</p>

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	<p>Select from and use arrange of tools and equipment to perform practical tasks Select and use a wide range of materials according to their characteristics</p> <p>Make Make a garden refining the design as work progresses Demonstrate a range of cutting & shaping techniques such as tearing, cutting, folding & curling</p> <p>Evaluate Evaluate their products as they are developed, identifying strengths and possible changes they might make</p> <p>Technical knowledge Cutting and folding card accurately.</p>	<p>Make Cut, peel and grate ingredients safely and hygienically. Measure or weigh using scales and cups. Assemble and cook ingredients.</p> <p>Evaluate Evaluate their products as they are developed, Identify strengths and possible changes they might make.</p> <p>Food and nutritional knowledge Understand where food comes from.</p>	<p>Select from a range of materials and components according to their characteristics Select from a range of tools and equipment, explaining their choices</p> <p>Make Use plan to influence design and combine materials and components Use finishing techniques, including those from art and design</p> <p>Evaluate Make simple judgements about their products and ideas against design criteria</p> <p>Technical knowledge Use a running stitch through pre-punched holes in a binka</p>
Year 3	<p>Science unit: Forces and magnets To design a magnetic maze Key designer: Sid Meier</p>	<p>Science unit: Animals including humans To make a sandwich snack Key chef: Juliet Sear</p>	<p>Science unit: Light To make shadow puppets Key designer: Michael Curry</p>
	<p>Research Generate ideas based on existing products Identify a purpose and establish criteria for a successful product</p> <p>Plan Explore, develop and communicate design proposals by modelling ideas Make drawings with labels when designing</p> <p>Make Measure, mark out, cut, score and assemble components with more accuracy Explore, develop and communicate design proposals by modelling ideas</p>	<p>Research Research existing products.</p> <p>Plan Improve on existing designs giving reasons for choices. Identify tools needed Write a simple recipe</p> <p>Make Prepare ingredients hygienically. Measures ingredients accurately. Cook ingredients controlling the temperature of the hob or oven.</p> <p>Evaluate Use their design criteria to evaluate their completed</p>	<p>Research Generate ideas for an item, considering its purpose and the user Establish criteria for a successful product.</p> <p>Plan Plan the order of their work before starting. Make drawings with labels when designing.</p> <p>Make Make a 3-D textiles product can be assembled from two identical fabric shapes (with pre-punched holes) Join fabrics using a running stitch. Think about their ideas as they make progress and be willing change things if this helps them improve</p>

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	<p>Evaluate Use their design criteria to evaluate their completed products. Identify the strengths and areas for development in their ideas and products.</p> <p>Technical knowledge Cutting, joining and assembling a range of construction materials.</p>	<p>products.</p> <p>Food and nutritional knowledge Understand the seasonality of fruit and vegetables</p>	<p>Evaluate Evaluate their product against original design criteria</p> <p>Technical knowledge Use finishing technique of sewing on a button</p>
Year 4	<p>Science unit: Electricity To create an electronic game Key designer: Carol Shaw</p>	<p>Science unit: States of Matter To bake bread Key baker: Nadia Hussain</p>	<p>Science unit: Living Things and their Habitats To applique animals in habitats around the world on a map Key designer: Frances Pickering</p>
	<p>Research Generate ideas based on existing products Identify a purpose and establish criteria for a successful product</p> <p>Plan Dissemble product to understand how they work Plan the order of their work before starting Explore, develop and communicate design proposals by modelling ideas Make drawings with labels when designing</p> <p>Make Measure, mark out, cut, score and assemble components with more accuracy Be willing change things if this helps them improve their work</p> <p>Evaluate Use their design criteria to evaluate their completed products. Identify the strengths and areas for development in their ideas and products.</p> <p>Technical knowledge Make a simple circuit using electrical components</p>	<p>Research Investigate similar products to the one to be made to give starting points for a design.</p> <p>Plan Identify tools needed Write a simple recipe Draw/sketch products to help analyse and understand how products are made.</p> <p>Make Prepare bread using the 'kneading' technique. Measure ingredients to the nearest gram accurate. Assemble and cook ingredients controlling the temperature of the oven or hob. Refine working techniques as the work progresses.</p> <p>Evaluate Use their design criteria to evaluate their completed products.</p> <p>Food and nutritional knowledge Understand the principals of a healthy and varied diet.</p>	<p>Research Use the work of a designer to influence ideas Develop their own design criteria and use these to inform their ideas</p> <p>Plan Order the main stages of making explaining the choice of equipment and materials.</p> <p>Make Measure, mark out, cut and shape materials and components with some accuracy Refer to their design criteria as they design and make</p> <p>Evaluate Use their design criteria to evaluate their completed products</p> <p>Technical knowledge Use applique technique</p>
Year 5	<p>Science unit: Forces</p>	<p>Science unit: Properties and changes</p>	<p>Sustainability curriculum link: fast vs slow fashion</p>

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	<p>To make a moving, wooden toy Key designer: Frederick Savage</p> <p>Research Examine existing products and generate ideas through brainstorming and identify a purpose for their product. Create a design criteria</p> <p>Plan 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. Select appropriate materials, tools and techniques.</p> <p>Make Use skills in using different tools and equipment safely and accurately. Cut and join with accuracy to ensure a good-quality product. Ensure products have a high quality finish using art skills where appropriate</p> <p>Evaluate Evaluate a product against the original design specification. Evaluate it personally and seek evaluation from others.</p> <p>Technical knowledge Use levers and pulleys</p>	<p>To make biscuits Key baker: Mary Berry</p> <p>Research Carry out research, using surveys, interviews, questionnaires and web-based resources</p> <p>Plan Write a recipe with detailed steps including tools to be used. Calculate ratio of ingredients to scale up or down from a recipe.</p> <p>Make Prepare a sweet treat using a range of cooking techniques. Refine recipes including ingredients, methods, cooking times and temperatures. Demonstrate a range of baking and cooking techniques.</p> <p>Evaluate Critically evaluate the design of the product and suggest improvements for the user.</p> <p>Food and nutritional knowledge Understand the correct handling and storage of ingredients.</p>	<p>To sew a hem on a scarf Key designer: Laura Ashley</p> <p>Research Generate innovative ideas, drawing on research.</p> <p>Plan Formulate step-by-step plans as a guide to making.</p> <p>Make Roll a seam Pin and tack fabric pieces together Accurately assemble, join and combine materials and components Accurately apply a range of finishing techniques, including those from art and design</p> <p>Evaluate Evaluate a product against the original design specification Evaluate it personally and seek evaluation from others</p> <p>Technical knowledge Join fabrics using over sewing and back stitch.</p>
Year 6	<p>Science unit: Light To make a periscope suitable for a WW2 submarine. Key designer: Jules Carpentier</p> <p>Research Examine existing products and generate ideas through brainstorming and identify a purpose for their product. Create a design criteria</p> <p>Plan 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.</p>	<p>Science unit: Animals including humans To make a pastry snack Key baker: Madhur Jaffrey</p> <p>Research Investigate similar products to the one to be made to give starting points for a design.</p> <p>Plan Write a recipe with detailed steps including tools to be used and explaining why. Measure accurately and calculate ratio of ingredients to scale up or down from a recipe.</p>	<p>Sustainability curriculum link: fast vs slow fashion To make a fabric face mask from recycled fabric Key designer: Chelsea Klunkas</p> <p>Research Use the work of a designer to influence ideas</p> <p>Plan Produce appropriate lists of tools, equipment and materials that they need Formulate step-by-step plans as a guide to making Pin and tack fabric pieces together</p>

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<p>Select appropriate materials, tools and techniques.</p> <p>Make Use skills in using different tools and equipment safely and accurately. Cut and join with accuracy to ensure a good-quality product. Ensure products have a high quality finish using art skills where appropriate</p> <p>Evaluate Evaluate a product against the original design specification. Evaluate it personally and seek evaluation from others.</p> <p>Technical knowledge Using a Stanley knife to cut accurately and carefully</p>	<p>Make Prepare a pastry dish using the 'rubbing' technique. Create and refine recipes including ingredients, methods, cooking times and temperatures.</p> <p>Evaluate Critically evaluate the design of the product and suggest improvements for the user.</p> <p>Food and nutritional knowledge Understand the correct handling and storage of ingredients.</p>	<p>Make Accurately assemble, join and combine materials and components Join fabrics using over sewing, back stitch and running stitch to secure elastic into the product.</p> <p>Evaluate Critically evaluate a product against the original design specification.</p> <p>Technical knowledge Use a range of sewing techniques to secure elastic securely.</p>
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