

## Design & Technology progression map (EYFS to Year 6) Jesse Gray

Using creativity and imagination, children design and make products to solve relevant, real-life problems, within a variety of contexts and considering their own and others' needs, wants and values. Children learn to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. They build and are able to apply a repertoire of knowledge, understanding and skills to design and make high-quality prototypes and products for a range of users. They can critique, evaluate and test ideas and products, both their own and the work of others'. They understand the principles of nutrition, how to apply them and how to cook.

At Jesse Gray, for all year groups, the suggested tasks are just that, suggestions. The skills must be taught repeatedly in order to build up children's' confidence, problem solving and understand the evaluative process.

The emphasis is on investigating, taking part in focussed practical tasks with a specific skill being improved upon, evaluating it and then having another opportunity at it.

Each year group has new things that need to be taught, however the previous year group skills should be built upon and incorporated into overall projects.

YEAR	TERM				
	AUTUMN		SPRING		SUMMER
<b>EYFS</b>	Throughout EYFS, DT is taught through the area of 'Expressive Arts and Design' and is closely linked with Art, Music, Movement, Dance and Role-Play. To achieve the Early Learning Goal at the end of Foundation Stage, children need to show that they can: <ul style="list-style-type: none"> <li>• Develop their own ideas through selecting and using materials</li> <li>• Work on processes that interest them</li> <li>• Through their explorations, find out and make decisions about how media and materials can be combined and changed.</li> <li>• Talk about their ideas and processes, which have led them to make designs, images or products.</li> <li>• Talk about the features of their own and others' work, recognising strengths and differences between them.</li> </ul>				
	<b>Design</b>	<b>Make</b>	<b>Evaluate</b>	<b>Technical knowledge</b>	<b>Cooking and nutrition</b>
<b>KS1 National Curriculum coverage</b>	design purposeful, functional, appealing products for themselves and other users 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 [for example, cutting, shaping, joining and finishing]  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	build structures, exploring how they can be made stronger, stiffer and more stable  explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.	use the basic principles of a healthy and varied diet to prepare dishes  understand where food comes from.
<b>Year 1</b>	Work within a range of contexts (e.g. imaginary, school, home). State what products they're designing / making by talking and drawing. Explain who their products are for. Use simple design criteria to develop their ideas. Select from and use a range of tools and equipment. Select from and use a wide range of materials, according to their characteristics. Follow procedures for safety and hygiene. To perform measuring, marking, cutting and shaping. To assemble, join and finish components. To use sliders and levers in a simple mechanism. To create and understand				

	freestanding structures and how to make them more stable.		
<b>1</b>	<p><u>Suggested task idea:</u> Moving pictures - sliders</p> <p><u>Design</u></p> <ul style="list-style-type: none"> <li>• Make simple plans before making projects.</li> </ul> <p><u>Make</u></p> <ul style="list-style-type: none"> <li>• Select appropriate resources and tools for their projects.</li> </ul> <p><u>Technical knowledge: Mechanisms</u></p> <ul style="list-style-type: none"> <li>• Make a product which moves - using a slider and/or lever</li> </ul> <p><u>Evaluate</u></p> <ul style="list-style-type: none"> <li>• Explain what went well with their work.</li> </ul>	<p><u>Suggested task idea:</u> Fruit salad</p> <p><u>Cooking and nutrition</u></p> <ul style="list-style-type: none"> <li>• Cut food safely.</li> </ul> <p><u>Make</u></p> <ul style="list-style-type: none"> <li>• Select appropriate resources and tools for their projects.</li> </ul> <p><u>Evaluate</u></p> <ul style="list-style-type: none"> <li>• Explain what went well with their work.</li> </ul>	<p><u>Suggested task idea:</u> Homes / buildings</p> <p><u>Design</u></p> <ul style="list-style-type: none"> <li>• Explain to others about how they want to make something.</li> <li>• Make simple plans before making projects.</li> </ul> <p><u>Make</u></p> <ul style="list-style-type: none"> <li>• Select appropriate resources and tools for their projects.</li> </ul> <p><u>Technical knowledge: Structures</u></p> <ul style="list-style-type: none"> <li>• Make their model stronger, stiffer and more stable.</li> </ul> <p><u>Evaluate</u></p> <ul style="list-style-type: none"> <li>• Explain what went well with their work.</li> </ul>
<b>Year 2</b>	<p><u>As Year 1, but also:</u> Say how they will make their products suitable for an intended user. Explore and model ideas by exploring materials, kits, templates and mock-ups. Explore who products are for. Plan by suggesting what to do next. Include mechanical components (wheels / axles). Use finishing techniques, including those from Art. Know that a 3D textile project can be assembled using 2 identical fabric templates. Know the correct technical vocabulary for the projects they're undertaking.</p>		
<b>2</b>	<p><u>Suggested task idea:</u> Making a moving vehicle</p> <p><u>Design</u></p> <ul style="list-style-type: none"> <li>• Think of their own ideas when designing, thinking what its use will be.</li> <li>• Explain who their product will be for during their design.</li> </ul> <p><u>Make</u></p> <ul style="list-style-type: none"> <li>• Select and use safely a range of tools [measuring, cutting, shaping].</li> </ul> <p><u>Technical knowledge: Mechanisms</u></p> <ul style="list-style-type: none"> <li>• Make a product which moves – using wheels and axles</li> </ul> <p><u>Evaluate</u></p> <ul style="list-style-type: none"> <li>• Investigate and evaluate a range of existing products.</li> <li>• Explain what went well and</li> </ul>	<p><u>Suggested task idea:</u> Healthy snacks</p> <p><u>Design</u></p> <ul style="list-style-type: none"> <li>• Think of their own ideas when designing, thinking what its use will be.</li> <li>• Explain who their product will be for during their design.</li> </ul> <p><u>Cooking and nutrition</u></p> <ul style="list-style-type: none"> <li>• Cut food safely and make a range of simple dishes, without using a heat source.</li> <li>• Describe the properties of the ingredients they are using (Eatwell plate)</li> </ul>	<p><u>Suggested task idea:</u> Hand puppet</p> <p><u>Design</u></p> <ul style="list-style-type: none"> <li>• Think of their own ideas when designing, thinking what its use will be.</li> <li>• Explain who their product will be for during their design.</li> </ul> <p><u>Make</u></p> <ul style="list-style-type: none"> <li>• Join materials / components together in different ways (textiles).</li> <li>• Select and use safely a range of tools [measuring, cutting, shaping].</li> </ul> <p><u>Evaluate</u></p> <ul style="list-style-type: none"> <li>• Explain what went well and</li> </ul>

	what they would change.				what they would change.
	Design	Make	Evaluate	Technical knowledge	Cooking and nutrition
KS1 National Curriculum coverage	<p>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</p> <p>Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p>	<p>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</p> <p>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</p>	<p>investigate and analyse a range of existing products</p> <p>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>Understand how key events and individuals in design and technology have helped shape the world</p>	<p>apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p> <p>Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</p> <p>Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</p> <p>Apply their understanding of computing to program, monitor and control their products.</p>	<p>understand and apply the principles of a healthy and varied diet</p> <p>prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</p> <p>understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</p>
<b>Year 3</b>	<p><u>As Year 2, but also:</u></p> <p>Work confidently within a range of contexts, including leisure, culture, industry and the wider environment. Describe the purpose of their product. Indicate design features that will appeal to intended users. Generate realistic ideas, focussed on the needs of the user. Explain how particular parts of their product will work. Select tools, equipment, materials and components suitable for the task. Measure, mark, cut, shape, assemble, join and combine materials with some accuracy. Explore how well products have been designed, made and which methods of construction have been used. Know about relevant inventors, designers, engineers and chefs. Understand that mechanical systems have an input, process and output. Know how mechanical systems create movement, Know that all fresh food is either grown, reared or caught. Know that a diet is healthy when it is made up from a variety and balance of food and drink.</p>				
<b>3</b>	<p><u>Suggested task idea:</u></p> <p>Investigating pulleys</p> <p>Pop up storybook: Levers &amp; linkages</p> <p><u>Design</u></p> <ul style="list-style-type: none"> <li>• Generate their ideas through discussion.</li> <li>• Use annotated sketches to</li> </ul>	<p><u>Suggested task idea:</u></p> <p>Create a healthy pizza</p> <p><u>Cooking and nutrition</u></p> <ul style="list-style-type: none"> <li>• Begin to practise using a variety of cooking techniques: Know how to peel, chop, slice &amp; grate /</li> </ul>	<p><u>Suggested task idea:</u></p> <p>Quilting / textile patch</p> <p><u>Design</u></p> <ul style="list-style-type: none"> <li>• Generate their ideas through discussion.</li> </ul> <p><u>Make</u></p> <ul style="list-style-type: none"> <li>• Use tools safely to cut,</li> </ul>		

	<p>aid their designs.</p> <p><u>Technical knowledge: Mechanisms</u></p> <ul style="list-style-type: none"> <li>• Make a product that moves – pulleys and gears</li> <li>• Make a product that moves levers and linkages</li> <li>• Understand how the input and output mechanisms are related.</li> </ul> <p><u>Evaluate</u></p> <ul style="list-style-type: none"> <li>• Explain what went well and what they would change, against their design criteria.</li> </ul>	<p>mix &amp; spread / knead &amp; bake.</p> <ul style="list-style-type: none"> <li>• Understand seasonality and how this affects food available.</li> </ul> <p><u>Evaluate</u></p> <ul style="list-style-type: none"> <li>• Explain what went well and what they would change, against their design criteria.</li> </ul>	<p>shape and join.</p> <ul style="list-style-type: none"> <li>• Measure carefully so as to make sure they have not made mistakes</li> <li>• Select materials according to their function.</li> </ul> <p><u>Evaluate</u></p> <ul style="list-style-type: none"> <li>• Explain what went well and what they would change, against their design criteria.</li> </ul>
<b>Year 4</b>	<p><u>As Year 3, but also:</u></p> <p>Gather information about the needs and wants of individuals and groups. Develop their own design criteria and use this to inform their ideas. Use annotated sketches develop and communicate ideas. Use computer aided design to develop and communicate ideas. Make design decisions that take into account resource availability. Explain their choice of tools and equipment in relation to the skills and techniques they will be using. Understand that electrical systems have an input, process and output. Know how simple electrical circuits can be used to create functional properties. Know how to make strong, stiff, shell structures. Know the correct vocabulary for the projects they're undertaking. Know that food ingredients can be fresh, pre-cooked and processed. Explore how well products meet user needs. Apply their learning from mathematics and science to help design and make products that work.</p>		
<b>4</b>	<p><u>Suggested task idea:</u></p> <p>Bridges</p> <p><u>Design</u></p> <ul style="list-style-type: none"> <li>• Use research to help develop their designs.</li> <li>• Use annotated sketches to show their product / materials.</li> </ul> <p><u>Technical knowledge: Structures</u></p> <ul style="list-style-type: none"> <li>• Understand how to reinforce more complex structures.</li> </ul> <p><u>Evaluate</u></p> <ul style="list-style-type: none"> <li>• Explain their products against their own design criteria and consider the views of others to improve their work.</li> </ul>	<p><u>Suggested task idea:</u></p> <p>Cooking local produce</p> <p><u>Design</u></p> <ul style="list-style-type: none"> <li>• Use research to help develop their designs.</li> <li>• Design a functional product, aimed at a particular group / individual.</li> </ul> <p><u>Cooking and nutrition</u></p> <ul style="list-style-type: none"> <li>• Practise using a variety of cooking techniques: Know how to peel, chop, slice &amp; grate / mix &amp; spread / knead &amp; bake.</li> </ul> <p><u>Evaluate</u></p> <ul style="list-style-type: none"> <li>• Explain their products against their own design criteria and consider the views of others to improve their work.</li> </ul>	<p><u>Suggested task idea:</u></p> <p>Electrical system</p> <p><u>Design</u></p> <ul style="list-style-type: none"> <li>• Use research to help develop their designs.</li> <li>• Use annotated sketches to show their product / materials.</li> </ul> <p><u>Make</u></p> <ul style="list-style-type: none"> <li>• Measure carefully so as to make sure they have not made mistakes</li> </ul> <p><u>Technical knowledge: Electronics</u></p> <ul style="list-style-type: none"> <li>• Use electrical systems in a working product.</li> <li>• Understand the process that causes input devices to control output devices.</li> </ul> <p><u>Evaluate</u></p> <ul style="list-style-type: none"> <li>• Explain their products against their own design criteria and consider the views of others to improve their work.</li> </ul>
<b>Year 5</b>	<p><u>As Year 4, but also:</u></p> <p>Describe the purpose of their product and highlight the design features that will appeal to intended users. Carry out</p>		

	<p>research using surveys, interviews and web based resources. Identify the needs, wants and preferences of individuals and groups. Create pattern pieces, prototypes, annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate ideas. Generate innovative ideas, drawing on research. Explain their choice of materials and components according to functional properties and aesthetic qualities. Measure, mark, cut, shape, assemble, join and combine materials with accuracy. Know that a 3D textile product can be made from a combination of fabric shapes. Know how mechanical systems such as cams, pulleys or gears create movement. Know that a recipe can be adapted by adding / substituting ingredients. Demonstrate resourcefulness when tackling practical problems. Critically evaluate the quality of design, manufacture and fitness for purpose of their product.</p>		
<b>5</b>	<p><u>Suggested task idea:</u> Bags (Textiles)</p> <p><u>Design</u></p> <ul style="list-style-type: none"> <li>• Explain how their product will appeal to the audience</li> <li>• Use cross-sectional and exploded diagrams.</li> <li>• Make up a prototype first based on plans.</li> </ul> <p><u>Make</u></p> <ul style="list-style-type: none"> <li>• Ensure their measurements are accurate enough to enable everything to be precise.</li> <li>• Explain their choice of tools and equipment in relation to the skills and techniques they will be using</li> </ul> <p><u>Evaluate</u></p> <ul style="list-style-type: none"> <li>• Evaluate appearance and function.</li> <li>• Test their product appropriately.</li> </ul>	<p><u>Suggested task idea:</u> Food</p> <p><u>Design</u></p> <ul style="list-style-type: none"> <li>• Explain how their product will appeal to the audience</li> </ul> <p><u>Cooking and nutrition</u></p> <ul style="list-style-type: none"> <li>• Use a variety of cooking techniques: Know how to peel, chop, slice &amp; grate / mix &amp; spread / knead &amp; bake.</li> <li>• know whether food has been grown, reared or caught.</li> </ul> <p><u>Evaluate</u></p> <ul style="list-style-type: none"> <li>• Evaluate appearance and function.</li> </ul>	<p><u>Suggested task idea:</u> A cam toy (woodwork)</p> <p><u>Design</u></p> <ul style="list-style-type: none"> <li>• Consider culture and society in their designs</li> </ul> <p><u>Technical knowledge: Mechanisms</u></p> <ul style="list-style-type: none"> <li>• Understand and use related components that make up mechanical systems - Cams</li> </ul> <p><u>Make</u></p> <ul style="list-style-type: none"> <li>• Use a range of tools and equipment expertly.</li> <li>• Ensure their measurements are accurate enough to enable everything to be precise.</li> <li>• Explain their choice of tools and equipment in relation to the skills and techniques they will be using</li> </ul> <p><u>Evaluate</u></p> <ul style="list-style-type: none"> <li>• Evaluate appearance and function.</li> <li>• Test their product appropriately.</li> </ul>
<b>Year 6</b>	<p><u>As Year 5, but also:</u> Formulate detailed step by step plans as a guide to making. Know how more complex electrical circuits can be used to create functional properties. Investigate and analyse products' costs, innovativeness, sustainability and impact beyond intended purpose. Know how to program a computer to control their product. Evaluate their ideas and products against their original design specification.</p>		
<b>6</b>	<p><u>Suggested task idea:</u> Stir fry (based on Shang Dynasty)</p> <p><u>Design</u></p> <ul style="list-style-type: none"> <li>• Use market research to inform plans</li> <li>• Consider culture and society in their designs.</li> </ul> <p><u>Cooking and nutrition</u></p>	<p><u>Suggested task idea:</u> Moving toys / Fairground, including electrical circuits, as part of a structure</p> <p><u>Make</u></p> <ul style="list-style-type: none"> <li>• Refine and improve their products.</li> <li>• Ensure their measurements are accurate enough to</li> </ul>	<p><u>Suggested task ideas:</u> Programming – Milk carton robot</p> <p><u>Technical knowledge: Programming</u></p> <ul style="list-style-type: none"> <li>• Program, monitor and control their products</li> </ul> <p><u>Evaluate</u></p> <ul style="list-style-type: none"> <li>• Evaluate their product,</li> </ul>

	<ul style="list-style-type: none"> <li>• Use a variety of cooking techniques: Know how to peel, chop, slice &amp; grate / mix &amp; spread / knead &amp; bake.</li> <li>• Understand seasonality and how this affects food available.</li> </ul> <p><u>Evaluate</u></p> <ul style="list-style-type: none"> <li>• Evaluate their product, thinking of both appearance and the way it works.</li> </ul>	<p>enable everything to be precise.</p> <p><u>Technical knowledge: Electronics</u></p> <ul style="list-style-type: none"> <li>• Use electrical systems in a working product.</li> </ul> <p><u>Technical knowledge: Structures</u></p> <ul style="list-style-type: none"> <li>• Apply their understanding of how to strengthen, stiffen and reinforce more complex structures</li> </ul> <p><u>Evaluate</u></p> <p>Evaluate their product, thinking of both appearance and the way it works.</p>	<p>thinking of both appearance and the way it works.</p>
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