

Subject Lead Progression Maps

The Subject Progression Maps outline the content that is taught in each subject within our Inspire Curriculum. They provide clear progression and sequencing within individual subjects for each year group. The knowledge and skills have been mapped out to ensure previous learning is built upon progressively each year.

Design and Technology Progression Map		
Topic	Year Group	Content
Design	Year 1	<ul style="list-style-type: none">• Identify the key features of an existing product• Generate some ideas of their own• Plan an outcome through pictures with labels• Explain their ideas orally
	Year 2	<ul style="list-style-type: none">• Generate ideas through comparing existing products• Plan an innovative product• Identify appropriate tools and materials and explain their choices

Design and Technology Progression Map		
Topic	Year Group	Content
		<ul style="list-style-type: none"> Describe their design by using pictures, diagrams and words
	Year 3	<ul style="list-style-type: none"> Plan and design using accurate diagrams and labels Identify and plan the equipment/ tools needed and give reasons why Order the main stages of making their product Identify a design criteria and establish a purpose/ audience for their product Create realistic plans e.g. what tools, equipment, materials and components they will use
	Year 4	<ul style="list-style-type: none"> Plan and design using accurate diagrams and labels and to be able to give fluent explanations of their choices of materials Create a final design for their product based on initial ideas, research and revisions, based on existing ideas Create a detailed plan considering their target audience, design criteria and intended purpose
	Year 5	<ul style="list-style-type: none"> Identify their target audience and use this to generate ideas Take a user's view into account when designing Produce a detailed step-by-step plan for their design method Suggest some alternative designs and compare the benefits and drawbacks to inform the design process and outcome
	Year 6	<ul style="list-style-type: none"> Apply a range of information to inform their design Carry out market research to inform plans e.g. surveys, interviews, questionnaires and using internet resources Develop design specifications while working within constraints e.g. time, resources and costs Justify their plan to someone else and communicate their design ideas using annotated sketches, ICT and other methods Consider culture and society in their designs Consider the use of the product when selecting materials Research how their product could be marketed through packaging and advertising
Make	Year 1	<ul style="list-style-type: none"> Explain what they are making Select appropriate resources and tools Explain which tools they are using and why Use tools safely
	Year 2	<ul style="list-style-type: none"> Join materials and components together in different ways Measure materials to use in a model or structure Use joining, folding or rolling to make it stronger
	Year 3	<ul style="list-style-type: none"> Use equipment and tools accurately and safely Select the most appropriate materials, tools and techniques to use Manipulate materials using a range of tools and equipment Measure, cut and assemble with increasing accuracy
	Year 4	<ul style="list-style-type: none"> Use equipment and tools with increased accuracy and safety

Design and Technology Progression Map		
Topic	Year Group	Content
		<ul style="list-style-type: none"> Select the most effective materials, tools and techniques to use Manipulate materials effectively and accurately using a range of tools and equipment Measure, cut and assemble accurately explaining the process verbally
	Year 5	<ul style="list-style-type: none"> Choose appropriate tools and materials to ensure that the final product will appeal to the audience Utilise a range of tools and equipment with good accuracy and effectiveness within established safety parameters
	Year 6	<ul style="list-style-type: none"> Choose appropriate tools and materials to ensure that the final product will appeal to the audience Utilise a range of tools and equipment with good accuracy and effectiveness, within established safety parameters Identify and begin to explore specialist tools, techniques and processes
Evaluate	Year 1	<ul style="list-style-type: none"> Describe how their product works Identify successes and next steps
	Year 2	<ul style="list-style-type: none"> Assess how well their product works Explain what they would change if they were going to make their product again
	Year 3	<ul style="list-style-type: none"> Think about their ideas as they make progress and be willing to make changes if this helps them to improve their work Assess how well their product works in relation to the purpose Explain how they could change their design to make it better
	Year 4	<ul style="list-style-type: none"> Think about their ideas as they progress and alter the design to make improvements Assess how well their product works in relation to the design criteria and the intended purpose Explain how they could improve their design and how their improvement would affect the original outcome
	Year 5	<ul style="list-style-type: none"> Continuously check that their design is effective and fit for purpose Assess how well their product works in relation to the design criteria and the intended purpose and suggest improvements Evaluate appearance and function against the original design criteria
	Year 6	<ul style="list-style-type: none"> Test and evaluate their final product Explain why it is fit for purpose Explore if different resources could have improved their product, explaining what it would have improved Research and explore what information they would need to make improvements Ensure their product meets all design criteria and explain why it does Identify and understand the impact the product has on individuals, society and the environment
Mechanical Components	Year 1	<ul style="list-style-type: none"> Make a product which moves Cut materials using scissors Describe the materials using different words Explain why they have chosen moving parts
	Year 2	<ul style="list-style-type: none"> Cut a variety of materials using a range of tools

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Topic	Year Group	Content
		<ul style="list-style-type: none"> Join materials together as part of a moving product Describe materials and their properties using a range of vocabulary Explain how different parts move
	Year 3	<ul style="list-style-type: none"> Apply their understanding of how to strengthen, stiffen and reinforce more complex structures Understand and use mechanical systems in their products e.g. gears, pulleys, cams, levers and linkages Understand and use electrical systems in their products e.g. series of circuits incorporating switches, bulbs, buzzers and motors Make a product which uses mechanical components. Use a range of components e.g. levers, linkages and pneumatic systems
	Year 4	<ul style="list-style-type: none"> Apply their understanding of how to strengthen, stiffen and reinforce more complex structures Explain how to use mechanical systems in their products, then apply that knowledge e.g. gears, pulleys, cams, levers and linkages Explain and understand how to use electrical systems in their products, then apply what they know e.g. series of circuits incorporating switches, bulbs, buzzers and motors Apply their understanding of computing to program, monitor and control their products Use a simple circuit and add components to it Make a product which uses both electrical and mechanical components
	Year 5	<ul style="list-style-type: none"> Refine their product after testing it Incorporate hydraulics and pneumatics into their design and end product Explore and understand mechanical and electrical systems have an input, process and output Understand and explain why mechanical gears and pulleys control speed and movement
	Year 6	<ul style="list-style-type: none"> Understand and use electrical components Use different kinds of circuits in their product to improve it Incorporate a switch into their product Refine their product after testing it and explain what they have improved and why Incorporate hydraulics and pneumatic
Construction	Year 1	<ul style="list-style-type: none"> Arrange pieces of the construction before building Make a structure/model using different materials
	Year 2	<ul style="list-style-type: none"> Make sensible choices of which material to use for their construction Identify how to and make their structure stronger, stiffer or more stable
	Year 3	<ul style="list-style-type: none"> Join materials effectively to build a product Use a range of techniques to shape and mould materials

Design and Technology Progression Map		
Topic	Year Group	Content
		<ul style="list-style-type: none"> • Use finishing techniques e.g. sanding, varnishing, glazing etc
	Year 4	<ul style="list-style-type: none"> • Measure accurately to build effective structures • Use a range of techniques to shape and mould • Experiment with a range of techniques to increase stability in a structure • Use finishing techniques, showing an awareness of audience. e.g. sanding, varnishing, glazing etc.
	Year 5	<ul style="list-style-type: none"> • Measure accurately to ensure precision • Demonstrate that their product is strong and fit for purpose • Refine and further improve their product
	Year 6	<ul style="list-style-type: none"> • Apply measurements accurately to scale, according to design plans, ensuring precision • Critique, evaluate and demonstrate that their product is strong and fit for purpose • Refine and further improve their product • Identify and address their own design problems during the construction process
Textiles	Year 1	<ul style="list-style-type: none"> • Categorise a range of fabrics and threads by colour and texture • Use a range of fabrics to weave a pattern • Identify and discuss when patterns are used in textile design & what patterns they can see
	Year 2	<ul style="list-style-type: none"> • Separate and bond fabrics together • Build an image using fabrics • Create a large scale textile or sculpture piece through class collaboration
	Year 3	<ul style="list-style-type: none"> • Join textiles of different types in a range of ways • Choose textiles both for their appearance and also qualities • Begin to use a range of simple stitches
	Year 4	<ul style="list-style-type: none"> • Consider which materials are fit for purpose and join them appropriately • Devise a template or pattern for their product
	Year 5	<ul style="list-style-type: none"> • Consider the audience when choosing textiles • Make up a prototype first • Apply a range of joining techniques • Devise a template or pattern for their product
	Year 6	<ul style="list-style-type: none"> • Consider the audience when choosing textiles, tools, and design ideas and explain why using your prior knowledge • Design ideas through a range of steps (oracy, drawing, templates and mock-ups) and make up a prototype first • Apply a range of joining techniques using different tools
Greater Depth	Year 1	<ul style="list-style-type: none"> • Make links between their own designs and products and another designer • Evaluate their own and others' artwork and make suggestions for improvement

Design and Technology Progression Map		
Topic	Year Group	Content
		<ul style="list-style-type: none"> • Comment how an artist/designer has used construction and mechanical components
	Year 2	<ul style="list-style-type: none"> • Make comparisons between their own artwork and other artists or designers • Articulate what they are trying to express in their own designs and products • Make suggestions for improvement in their own and others' products • Comment how an artist/designer has used construction and mechanical components and how that has influenced their design • Explain what prior knowledge helped them to form their designs
	Year 3	<ul style="list-style-type: none"> • Evaluate their learning process and make suggestions for improvement in their own and others' product/ design • Adapt or improve their original ideas • Explain why they have selected specific materials for their design/product • Begin to communicate influences of their design/product through clear explanations and designs
	Year 4	<ul style="list-style-type: none"> • Critique their own and others' design/product throughout the learning process to develop and support each other • Use a range of sources e.g. books, internet, museums to influence their ideas • Experiment with combining different materials and discuss their effectiveness • Discuss how a range of factors influences design from different cultures
	Year 5	<ul style="list-style-type: none"> • Keep detailed notes, quotes or annotations using advanced vocabulary to explain and reflect on the design and creation process • Discuss how a range of factors influences designs and aesthetics from different cultures • Critique their own and others' design/product throughout to develop and support each other and offer solutions to design problems • Plan which equipment they will need and use it effectively
	Year 6	<ul style="list-style-type: none"> • Explain their own design or construction and what has influenced their choices • Experiment with combining different materials exploring what makes them effective • Compare their design to X, explaining the effectiveness of both products mechanical components • Suggest how improvements can be made and implement them • Find evidence to support or refute whether their ideas and designs will/won't work using specific constraints e.g. time, resources and costs • Explain how they can improve their way of working

Design and Technology Key Vocabulary					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
mechanical electrical, materials, designer, product, construct, structure, moving parts, tools, outcome, equipment	stronger, stiffer, stable, diagram, components, joining, folding, rolling, binca fabric, template, assemble	axel, lever, criteria, stable, strong, durable, audience, packaging, sliders	mechanism function, purpose, finish, model, linkages, cams, pulleys, gears, functional products	components, inventors, innovate, complex, reinforce, strengthen, adapt, substitute, designers, input, output	hydraulics, pneumatics, precision, prototype, sequential diagram, specifications, abrasive, components, modify