

## D+T Knowledge Progression

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6			
<p><b>Early Learning Goals</b></p> <p><a href="http://www.hawkesley.bham.sch.uk/Early-Years/">http://www.hawkesley.bham.sch.uk/Early-Years/</a></p> <p><b>Expressive arts and design</b></p>	<p><b>NC Objectives</b></p> <p>Pupils must be taught to <u>Design</u> - 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. <u>Make</u>-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. <u>Evaluate</u>-Explore and evaluate a range of existing products. -Evaluate their ideas and products against design criteria. <u>Technical knowledge</u>-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. <u>Cooking and nutrition</u>-Use the basic principles of a healthy and varied diet to prepare dishes. -Understand where food comes from.</p>	<p>When designing and making, pupils should be taught to: <u>Design</u>- 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. <u>Make</u>-Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], 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. <u>Evaluate</u>-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. <u>Technical knowledge</u>- Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. -Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]. -Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]. -Apply their understanding of computing to program, monitor and control their products. <u>Cooking and nutrition</u>- Understand and apply the principles of a healthy and varied diet. -Prepare and cook a variety of predominantly savory dishes using a range of cooking techniques. -Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</p>	<p><b>Share their creations, explaining the process they have used.</b></p> <p><b>Make use of props and materials when role playing characters in narratives and stories</b></p>	<p><b>Designing</b></p> <p><i>KS1 Design - purposeful, functional, appealing products for themselves and other users based on design criteria</i> <i>Design - generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</i></p> <p><i>KS2 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</i> <i>generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</i></p> <ul style="list-style-type: none"> <li>Use own ideas to design something and describe how their own idea works.</li> <li>Design a product which moves.</li> <li>Explain to someone else how they want to make their product and make a simple plan before making.</li> </ul>	<p>Think of an idea and plan what to do next.</p> <ul style="list-style-type: none"> <li>Explain why they have chosen specific textiles.</li> </ul> <p><u>Design and make a building for a City Centre</u></p> <ul style="list-style-type: none"> <li>Think of an idea and plan what to do next.</li> </ul>	<p>Prove that a design meets a set criteria.</p> <p><u>Chocolate recipes</u></p> <ul style="list-style-type: none"> <li>Design a product and make sure that it looks attractive.</li> </ul> <p><u>Structures</u></p> <ul style="list-style-type: none"> <li>Choose a material for both its suitability and its appearance.</li> </ul> <p>-<u>Design and make disaster safe shelter for an earthquake</u></p>	<p><b>All Units</b></p> <ul style="list-style-type: none"> <li>Use ideas from other people when designing.</li> <li>Produce a plan and explain it.</li> <li>Persevere and adapt work when original ideas do not work.</li> <li>Communicate ideas in a range of ways, including by sketches and drawings which are annotated.</li> </ul>	<p><b>All Units</b></p> <ul style="list-style-type: none"> <li>Produce a detailed, step-by-step plan.</li> </ul> <p><u>Textiles- Make a cushion for a rocket</u></p> <ul style="list-style-type: none"> <li>Explain how a product will appeal to a specific audience.</li> </ul> <p><u>Mechanisms: Moving Car Toy</u></p> <ul style="list-style-type: none"> <li>Come up with a range of ideas after collecting information from different sources.</li> <li>Explain how a product will appeal to a specific audience.</li> <li>Design a product that requires pulleys or gears.</li> </ul>	<p><b>All units</b></p> <ul style="list-style-type: none"> <li>Follow and refine original plans.</li> <li>Justify planning in a convincing way.</li> <li>Show that culture and society is considered in plans and designs.</li> </ul> <p><u>Textiles: make a bag</u></p> <ul style="list-style-type: none"> <li>Use market research to inform plans and ideas.</li> </ul>

<p><b>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design texture, form and function</b></p>	<p><b>Making</b>  <i>KS1 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.</i></p> <p><i>KS2 Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.</i></p>	<p><b>All Units</b></p> <ul style="list-style-type: none"> <li>Choose appropriate resources and tools.</li> </ul> <p><u>Moving toy</u></p> <ul style="list-style-type: none"> <li>Use own ideas to make something.</li> <li>Make a product which moves.</li> </ul> <p><u>Make a sandwich</u></p> <ul style="list-style-type: none"> <li>Use own ideas to make something.</li> </ul> <p><u>Puppet</u></p> <ul style="list-style-type: none"> <li>Make a product which moves.</li> <li>Use own ideas to make something.</li> </ul>	<p><u>Make a cape</u></p> <ul style="list-style-type: none"> <li>Choose tools and materials and explain why they have chosen them.</li> </ul> <p><u>Design and make a building for a City Centre</u></p> <ul style="list-style-type: none"> <li>Join materials and components in different ways.</li> <li>Measure materials to use in a model or structure.</li> </ul>	<p><b>All Units</b></p> <ul style="list-style-type: none"> <li>Follow a step-by-step plan, choosing the right equipment and materials.</li> <li>Select the most appropriate tools and techniques for a given task.</li> </ul> <p><u>Recipes</u></p> <ul style="list-style-type: none"> <li>Make a product which uses both electrical and mechanical components.</li> </ul> <p><u>Structures</u></p> <p><u>-Make stone age/bronze age village</u></p> <ul style="list-style-type: none"> <li>Work accurately to measure, make cuts and make holes.</li> </ul> <p><u>-Design and make disaster safe shelter for an earthquake</u></p> <ul style="list-style-type: none"> <li>Work accurately to measure, make cuts and make holes.</li> </ul>	<p><u>Healthy meal</u></p> <ul style="list-style-type: none"> <li>Know which tools to use for a particular task and show knowledge of handling the tool.</li> </ul> <p><u>Textiles</u> Know which tools to use for a particular task and show knowledge of handling the tool.</p> <ul style="list-style-type: none"> <li>Know which material is likely to give the best outcome.</li> <li>Measure accurately.</li> </ul>	<p><b>All Units</b></p> <ul style="list-style-type: none"> <li>Use a range of tools and equipment competently.</li> </ul> <p><u>Mechanisms:</u> <u>Moving Car Toy</u></p> <ul style="list-style-type: none"> <li>Make a product that relies on pulleys or gears.</li> <li>Make a prototype before making a final version.</li> </ul>	<p><b>All units</b></p> <ul style="list-style-type: none"> <li>Know which tool to use for a specific practical task.</li> <li>Know how to use any tool correctly and safely.</li> <li>Know what each tool is used for.</li> <li>Explain why a specific tool is best for a specific action.</li> </ul>
<p><b>Share their creations, explaining the process they have used.</b></p>	<p><b>Evaluating</b>  <i>KS1 Explore and evaluate a range of existing products evaluate their ideas and products against design criteria.</i></p> <p><i>KS2 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.</i></p>	<p><u>-Moving toy</u></p> <ul style="list-style-type: none"> <li>Describe how something works.</li> <li>Explain what works well and not so well in the model they have made.</li> </ul>	<ul style="list-style-type: none"> <li>Explain what went well with their work.</li> </ul>	<ul style="list-style-type: none"> <li>Explain how to improve a finished model.</li> <li>Know why a model has, or has not, been successful.</li> </ul>	<ul style="list-style-type: none"> <li>Evaluate products for both their purpose and appearance.</li> <li>Present a product in an interesting way.</li> </ul> <p><u>Structure: Musical Instruments</u></p> <ul style="list-style-type: none"> <li>Evaluate and suggest improvements for design.</li> <li>Explain how the original design has been improved.</li> </ul> <p><u>Textiles</u></p> <ul style="list-style-type: none"> <li>Evaluate and suggest improvements for design.</li> </ul>	<ul style="list-style-type: none"> <li>Evaluate appearance and function against original criteria.</li> </ul> <p><u>Mechanisms:</u> <u>Moving Car Toy</u></p> <ul style="list-style-type: none"> <li>Suggest alternative plans; outlining the positive features and draw backs.</li> </ul>	<ul style="list-style-type: none"> <li>Know how to test and evaluate designed products.</li> <li>Evaluate product against clear criteria.</li> </ul> <p><u>Food Tech:</u></p> <ul style="list-style-type: none"> <li>Explain how products should be stored and give reasons.</li> </ul>

<p><b>Share their creations, explaining the process they have used.</b></p> <p><b>Make use of props and materials when role playing characters in narratives and stories</b></p>	<p><b>Technology Knowledge</b>  <i>KS1 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.</i></p> <p><i>KS2 Apply their understanding of how to strengthen, stiffen and reinforce more complex structures understand and use mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages) understand and use electrical systems in their products (for example, series circuits incorporating switches, bulbs, buzzers and motors) apply their understanding of computing to program, monitor and control their products.</i></p>	<p><b>- Moving toy</b></p> <ul style="list-style-type: none"> <li>• Make their own model stronger.</li> </ul>	<p><b><u>Design and make a building for a City Centre</u></b></p> <ul style="list-style-type: none"> <li>• Make a model stronger and more stable.</li> <li>• Use wheels and axles, when appropriate to do so.</li> </ul>	<p><b><u>Design and make disaster safe shelter for an earthquake</u></b></p> <ul style="list-style-type: none"> <li>• Know how to strengthen a product by stiffening a given part or reinforce a part of the structure.</li> </ul> <p><b><u>Structures</u></b></p> <ul style="list-style-type: none"> <li>• Know how to strengthen a product by stiffening a given part or reinforce a part of the structure.</li> </ul>	<p><b><u>Structure: Musical Instruments</u></b></p> <ul style="list-style-type: none"> <li>• Links scientific knowledge by using lights, switches or buzzers.</li> <li>• Use electrical systems to enhance the quality of the product.</li> </ul>	<p><b><u>Mechanisms: Moving Car Toy</u></b></p> <ul style="list-style-type: none"> <li>• Links scientific knowledge to design by using pulleys or gears.</li> </ul>	<p><b><u>Textiles:</u></b></p> <p><b><u>-Structure:</u></b></p> <ul style="list-style-type: none"> <li>• Use electrical systems correctly and accurately to enhance a given product.</li> <li>• Use knowledge to improve a made product by strengthening, stiffening or reinforcing.</li> </ul>
<p><b>(Guidance from birth – 5)</b></p> <p><b>Describes a range of different food textures and tastes when cooking and notices changes when they re combined or exposed to hot and cold temperatures</b></p> <p><b>Eats a healthy range of food stuffs and understands the need for variety in food</b></p>	<p><b>Food Technology</b>  <i>KS1 Use the basic principles of a healthy and varied diet to prepare dishes understand where food comes from</i></p> <p><i>KS2 Understand and apply the principles of a healthy and varied diet prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.</i></p>	<p><b><u>-Make a sandwich</u></b></p> <ul style="list-style-type: none"> <li>• Cut food safely.</li> </ul>	<p><b><u>Healthy Fruit salad</u></b></p> <ul style="list-style-type: none"> <li>• Weigh ingredients to use in a recipe.</li> <li>• Describe the ingredients used when making a dish or cake.</li> </ul>	<p><b><u>Chocolate recipes</u></b></p> <ul style="list-style-type: none"> <li>• Describe how food ingredients come together.</li> <li>• Weigh out ingredients and follow a given recipe to create a dish.</li> <li>• Talk about which food is healthy and which food is not.</li> <li>• Know when food is ready for harvesting.</li> </ul>	<p><b><u>Healthy meal</u></b></p> <ul style="list-style-type: none"> <li>• Know how to be both hygienic and safe when using food.</li> <li>• Bring a creative element to the food product being designed.</li> </ul>	<p><b><u>-Food Tech: bake bread</u></b></p> <ul style="list-style-type: none"> <li>• Be both hygienic and safe in the kitchen.</li> <li>• Know how to prepare a meal by collecting the ingredients in the first place.</li> <li>• Know which season various foods are available for harvesting.</li> </ul>	<p><b><u>Food Tech: WW2 rations design and make a meal with rations</u></b></p> <ul style="list-style-type: none"> <li>• Explain how food ingredients should be stored and give reasons.</li> <li>• Work within a budget to create a meal.</li> <li>• Understand the difference between a savoury and sweet dish.</li> </ul>