Wansbeck Primary School

Progression in Design and Technology Knowledge and Skills

Progression of Key Skills in Design and Technology

The national curriculum for design and technology aims to ensure that:
Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].

	Year Group				
	EYFS	**Year 1**	**Year 2**	**Year 3/4**	**Year 5/6**
Food	Handles tools safely and increasing control. Shows a preference for a dominant hand.	• Start to cut, peel or grate ingredients safely with support	• Cut, peel or grate ingredients safely • Weigh ingredients to use a recipe	• Prepare ingredients hygienically using appropriate utensils. • Measure ingredients to the nearest gram accurately. • Follow a recipe. • Assemble or cook ingredients sweet or savoury *(controlling the temperature of the oven or hob, if cooking).*	• Measure accurately and calculate ratios of ingredients to scale up or down from a recipe. • Demonstrate a range of baking and cooking techniques. • Create and refine recipes, including ingredients, methods, cooking times and temperatures. • Understand the importance of correct storage and handling of ingredients (using knowledge of micro-organisms). • Work within a budget to create a meal
Technical skills	Handles tools and malleable materials with increasing control Use simple tools and techniques competently and appropriately.	• Cut materials safely with support • Measure to the nearest cm with support	• Cut materials safely using tools provided. • Measure and mark out to the nearest centimetre. • Demonstrate a range of joining techniques *(such as gluing, hinges or combining materials to strengthen)* **<u>Mechanics</u>** • Create products using levers, wheels and winding mechanisms	• Cut materials accurately and safely by selecting appropriate tools. *(including within the perimeter of the material)* • Measure and mark out to the nearest millimetre. • Select appropriate joining techniques. • Choose suitable techniques to construct products or to repair items. **<u>Textiles</u>** • Understand the need for a seam allowance. • Join textiles with appropriate stitching.	• Cut materials with precision and refine the finish with appropriate tools *(such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape).* • Show an understanding of the qualities of materials to choose appropriate tools to cut and shape *(such as the nature of fabric may require sharper scissors than would be used to cut paper).* **<u>Electrical</u>** • Create circuits using electronics kits that employ a number of components *(switches, bulbs, buzzers and motors).* • Develop a range of practical skills to create products *(such as cutting, drilling and screwing, nailing, gluing, filing and sanding).*

				• Select the most appropriate techniques to decorate textiles	
Design		• Start to design products based on a design criteria • Use own ideas to design and describe how it works through talking and drawing • Make a simple plan before making	• Design products based on a design criteria • Design products that have a clear purpose and an intended user using talking, drawing, templates and mock ups	• Use research to develop design criteria • Design with purpose by identifying users to base the design round • Develop ideas and plans through discussion and annotated drawings	• Come up with a range of ideas after collecting information from different sources to develop design criteria • Produce a detailed step by step plan • Develop ideas through discussion, cross sectional and exploded diagrams and prototypes to represent design
Make		• Use own ideals to make something	• Make products, refining the design as work progresses.	• Make products by following a step by step plan • Work accurately to measure, make cuts and make holes	• Make a prototypes making any refinements before the final version • Use tools and equipment competently • Ensure products have a high quality finish, using art skills where appropriate.
Evaluate		• Explain what works well	• Explain what works well and what does not work well	• Explain how to improve a finished model • Evaluate the products both for their purpose and appearance • Explain how the original design has been improved • Present a product in an interesting way	• Evaluate the product against clear criteria • Suggest alternative plans outlining positive features and drawbacks • Present a product with bias *(persuasion techniques)*

Progression of Key Knowledge in D&T

	Year 1	Year 2	Year 3 / 4	Year 5/6
Food	• Know the basic principles of a healthy diet. • Know where foods they eat come from • Know how to prepare food safely • Know how to make food preparation hygienic through handwashing	• Know the basic principles of a healthy and varied diet to prepare dishes. • Know where a range of foods come from *(some different to what is in their usual diet)* • Know how to prepare food safely • Know how to make food preparation hygienic through handwashing and utensils being clean. • Know how to use basic scales on weighing equipment	• Know which food is healthy and which is not • Know that food is available in different seasons • Know how to read a scale appropriate to stage in mathematics	• Know and apply the principles of a healthy and varied diet • Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed. • Know how to read a scale appropriate to stage in mathematics
Technical Knowledge	• Know how to make their own model stronger • Explore and use mechanisms, such as levers, sliders, wheels and axles, in their products.	• Know how to make a model stronger, stiffer and more stable • Know how to use wheels and axles when appropriate to do so.	• Know how to strengthen a product by stiffening a given part or reinforce a part of the structure • Know how to use electrical systems to enhance the quality of a product • Link scientific knowledge by using lights, switches and buzzers • Use a simple IT program within the design	• Use knowledge to improve a made product by strengthening, stiffening or reinforcing • Use electrical systems correctly and accurately to enhance a given product • Link scientific knowledge by using series circuits with switches, bulbs, buzzers and motors • Link scientific knowledge to design by using pulleys, leavers and gears • Use a more complex IT program within the design
Design	• Discuss what makes a design appealing to a user	• Know what makes a design appealing to the user	• Use knowledge of materials to choose a material for its suitability and appearance	• Use knowledge of the design criteria to make a product that is fit for purpose and aimed at particular groups

			• Having knowledge of other designers use these when designing	• Design with the knowledge of the user, motivated by the service a product will offer *(rather than simply for profit).* • Know how key events and individuals in design and technology have helped shape the world
Make	• Know the right resources to use to make our product • Know the right tools to use to make our product	• Know the right resources to use to make our product and explain why they are appropriate • Know the right tools to use to make our product and explain why they are appropriate	• Know which tools to use for a particular task and show knowledge of handling the tool • Know which material is likely to give the best outcome	• Know which tool to use for a specific practical task • Know how to use any tool correctly and safely • Know what each tool is used for
Evaluate	• Know how something works and able to explain it • Know what works well in their work	• Know what works well and what does not work well in their work	• Know what makes a good evaluation	• Know how to test and evaluate designed products