Honeywell JUNIOR SCHOOL

Progression of Skills In Design and Technology

KEY SKILLS	YEAR 3	YEAR 4	YEAR 5	YEAR 6
Developing, planning and communicating ideas.	Generate ideas for an item, considering its purpose and the user/s Identify a purpose and establish criteria for a successful product. Plan the order of their work before starting Explore, develop and communicate design proposals by modelling ideas Make drawings with labels when designing	Generate ideas, considering the purposes for which they are designing Make labelled drawings from different views showing specific features 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 Evaluate products and identify criteria that can be used for their own designs	Generate ideas through brainstorming and identify a purpose for their product Draw up a specification for their design 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 Use results of investigations, information sources, including ICT when developing design ideas	Communicate their ideas through detailed labelled drawings Develop a design specification Explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of ways Plan the order of their work, choosing appropriate materials, tools and techniques
Working with tools, equipment, materials and components to make quality products (including food)	Select tools and techniques for making their product Measure, mark out, cut, score and assemble components with more accuracy Work safely and accurately with a range of simple tools Think about their ideas as they make progress and be willing	Select appropriate tools and techniques for making their product Measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques	Select appropriate materials, tools and techniques Measure and mark out accurately Use skills in using different tools and equipment safely and accurately Weigh and measure accurately (time, dry ingredients, liquids)	Select appropriate tools, materials, components and techniques Assemble components make working models Use tools safely and accurately Construct products using permanent joining techniques

	change things if this helps them improve their work Measure, tape or pin, cut and join fabric with some accuracy Demonstrate hygienic food preparation and storage Use finishing techniques strengthen and improve the appearance of their product using a range of equipment including ICT	Join and combine materials and components accurately in temporary and permanent ways Sew using a range of different stitches, weave and knit Measure, tape or pin, cut and join fabric with some accuracy Use simple graphical communication techniques	Apply the rules for basic food hygiene and other safe practices *e.g. hazards relating to the use of ovens* Cut and join with accuracy to ensure a good-quality finish to the product	Make modifications as they go along Pin, sew and stitch materials together create a product Achieve a quality product
Evaluating processes and products	Evaluate their product against original design criteria *e.g. how well it meets its intended purpose* Disassemble and evaluate familiar products	Evaluate their work both during and at the end of the assignment Evaluate their products carrying out appropriate tests	Evaluate a product against the original design specification Evaluate it personally and seek evaluation from others	Evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests Record their evaluations using drawings with labels Evaluate against their original criteria and suggest ways that their product could be improved
Starting points for valuing diversity and challenging racism in the classroom.	• recognise that the quality of a product depends on how well it is made and how well it meets social, economic and environmental considerations • combine practical skills with an understanding of: aesthetics, social, cultural, moral and environmental issues; and functional and industrial practices; • discover how society (in the UK, overseas or both) has been enriched by the contributions of different groups of people • use and evaluate products in relation to their indigenous culture • use a range of techniques and materials to evaluate a variety of familiar and unfamiliar cultures; • consider how technology reflects different cultures and values • no single culture has a monopoly of achievements in the field of design and technology. • experience a small range of materials and techniques, including those used in their own homes and communities. • simulate basic technological processes from other cultures and countries.			

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Design and Technology Topic Map

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 3		**Structures** Shell structures (including computer aided design)		**Food** Healthy and varied diet		**Textiles** 2D shape to 3D product
Year 4	**Mechanical Systems** Levers and linkages		**Food** Healthy and varied diet(including cooking and nutrition requirements for KS2)		**Electrical Systems** Simple circuits and switches (including programming and control	
Year 5		**Structures** Frame structures		**Food** Celebrating culture and seasonality		**Electrical Systems** - more complex switches and circuits (including programming, monitoring and control)
Year 6	**Textiles** Combing different fabric shapes (including computer aided design)		**Mechanical Systems** Pulleys or gears		**Food** Celebrating culture and seasonality	
Whole School Projects		**Wind Turbine (Climate Change Week)**		**Water Filtering**		**Summer** e.g. Olympics/World cup/Carnival