

Howard Primary School – Design and Technology – Progression of tasks & operations 2021/2022

The building blocks of D & T	Food-Tech	Materials	Textiles	Mechanisms	Construction/S tructures	Electronics	Computing (link with ICT)
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Design	Make	Evaluate	Knowledge	Cooking & Nutrition
<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> explore and evaluate a range of existing products evaluate their ideas and products against design criteria 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> use the basic principles of a healthy and varied diet to prepare dishes understand where food comes from.
<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 	<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 [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. 	<ul style="list-style-type: none"> 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.

Aim: Every YG should teach at least 1x Food-Tech, Mechanics/Electronics, Construction & Structures, Textiles and Materials per year.

	EYFS	KS1		KS2			
	Reception	Y1	Y2	Y3	Y4	Y5	Y6
Food-Tech		Preparing fruit & vegetables: Designing and making a Salad Wrap	Preparing fruit & vegetables: Designing and making a Smoothie	Healthy & Varied diet: Designing and making a Muesli	Healthy & Varied diet: Designing and making a "Bread dish" for a celebration	Celebrating culture & seasonality: Designing your "ultimate" Pizza menu.	Plan (incl. design and adapt) a meal for a school's open evening (buffet).
Where food comes from	•	<ul style="list-style-type: none"> food comes from plants & animals, farmed – grown – caught, 		<ul style="list-style-type: none"> food is grown – reared – caught in UK, Europe & world-wide, Late KS2: <ul style="list-style-type: none"> seasonal availability of certain foods, food is process (before eaten, cooked or baked), 			
Mechanisms and Electronics		Sliders & Levers: Designing and making a spinning mechanism (Alien; joining materials, split pins, sliding mechanism, Alien/Animal in a cage),	Alternative: Designing and making a vehicle for a character from a chosen story.	Designing and making a card or storybook with effects (using sliding mechanisms) Alternative: A) Designing and making a toy using pneumatics B) Using simple circuits to make a torch, sign, siren ...		Designing and making an electrical board-game.	Mechanisms & Structure (incl. Modelmaking): Design, make & evaluate a fairground ride (2 half-terms) include: cams gears structure levers & pulleys electronics
Construction & Structure			Structures: Designing and making a piece of furniture or equipment for a character from a chosen story.		Designing and making a sustainable container/gift-box/ ...		

<p>Textiles & Sewing</p>	<p>Weaving https://swinemoorprimary.org.uk/design-technology-textiles/</p>	<p>Designing and making a (finger) puppet</p> <ul style="list-style-type: none"> incl. joining textiles using running stitch), 	<p>Designing and making piece of textiles to go with your furniture (e.g. place-mat, cushion, ...)</p> <ul style="list-style-type: none"> joining textiles using running, over(cast) and back-stitch, 	<p>Designing & making a themed bookmark,</p> <ul style="list-style-type: none"> Using decorative stitches stem, satin, chain-stitch, 	<p>Rainforests – Design a more complex, themed practical item, e.g. bag for life</p> <ul style="list-style-type: none"> joining textiles using running, over(cast) and back-stitch, Using decorative stitches stem, satin, chain-stitch, 	<p>Textiles/Sewing:</p> <ul style="list-style-type: none"> joining textiles using running, over(cast), back, catch and invisible-stitch, Using decorative stitches stem, satin, chain-stitch, Using some basic fasteners (buttons, toggle, stud), 	<p>Design and make a practical and decorated product using CAD (e.g. shopping bag, phone case, slippers ...)</p> <ul style="list-style-type: none"> joining textiles using running, over(cast), back, catch, blanket, herringbone and invisible-stitch, Using decorative stitches stem, half-cross, cross, whipped double running satin, chain-stitch, use fasteners (buttons, zip, Velcro, toggle, studs, ties,
<p>Materials and Tools</p> <p>To be taught within a topic.</p>		<p>Natural vs. artificial Materials</p> <ul style="list-style-type: none"> Types, Properties 	<p>Basic DT tools</p>	<p>Suitability of Materials (with recap of natural vs. artificial, properties etc.),</p>	<p>DT Tools II</p>	<p>Materials and alternatives</p>	<p>Materials and Sustainability</p>