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Progression in Design & Technology

	Early Years	Key Stage 1		Lower Key Stage 2		Upper Key Stage 2	
Design	Uses their increasing knowledge and understanding of tools and materials to explore their interests and enquiries and develop their thinking (Range 6) Share their creations, explaining the process they have used (ELG)	Design appealing products for a particular user based on simple design criteria. Generate initial ideas and simple design criteria through talking and using own experiences. Generate initial ideas and design criteria through investigating a variety of existing products. Develop, model and communicate their ideas through talking, templates, mock-ups and drawings.	Design a functional and appealing product for themselves and a chosen user and purpose based on simple design criteria. Generate, develop, model and communicate their ideas as appropriate through talking, mock-ups and information and communication technology.	Generate realistic ideas through discussion and design criteria for an appealing, functional product fit for purpose and specific user/s. Produce annotated sketches, prototypes, final product sketches and pattern pieces.	Generate realistic ideas and design criteria collaboratively through discussion, focusing on the needs of the user and the functional and aesthetic purposes of the product. Use annotated sketches and prototypes to develop, model and communicate ideas. Develop ideas through the analysis of existing shell structures and use computer-aided design to model and communicate ideas.	Generate innovative ideas through research and discussion with peers and adults to develop a design brief and criteria for a design specification. Develop and communicate ideas through discussion, annotated drawings, exploded diagrams and drawings from different views. Explore a range of initial ideas, and make design decisions to develop a final product linked to user and purpose.	Generate, develop, model and communicate innovative ideas, through discussion, cross-sectional, exploded diagrams and computer aided design. Develop a simple design specification to guide the development of their ideas and products, taking account of constraints including time, resources and cost. Carry out research into user needs and existing products, using surveys, interviews, questionnaires and web-based resources.
Make	Uses tools for a purpose (Range 5) Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function (ELG) Make use of props and materials when role playing characters in narratives and stories. (ELG)	Select from and use a range of tools and equipment to perform practical tasks such as marking out, cutting, joining and finishing. Select from a range of fruit and vegetables according to their characteristics e.g. colour, texture and taste to create a chosen product Select from and use a wide range of materials and components such as textiles according to their characteristics.	Plan by suggesting what to do next. Select and use tools, skills and techniques, explaining their choices. Use simple finishing techniques suitable for the structure they are creating Select from and use a range of tools and equipment to perform practical tasks such as cutting and joining to allow movement and finishing. Select from and use a wide range of materials and components such as paper, card, plastic, wood or construction kits according to their characteristics.	Plan the main stages of making. Plan the main stages of a recipe, listing ingredients, utensils and equipment. Select and use appropriate utensils and equipment to prepare and combine ingredients. Select from a range of ingredients to make appropriate food products, thinking about sensory characteristics. Select and use a range of appropriate tools with some accuracy e.g. cutting, joining and finishing. Select fabrics and fastenings according to their functional characteristics e.g. strength, and aesthetic qualities e.g. pattern.	Plan the order of the main stages of making. Explain their choice of materials according to functional properties and aesthetic qualities. Use computer-generated finishing techniques suitable for the product they are creating. Select and use appropriate tools and software to measure, mark out, cut, score, shape and assemble with some accuracy. Select from and use appropriate tools with some accuracy to cut, shape and join paper and card. Select from and use finishing techniques suitable for the product they are creating.	Write a step-by-step recipe, including a list of ingredients, equipment and utensils. Make, decorate and present the food product appropriately for the intended user and purpose. Produce detailed lists of tools, equipment and materials. Formulate step-by-step plans and, if appropriate, allocate tasks within a team. Select and use appropriate utensils and equipment accurately to measure and combine appropriate ingredients. Select from and use a range of tools and equipment to make products that that are accurately assembled and well finished.	Formulate a clear plan, including a step-by-step list of what needs to be done and lists of resources to be used. Use finishing and decorative techniques suitable for the product they are designing and making. Formulate a step-by-step plan to guide making, listing tools, equipment, materials and components. Competently select and accurately assemble materials, and securely connect electrical components to produce a reliable, functional product. Create and modify a computer control program to enable their electrical product to respond to changes in the environment. Competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks.
Evaluate	Develops their own ideas through experimentation with diverse materials, e.g. light, projected image, loose parts, watercolours, powder paint, to express and communicate their discoveries and understanding. (Range 6)	Explore and evaluate a range of existing products relevant to the project being undertaken. Evaluate their ideas throughout and their final products against original design criteria. Taste and evaluate a range of fruit and vegetables to determine the intended user's preferences.	Explore a range of existing freestanding structures in the school and local environment e.g. everyday products and buildings. Explore and evaluate a range of products with wheels and axles.	Investigate a range of 3-D textile products relevant to the project. Carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs.	Investigate and evaluate a range of shell structures including the materials, components and techniques that have been used. Investigate and analyse books and, where available, other products with lever and linkage mechanisms.	Carry out sensory evaluations of a range of relevant products and ingredients. Record the evaluations using e.g. tables/graphs/charts such as star diagrams. Evaluate the final product with reference back to the design brief and design specification, taking	Investigate, analyse and evaluate a range of existing frame structures. Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests.

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	Share their creations, explaining the process they have used (ELG)		Evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria.	Evaluate their ongoing work and test their product against the original design criteria and with the intended user. Take into account others' views. Understand how a key event/individual has influenced the development of the chosen product and/or fabric	Test and evaluate their own products against design criteria and the intended user and purpose.	into account the views of others when identifying improvements. Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. Consider the views of others to improve their work. Understand how key chefs have influenced eating habits to promote varied and healthy diets. Investigate famous manufacturing and engineering companies relevant to the project.	Continually evaluate and modify the working features of the product to match the initial design specification. Test the system to demonstrate its effectiveness for the intended user and purpose. Research key events and individuals relevant to frame structures.

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Technical Knowledge	Textiles	Food	Structures	Mechanisms	Electrical Systems
Key Stage 1	Understand how simple 3-D textile products are made, using a template to create two identical shapes. Understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling. Explore different finishing techniques e.g. using painting, fabric crayons, stitching, sequins, buttons and ribbons. Know and use technical vocabulary relevant to the project.	Understand where food comes from using a range of fruit and vegetables e.g. farmed or grown at home. Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of The Eatwell plate. Know and use technical and sensory vocabulary relevant to the project Use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely			
			Know how to make freestanding structures stronger, stiffer and more stable. Know and use technical vocabulary relevant to the project.	Explore and use mechanisms including wheels, axles and axle holders. Distinguish between fixed and freely moving axles. Know and use technical vocabulary relevant to the project.	
Lower Key Stage 2	Apply knowledge of how to strengthen, stiffen and reinforce existing fabrics. Understand how to securely join two pieces of fabric together. Understand the need for patterns and seam allowances. Know and use technical vocabulary relevant to the project.	Know how to use appropriate equipment and utensils to prepare and combine food including using the claw and bridge cutting technique. Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught. Know and use relevant technical and sensory vocabulary appropriately			
			Develop and use knowledge o nets of cubes and cuboids and, where appropriate, more complex 3D shapes. Develop and use knowledge of how to construct strong, stiff shell structures. Know and use technical vocabulary relevant to the project.	Understand and use lever and linkage mechanisms. Distinguish between fixed and loose pivots. Know and use technical vocabulary relevant to the project.	
Upper Key Stage 2		Know how to use utensils and equipment including heat sources to prepare and cook food. Understand about seasonality in relation to food products and the source of different food products. Know and use relevant technical and sensory vocabulary.		Understand that mechanical and electrical systems have an input, process and an output. Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement. Know and use technical vocabulary relevant to the project.	
			Understand how to strengthen, stiffen and reinforce 3-D frameworks. Know and use technical vocabulary relevant to the project.		Understand and use electrical systems in their products. Understand the use of computer control systems in products. Apply their understanding of computing to program, monitor and control their products. Know and use technical vocabulary relevant to the project.