DT PROGRESSION

Skills							
Year	R	1	2	3	4	5	6
Design	Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology	Design appealing products for a particular user based on simple design criteria. Draw on their own experiences to generate multiple ideas. Suggest and explain their ideas and how they are going to create them. Communicate ideas through discussion, drawings, labels and mock-ups where relevant	Generate ideas based on simple design criteria and their own experiences, explaining what they could make. Identify the purpose or multiple purposes for what they will design and make. Develop and modify ideas through discussion, observation, drawing, labels and mock-ups.	Use discussion and design criteria to generate realistic ideas for an appealing, functional product that is fit for purpose for a specific user. Develop and communicate ideas through annotated sketches, prototypes, final product sketches and pattern pieces; communication technology, such as web-based recipes. Identify and plan the order of work. Explain how parts of the product will work.	Generate and clarify ideas through discussion with peers to develop design criteria to inform the design of products that are fit for purpose, aimed at particular individuals or groups. Gather information about the demographic of the user. Consider the purpose of the product, evaluate similar products and assimilate ideas for their on design. Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches, cross-sectional and exploded diagrams from different perspectives.	Generate innovative ideas through research including surveys, interviews and questionnaires.and discussion with peers to develop a design brief and criteria for a design specification. Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification. Develop and explain ideas with clear design objectives. Plan a sequence of actions, planning how to use materials, equipment and processes, and suggesting alternative methods of making if the first attempts fail.	Use research including surveys, interviews, questionnaires and web-based resources to develop a design specification for a range of functional products. Develop a simple design specification to guide the development of their products, taking account of constraints including time, resources and cost. Generate and develop innovative ideas and share and clarify these through discussion. Communicate ideas through detailed annotated sketches, pictorial representations of electrical circuits or circuit diagrams. Plan the order of their work, choosing appropriate materials, tools and techniques.

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Make	Choose the resources they need for their chosen activities Handle equipment and tools effectively Know how to hold scissors and use them effectively. Explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	Select and use simple utensils, tools and equipment to perform a job e.g. peel, cut, slice, squeeze, grate and chop safely; measure, mark out, cut, join, shape and finish a range of materials. Select from a range of ingredients and materials according to their characteristics to create a chosen product. Use basic food handling, hygienic practices and personal hygiene.	Plan by suggesting what to do next. Select and safely use tools, equipment, skills and techniques to perform practical tasks, explaining their choices. Select new and reclaimed materials or components and construction kits to build and create their products. Use simple finishing techniques suitable for the products they are creating. Measure, cut and score with some accuracy. Follow safe procedures for food safety and hygiene.	Plan the main stages of making. Select from and use a range of appropriate utensils, tools and equipment with some accuracy related to their product. Select from and use finishing techniques suitable for the product they are creating. Measure, tape or pin, cut and join fabric with some accuracy. Demonstrate safe and hygienic food preparation and storage.	Order the main stages of making. Select and use appropriate tools related to their products. Select from, use and explain choice of materials and components, including ingredients, construction and electrical components according to their functional properties and aesthetic qualities Measure, mark out, cut and shape a range of materials, join and combine materials and components accurately in temporary and permanent ways. Sew using a range of different stitches, weave and knit a range of materials.	Produce detailed lists of equipment and fabrics relevant to their tasks Write a step-by-step plan, including a list of resources required. Select from and use, a range of appropriate utensils, tools and equipment accurately to measure and combine appropriate ingredients, materials and resources. Measure, mark out, cut and join accurately to ensure a good quality finish to the product..	Formulate a step-by-step plan to guide making, listing tools, equipment, materials and components. Competently select from and use appropriate tools to accurately measure, mark, cut and assemble materials, and securely connect electrical components to produce reliable, functional products. Use finishing and decorative techniques suitable for the product they are designing and making.
Evaluate	Checking how well their activities are going Changing strategy as needed Reviewing how well the approach worked	Taste, explore and evaluate a range of products to determine the intended user's preferences for the product Evaluate their ideas throughout and finished products against design criteria, including intended user and purpose	Explore a range of existing products related to their design criteria. Evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria	Investigate a range of 3-D textile products, ingredients and lever and linkage products relevant to their project. Test their product against the original design criteria and with the intended user. Evaluate the ongoing work and the final product with reference to the design criteria and the views of others.	Investigate and evaluate a range of products including the ingredients, materials, components and techniques that are used. Test and evaluate their own products against design criteria and the intended user and purpose. Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work.	Investigate and analyse products linked to their final product. Compare the final product to the original design specification and record the evaluations. 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	Continually evaluate and modify the working features of the product to match the initial design specification. Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests. Test the system to demonstrate its effectiveness for the intended user and purpose.

Knowledge							
Year	R	1	2	3	4	5	6
Food and nutrition	Know the importance for good health of a healthy diet Understand the importance of hand washing before touching foods.	Understand where a range of fruit and vegetables come from e.g. farmed or grown at home Understand and use basic principles of a healthy and varied diet to prepare dishes. Know and use technical and sensory vocabulary relevant to the project.		Know how to use appropriate equipment and utensils to prepare and combine food. 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.		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	
Structures	Create freestanding structures from re-purposed materials		Know how to make freestanding structures stronger, stiffer and more stable. Know and use technical vocabulary relevant to the project.	Develop and use knowledge of how to construct strong, stiff shell structures. Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes. 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.	
Textiles	Name different decorative items eg. Button, sequin, bead Understand how to join and decorate fabrics using glue	Understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling. Know how to thread a needle Decorate fabrics with attached items e.g. buttons, beads, sequins, braids, ribbons. Know and use technical vocabulary relevant to the project.		Understand how simple 3-D textile products are made, using a template to create two identical shapes. Know 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.		Securely join two pieces of fabric together using different techniques eg, running stitch, blanket stich Produce a 3-D textile product from a combination of accurately made pattern pieces, fabric shapes and different fabrics. Understand how fabrics can be strengthened, stiffened and reinforced where appropriate. Know and use technical vocabulary relevant to the project	

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Mechanical		Explore and use wheels, axles and axle holders. Distinguish between fixed and freely moving axles. Know and use technical vocabulary relevant to the project.	Explore and use sliders and levers. Understand that different mechanisms produce different types of movement. Know and use technical vocabulary relevant to the project.		Describe how objects use air to make them work. Create simple effective pneumatic systems. Investigate ways of using pneumatic systems with other materials to control movement. Know and use technical vocabulary relevant to the project.		Understand that mechanical 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. Understand how cams can be used to produce different types of movement and change the direction or movement. Know and use technical vocabulary relevant to the project.
Electrical					Understand and use electrical systems in their products linked to science coverage. Apply their understanding of computing to program and control their products. Know and use technical vocabulary relevant to the project.		Understand and use electrical systems in their products linked to science coverage. Apply their understanding of computing to program, monitor and control their products. Know and use technical vocabulary relevant to the project.