DT SKILLS PROGRESSION

		YEAR R	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
DESIGN	PURPOSE AND AUDIENCE	Design a product for themselves or someone close to them.	Design functional products for themselves or others that have a clear purpose.	Design appealing products for others that have a clear purpose.	Design products that fulfil the desires of particular individuals and groups.	Design products for the needs of particular individuals or groups, developing their own design criteria.	Design functional and appealing products taking into account the values of our local community.	Design functional and appealing products to have an impact in the wider world.
	GENERATE AND DEVELOP IDEAS	Generate ideas through discussion.	Using simple criteria, generate their own ideas using their own experiences.	Using more complex criteria, generate their own ideas, from their own experiences and experiences from reading.	Generate and develop ideas through group discussion, with ideas based on prior knowledge.	Generate more than one idea through discussion, after gathering information about the needs and wants of particular individuals and groups. Develop their own design criteria and use these to inform their ideas	Generate ideas through discussion, drawing on research using questionnaires and interviews in the community. Develop ideas with a simple design specification to guide thinking.	Generate innovative ideas through discussion, drawing on research using web-based surveys. Make design decisions, taking account of constraints such as time, resources and cost.
	MODEL AND COMMUNICATE IDEAS	Draw sketches.	Draw sketches and templates.	Draw labelled sketches and templates and produce mock-ups	Describe a design using an accurately labelled diagram,a written explanation and mock-up.	Produce a detailed plan with labelled diagrams, a written explanation, pattern pieces and mock-ups.	Produce a detailed plan, with step-by-step instructions, cross-sectional diagrams and prototypes.	Produce a detailed plan, with cross-sectional and exploded diagrams. Develop prototypes in a variety of ways.

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	USING COMPUTER AIDED DESIGN	Draw on a touch screen.	Begin to use Microsoft Paint (bitmap). Use a mouse to free draw shapes and fill with colour.	Use Microsoft Paint and other Office packages to free draw and fill with colour. Edit shapes by resizing, manipulating and layering.	Use SketchUp to create 3D designs: Create flat surfaced 3D shapes to design a basic construction e.g. a building.	Use SketchUp to create 3D designs: Create designs that are elevated from the ground e.g. robots and cars.	Use SketchUp to create 3D designs: Create 3D designs with curved faces. Print designs using a 3D printer.	Use SketchUp to create 3D designs: Create more detailed 3D designs with curved and flat surfaces to show rendering (light, shadow and reflection).

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		YEAR R	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
MAKE	MAKE THE PRODUCT	Represent their own ideas and thoughts. Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	Cut materials safely using tools provided. Measure using non-standard units and mark out to the nearest centimetre. Demonstrate a range of cutting and shaping techniques (e.g. tearing, cutting, folding, curling) Demonstrate a range of joining techniques (e.g. gluing, hinges, or combining materials to strengthen) Explore how structures can be made stronger, stiffer and more stable.	Cut materials safely using tools provided. Measure using non-standard units and mark out to the nearest centimetre or metre. Refine a range of cutting and shaping techniques (e.g. tearing, cutting, folding, curling) Demonstrate a range of joining techniques (e.g. gluing, hinges, or combining materials to strengthen) Explore how structures can be made stronger, stiffer and more stable.	Cut materials accurately and safely by selecting appropriate tools. Measure and mark out to the nearest millimetre. Develop cutting and shaping techniques to include cuts within a perimeter. Select appropriate joining techniques. Know how to make strong, stiff shell structures. Know that a single fabric shape can be used to make a 3D textiles product	Cut materials accurately and safely by selecting appropriate tools. Measure and mark out to the nearest millimetre. Apply appropriate cutting and shaping techniques, including cuts within a perimeter. Select appropriate joining techniques. Adapt structures to make them stronger and stiffer. Select fabric to make a 3D textiles product.	Cut materials with precision and refine the finish with appropriate tools (e.g. sanding wood, a more precise scissor cut, sharper scissors). Base their tool choice on understanding of material quality. Measure accurately to a suitable degree of measurement using standard or non-standard units. Know how to reinforce/strengthen a 3D framework. Know that a 3D textiles product can be made from a combination of fabric shapes.	Cut materials with precision and refine the finish with appropriate tools (e.g. sanding wood, a more precise scissor cut, sharper scissors). Base their tool choice on understanding of material quality. Measure accurately to a suitable degree of measurement, selecting and understanding when to use standard or non-standard units. Select how to reinforce/strengthen a 3D framework. Select fabrics to combine to make a 3D textile product.

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	MAKE A PRODUCT MOVE	Explore how to make a product work by using different materials.	Understand about the simple working characteristics of materials and components. Understand about the movement of simple mechanisms including levers and sliders.	Understand about the simple working characteristics of materials and components. Understand about the movement of simple mechanisms including levers, sliders, wheels and axles .	Understand how levers and linkages create movement. Understand how simple electrical circuits and components can be used to create functional products. .	Understand how pneumatic systems create movement. Understand how to program a computer to control their products, including with simple electrical circuits.	Understand how cams and pulleys create movement. Understand how more complex electrical circuits and components can be used to create functional products.	Understand how cams, pulleys and gears create movement. Understand how to program a computer to monitor changes in the environment / control their products.

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		YEAR R	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
EVALUATE	PRODUCT EVALUATION	Describe what they like and dislike about their product.	Talk about own and pre-existing products, saying what is good or bad about them. Say whether their product does what it is meant to (fits the design brief) and how it could be improved.	Describe how their own and pre-existing products work, evaluating what went well and what could be done differently. Evaluate components used.	Identify the strengths and weaknesses of their ideas and products, in terms of usability and appearance. Suggest what could be changed to improve a design, beginning to link this to the design brief.	Evaluate the appearance and usability of own and pre-existing products, taking into consideration others' views, including the end users. Explain how the original design could be improved, considering the appearance and usability and linking this to the design brief.	Evaluate the appearance, function and fitness for purpose of a product (own and pre-existing) against the original criteria. Take into consideration others' views, including the end users. Suggest improvements that could be made, considering materials and methods that have been used.	Evaluate the appearance and test the function of a product (own and pre-existing) against the original criteria. Take into consideration others' views, including the end users. Suggest improvements that could be made, considering materials, methods, sustainability of the product and how much a product costs to make.

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	TAKING INSPIRATION FROM DESIGNERS THROUGHOUT HISTORY	Look at objects and talk about likes and dislikes.	Explore objects and designs to identify who they are made for and what they are made of.	Explore objects and designs to identify how they work. Use ideas from existing designs to create their own product.	Identify some of the great designers in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs. Disassemble products to understand how they work. Evaluate why materials have been chosen and what methods of constructions have been used in existing products.	Describe the characteristics of work by some of the great designers. Disassemble and reassemble products to understand how they work. Evaluate how well products have been designed and made so as to suggest improvements to the product. Improve upon existing designs, giving reasons for choices.	Use research of designers to influence work. Compare the characteristics of work by some of the great designers. Evaluate how well products achieve their purposes. Create innovative designs that improve upon existing products.	Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices. Evaluate how well products meet user needs and wants. Evaluate how materials can be combined and mixed to create more useful properties.

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		YEAR R	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
FOOD AND NUTRITION	FOOD ORIGIN	Know that food is grown from the earth or comes from an animal.	Understand that fruit and vegetables are grown from the ground and that some food products come from animals.	Understand that some fruit and vegetables grow on trees or plants above the earth and some under the earth.	Understand that fruit, vegetables and herbs can only grow at particular times of the year.	Know where and how a variety of ingredients are grown. Know that food ingredients can be fresh, pre-cooked and processed.	Know where and how a variety of ingredients are processed.	Know where and how ingredients are reared or caught.
	NUTRITION	Know some examples of healthy food.	Know that it is recommended that everyone should eat at least 5 portions of fruit and vegetables a day.	Name and sort foods into the five groups of the 'eat well' plate.	Know that a healthy diet is made up from a variety and balance of different foods and drinks, as depicted in the 'eat well' plate.	Know the impact of diet on the body, in particular teeth and know how food is digested.	Know that different foods contain different substances - nutrients, water and fibre - that are needed for health.	Make links between the amount of energy the body receives in calories and the impact on the body. Describe how nutrients are transported in the body.

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	HYGIENE AND PREPARATION	Manage basic hygiene. Use basic cooking tools. Measure or weigh using measuring cups. Follow basic instructions from an adult.	Use basic food handling, hygienic practices and personal hygiene. Know how to peel, cut, grate, mix and mould foods (with close supervision). Measure or weigh using measuring cups or electronic scales. Follow a simple recipe read by an adult.	Follow safe procedures and food safety and hygiene. Know how to peel, cut, grate, mix and mould foods (with supervision). Measure or weigh using measuring cups or electronic scales. Follow a recipe supported by an adult.	Demonstrate hygienic food preparation and storage. Prepare ingredients and begin to cook foods, controlling the temperature of the oven or hob. Measure using grams. Follow a recipe as a group.	Demonstrate hygienic food preparation and storage. Prepare ingredients and begin to cook foods, controlling the temperature of the oven or hob. Measure accurately using grams. Follow a recipe and take into timings.	Apply the rules for basic food hygiene and other safe practices e.g. hazards relating to the use of hazards. Begin to use a range of baking and cooking techniques. Measure accurately and calculate simple ratios of ingredients to scale up or down from a recipe. Refine a recipe including ingredients and methods.	Apply the rules for basic food hygiene and other safe practices e.g. hazards relating to the use of hazards. Demonstrate a range of baking and cooking techniques and decide the most appropriate. Measure accurately and calculate ratios of ingredients to scale up or down from a recipe. Create a recipe, including ingredients, methods, cooking times and temperatures.