

Design Technology Topic & Progression Map

Threshold Concept	Milestone 1		Milestone 2		Milestone 3	
	Year 1 Basic	Year 2 Advancing & Deep	Year 3 Basic	Year 4 Advancing & Deep	Year 5 Basic	Year 6 Advancing & Deep
Topics to match to DT Scheme	Topic 1: Freestanding Structures (Playground) Topic 2: Sliders and Levers (Moving pictures) Topic 3: Preparing fruits and vegetables	Topic 1: Electricity Topic 2: Templates and Joining (Puppets) Topic 3: Wheels and axels	Topic 1: Healthy and varied diet Topic 2: 2D Shape to 3D Product (Textiles) Topic 3: Shell structures using CAD	Topic 1: Lever and Linkages Topic 2: Electricity Topic 3: Pneumatics	Topic 1: Woodwork (Bird Hides) Topic 2: Combining different fabric shapes (textiles) Topic 3: Cams	Topic 1: Celebrating culture and diversity (food) Topic 2: More complex switches Topic 3: Pulleys or gears
Master Practical Skills	• Cut, peel or grate ingredients safely and hygienically. • Measure or weigh using measuring cups or electronic scales. • Measure and mark out to the nearest centimetre. • Colour and decorate textiles using a number of techniques (such as dyeing, adding sequins or printing). • Create products using levers, wheels and winding mechanisms.	• Assemble or cook ingredients. • Cut materials safely using tools provided. • Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling). • Shape textiles using templates. • Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen). • Join textiles using running stitch. • Diagnose faults in battery operated devices (such as low battery, water damage or battery terminal damage). • Model designs using software.	• Prepare ingredients hygienically using appropriate utensils. • Measure ingredients to the nearest gram accurately. • Follow a recipe. • Assemble or cook ingredients (controlling the temperature of the oven or hob, if cooking). • Select appropriate joining techniques. • Join textiles with appropriate stitching. • Select the most appropriate techniques to decorate textiles. • Strengthen materials using suitable techniques.	• Cut materials accurately and safely by selecting appropriate tools. • Measure and mark out to the nearest millimetre. • Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs). • Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears). • Create series and parallel circuits • Control and monitor models using software designed for this purpose. • Choose suitable	• Cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape). • Show an understanding of the qualities of materials to choose appropriate tools to cut and shape (such as the nature of fabric may require sharper scissors than would be used to cut paper). • Create objects (such as a cushion) • Join textiles with a combination of stitching techniques (such as back stitch for seams and running stitch to attach decoration). • Use the qualities of materials to create suitable visual and tactile effects in the decoration of textiles	• Understand the importance of correct storage and handling of ingredients (using knowledge of micro-organisms). • Measure accurately and calculate ratios of ingredients to scale up or down from a recipe. • Demonstrate a range of baking and cooking techniques. • Create and refine recipes, including ingredients, methods, cooking times and temperatures. • Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips). • Write code to control and monitor models or products. • Convert rotary motion to

		• Use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products.		techniques to construct products or to repair items.	(such as a soft decoration for comfort on a cushion). • Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filing and sanding).	linear using cams. • Use innovative combinations of electronics (or computing) and mechanics in product designs.
Design, Make, Evaluate and Improve	• Design products that have a clear purpose and an intended user. • Make products	• Refine the design as work progresses. • Use software to design.	• Design with purpose by identifying opportunities to design. • Make products • Refine work and techniques as work progresses	• Make products by working efficiently (such as by carefully selecting materials). • Refine work and techniques as work progresses, continually evaluating the product design. • Use software to design and represent product designs.	• Make products through stages of prototypes, making continual refinements. • Use prototypes, cross-sectional diagrams and computer aided designs to represent designs.	• Design with the user in mind, motivated by the service a product will offer (rather than simply for profit). • Ensure products have a high quality finish, using art skills where appropriate.
Take Inspiration from Design Throughout History	• Explore objects and designs to identify likes and dislikes of the designs. • Explore how products have been created.	• Suggest improvements to existing designs.	• Identify some of the great designers in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs.	• Improve upon existing designs, giving reasons for choices. • Disassemble products to understand how they work.	• Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices.	• Create innovative designs that improve upon existing products. • Evaluate the design of products so as to suggest improvements to the user experience.

Foundation – EYFS

Expressive Arts and Design: Creating with Materials

Children at the expected level of development will:

- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function;

- Share their creations, explaining the process they have used;
- Make use of props and materials when role playing characters in narratives and stories.

EYFS Master practical skills:

I can select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]

I can select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics

I can use cutlery

Design, make, evaluate and improve:

I can generate, develop and model and communicate ideas through talking, drawing, making models

I can experiments to create different textures.

I can manipulate materials to create a planned effect.

I can constructs with a purpose in mind, using a variety of resources.

I can design and make props for role play

I can build a simple model using construction materials such as blocks or recycled materials

I can think about how things work

I can talk about my creations and processes