

Skills Progression in D&T 2016/17

Key LO starters: **To master practical skills... To design, make, evaluate and improve... To take inspiration from design throughout history...**

	Materials	Textiles	Electricals and electronics	Construction	Mechanics	Computing
Y1	Cut materials safely using tools provided. Demonstrate a range of cutting and shaping techniques (tearing, cutting, folding and curling).	Shape textiles using a template. Join textiles using a running stitch.	Diagnose faults in battery operated devices (such as low battery, water damage or battery terminal damage).	Use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products.	Create products using levers, wheels and winding mechanisms.	Model designs using softwear.
Y2	Measure and mark out to the nearest centimetre. Demonstrate a range of joining techniques (gluing, hinges or combining materials to strengthen).	Colour and decorate textiles using a number of techniques (such as dyeing, adding sequins or printing).	Diagnose faults in battery operated devices (such as low battery, water damage or battery terminal damage).	Use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products.	Create products using levers, wheels and winding mechanisms.	Model designs using softwear.
Y3	Cut materials accurately and safely, using appropriate tools. Select appropriate joining techniques.	Join textiles with appropriate stitching. Select the most appropriate techniques to decorate textiles.	Create series and parallel circuits.	Choose suitable techniques to construct products. Strengthen materials using suitable techniques.	Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a	Control and monitor models using softwear designed for this purpose.

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					product (such as levers, winding mechanisms, pulleys and gears).	
Y4	Measure and mark out to the nearest millimetre. Apply appropriate cutting and shaping techniques that include cuts within the perimeter of material (such as slots or cut outs).	Understand the need for a seam allowance. Select the most appropriate techniques to decorate textiles.	Create series and parallel circuits.	Choose suitable techniques to construct products. Strengthen materials using suitable techniques.	Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears).	Control and monitor models using software designed for this purpose.
Y5	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).	Use the qualities of materials to create suitable visual and tactile effects in the decoration of textiles (such as a soft decoration for comfort on a cushion).	Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips.)	Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filing and sanding).	Convert rotary motion to linear using cams.	Write code to control and monitor models of products.
Y6	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	Create objects that employ a seam allowance. Join textiles with a combination of stitching techniques (such as back stitch for seams and running stitch to add decoration).	Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips.)	Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filing and sanding).	Use innovative combinations of electronics (or computing) and mechanics in product designs.	Write code to control and monitor models of products.

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cutting out a shape).					
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Food

Food is taught through the 'Food for Life' scheme. Use recipe cards that focus on and consolidate age appropriate skills. One cooking day to be held per full term (three a year).

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Cut, peel or grate ingredients safely and hygienically. Assemble or cook ingredients.	Measure or weigh using measuring cups or electronic scales. Assemble or cook ingredients.	Prep ingredients hygienically using appropriate utensils. Follow a recipe.	Measure ingredients to the nearest gram accurately. Assemble or cook ingredients (controlling the temperature of the oven or hob).	Measure accurately and calculate ratios of ingredients to scale up or down a recipe. Demonstrate a range of baking and cooking techniques.	Understand the importance of correct storage and handling of ingredients (using knowledge of micro organisms). Create and refine recipes, including ingredients, methods, cooking times and temperatures.

Across all areas; consider:

Design, make, evaluate and improve.

KS1

- Design products that have a clear purpose and an intended user.

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- Make products, refining the design as work progresses.
- Use software to design.

Lower KS2

- Design with purpose by identifying opportunities to design.
- Make products by working efficiently (such as by carefully selecting materials).
- Refine work and techniques as work progresses, continually evaluating the design.
- Use software to design and represent product designs.

Upper KS2

- Design with the user in mind, motivated by the service a product will offer.
- Make products through stages of prototypes, making continual refinements.
- Ensure products have a high quality finish, using art skills where appropriate.
- Use prototypes, cross-sectional diagrams and CAD to represent ideas.

Take inspiration from design throughout history.

KS1

- Explore objects and designs to identify likes and dislikes of the designs.
- Suggest improvements to existing designs.
- Explore how products have been created.

Lower KS2

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- 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 changes.
- Disassemble products to understand how they work.

Upper KS2

- 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 user experience.