# Design and Technology Progression
# KS2

| | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|
| | **Design and Evaluate (inter-linked)** | | | |
| *Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.<br>*Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. | I can design including words, labelled sketches and models, recognising that designs have to meet a range of needs, including being fit for purpose. | I can collect information from a number of different sources and use this information to inform design ideas in words, labelled sketches, diagrams and models, keeping in mind fitness for purpose and the end user. | I can use various sources of information, clarifying/ sharing ideas through discussion, labelled sketches, cross sectional diagrams and modelling, recognising that ideas have to meet a range of needs. | I can develop detailed criteria for designs for products aimed at particular individuals or groups, sharing ideas through cross sectional and exploded diagrams, prototypes and pattern pieces. |
| | I can use ICT software to create a labelled plan or design in detail. | I can use ICT software to create alternatives for an initial design. | I can use computer programs to suggest alternative design ideas and explain my ideas and intentions. | I can use computer aided designs to represent moving parts of a designs. |
| | I can make realistic plans, identifying processes, equipment and materials needed. | I can make realistic step by step plans, reflecting on designs as the product develops. | I can work from my own detailed plans, modifying them where appropriate. | I can check work as it develops and modify my approach in the light of progress. |
| | I can suggest improvements upon existing designs, giving reasons for choices. | I can disassemble products to understand how they work.<br>I can explain how the product is useful to the user. | I can create innovative designs that improve upon existing products. | I can evaluate the design of products to suggest improvements to the user experience. |
| | I can identify some of the great designers in all of the areas of study to generate ideas for designs. | I can identify some of the great designers in all of the areas of study to generate ideas for designs. | I can combine elements of design from a range of inspirational designers throughout history. | I can combine elements of design from a range of inspirational designers throughout history, giving reasons for choices. |

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|---|---|---|---|---|
| | **Design and Evaluate (inter-linked)** | | | |
| *Investigate and analyse a range of existing products.<br>*Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work<br>*Understand how key events and individuals in design and technology have helped shape the world. | I can refine work as work progresses, evaluating the end product design (taking the views of others into account). | I can refine work and techniques-evidencing and explaining the results of research as work progresses, continually evaluating the product design (taking the views of others into account – using peer market research to evaluate and improve products and different stages of the design process) | I can test and evaluate products against a detailed design specification and make adaptations as they develop the product. | I can demonstrate modifications made to a product, as a result of ongoing evaluation, by themselves and others. |
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# Design and Technology Progression
# KS2

| | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|
| | | **Make** | | |
| *Select from and use a wider range of tools and equipment to perform practical tasks (for example cutting, shaping, joining and finishing) accurately.<br>*Select from and use a wider range of materials and components, including construction materials and textiles, according to their functional properties and aesthetic qualities. | **Materials:**<br>I can cut materials accurately and safely by selecting appropriate tools.<br>I can select appropriate joining techniques.<br>(taping, gluing, hinges) | **Materials:**<br>I can measure and mark out to the nearest mm.<br>I can apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs). | **Materials:**<br>I can 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). | **Materials:**<br>I show an understanding of the qualities of materials to choose appropriate tools to cut and shape (e.g. the nature of fabric may require sharper scissors than would be used to cut paper). |
| | **Textiles:**<br>I can select the most appropriate techniques to decorate textiles.<br>I can join textiles with appropriate stitching.<br>(back stitch or cross stitch) | **Textiles:**<br>I can understand the need for a seam allowance. | **Textiles:**<br>I can create objects (such as a cushion) that employ a seam allowance.<br>I can join textiles with a combination of stitching techniques (e.g. back stitch for seams and running stitch to attach decoration). | **Textiles:**<br>I can 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). |
| | **Electricals and Electronics:**<br>*I can build models incorporating circuits with buzzers and bulbs.* | **Electricals and Electronics:**<br>I can build models incorporating motors within the circuits. | **Electricals and Electronics:**<br>I can create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips). | **Electricals and Electronics:**<br>I can create circuits using electronics kits that employ a number of components with increasing confidence. |
| | **Construction:**<br>I can choose suitable techniques to construct products or to repair items.<br>I can use a junior hacksaw to cut soft wood. | **Construction:**<br>I can strengthen materials using suitable techniques. | **Construction:**<br>I can develop a range of practical skills to create products (e.g cutting, drilling and screwing, nailing, gluing, filling and sanding). | **Construction:**<br>I can demonstrate a range of practical skills to create products. |
| | **Mechanics:**<br>I can **create** pulleys, levers and linkages. | **Mechanics:**<br>I can **use** pulleys, levers and linkages in my products. | **Mechanics:**<br>I can use cams or gears in my products. | **Mechanics:**<br>I can use innovative combinations of electronics (or computing) and mechanics in product designs |
| | **Computing:**<br>I can monitor, evaluate, refine and improve my own models using software designed for this purpose. | **Computing:**<br>I can control and monitor models using software designed for this purpose. | **Computing:**<br>I can begin to write code to control and monitor models or products. | **Computing:**<br>I can write code to control and monitor models or products. |

# Design and Technology Progression
# KS2

| | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|
| | **Cookery and Nutrition** | | | |
| ***Select from and use a wider range of tools and equipment to perform practical tasks (for example cutting, shaping, joining and finishing) accurately.**<br>***Select from and use a wider range of materials and components, including ingredients, according to their functional properties and aesthetic qualities.** | I can prepare ingredients hygienically using appropriate utensils. | I can prepare ingredients hygienically selecting and using appropriate utensils. | I can understand the importance of correct storage and handling of ingredients (knowledge of micro-organisms). | I can understand the importance of correct storage and handling of ingredients (knowledge of micro-organisms). |
| | I can measure accurately. | I can measure ingredients to the nearest gram. | I can measure and weigh ingredients appropriately, selecting the correct utensils. | I can measure accurately and calculate ratios of ingredients to scale up or down from recipe. |
| | I can follow a recipe. | I can assemble and cook ingredients using a range of cooking techniques. *(controlling the temperature of the oven or hob, if cooking).* | I can demonstrate a range of baking and cooking techniques (e.g. kneading, rubbing in and mixing). | I can create and refine recipes, including ingredients, methods, cooking times and temperatures. |
| | I can describe what a balanced diet is. | I can make healthy eating choices and explain why. | I can evaluate meals and consider if they contribute towards a balanced diet. | I can plan a menu for the week ensuring the meals are healthy and affordable. |
| | *I can identify food that comes from the UK and other countries in the world.* | *I can explain some of the processes that foods go through to preserve/ make them more appealing.* | I can explain what times of year particular foods are in season. | I can explain how ingredients were grown, reared, caught and processed. |