



Progression and Core Knowledge in Design and Technology

The Big Ideas in Design and Technology

- Design and make products that solve real and relevant problems making high quality prototypes and designs.
- Select appropriate materials, tools and components and understand their use and function.
- Evaluate past and present design, critique evaluate and test their ideas
- Develop technical knowledge of design including mechanical knowledge.
- Apply the principles of nutrition and learn how to prepare food.

National Curriculum Objectives for KS1

Design

- design purposeful, functional, appealing products for themselves and other users based on design criteria
- generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology

Make

- select from and use a range of tools and equipment to perform practical tasks e.g. cutting, shaping, joining and finishing
- select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics

Food Technology

- use the basic principles of a healthy and varied diet to prepare dishes
- understand where food comes from

Technical knowledge

- build structures, exploring how they can be made stronger, stiffer and more stable
- explore and use mechanisms [e.g. levers, sliders, wheels and axles], in their products

Evaluate

- explore and evaluate a range of existing products
- evaluate their ideas and products against design criteria

	F	Y1	Y2
Design	To be able to have an idea or purpose for what they want to make.	Use own ideas to design something. Describe how their own idea works. Explain to someone else how they want to make their product. Make a simple plan before making.	Understand the purpose of their product Think of an idea and plan what to do next Explain why they have chosen specific textiles or materials Draw a simple design and label the parts of their product
Make	To be able to can use scissors To be able to join different materials using a range of techniques	Use scissors to cut straight, corners and curved lines on paper and thin card. Use PVA, sticky tape, masking tape and split pins to join materials. Identify and name a simple selection of hand tools. Use tools safely	Use scissors to cut different materials Use a template to create a design Join materials and components in different ways including using a running stitch to join fabric
Food Technology	Practice good food hygiene with support. To begin to use a range of cooking techniques with support such as pouring, mixing and stirring. To develop food vocabulary using taste, smell and look	Know that all food comes from either plants or animals. Know that most fresh food is grown on farms and sold on to shops and supermarkets Know where some fruit and vegetables come from Know what is grown in the UK	Explain why they have chosen specific ingredients Prepare a healthy breakfast using a combination of food from different food groups Follow safe procedures for food safety and hygiene
Technical Knowledge	To begin to know which materials and shapes will/will not join easily.	Use levers and sliders Make their own model stronger	Use wheels and axles to design a fire engine that moves Make a model stronger and more stable
Evaluation	To be able to share their creations, explaining the process they have used. To say what they like about their product and other children's products.	Describe how something works Explain what works well and not so well in the model they have made.	Explain what went well with their own work Suggest how their design could have been better

What's next in design and technology?

Strand	Y3	Y4
Design	DT3.1 know how to prove that a design is fit for purpose and meets the user's needs in line with the design criteria DT3.2 know how to design a product and make sure that it looks appealing DT3.3 know how to draw annotated designs with labels that detail their material choices and suitability of the given materials	DT4.1 know how to use ideas from other people when designing (e.g. creating a mood board of existing products) DT4.2 know how to produce a design criteria to inform the designing and making process DT4.3 know how to communicate ideas through annotated sketches that show different viewpoints of the product
Make	DT3.4 know how to select the most appropriate tools for a given task DT3.5 know how to choose the right equipment and materials (including textiles, construction materials and/or ingredients) DT3.6 know how to select the most appropriate technique for shaping and joining DT3.7 know how to work accurately to measure, make cuts and make holes DT3.8 know how to choose finishing techniques to improve the appearance of their products using a range of equipment including ICT	DT4.4 know which tools to use for a particular task and show knowledge of handling the tool DT4.5 know which material and/or component is likely to give the best outcome based on its properties DT4.6 know how to mark, measure, cut and join accurately DT4.7 know how to sew, weave or knit using a range of stitches
Evaluate	DT3.9 know why existing products have or have not been successful to inform their own designs DT3.10 know why their own product has or has not been successful DT3.11 know how to improve their finished product in relation to the design criteria	DT4.8 know how to evaluate existing products for both their purpose and appearance DT4.9 know how to evaluate their own and others final product against the design criteria DT4.10 know how to evaluate and suggest improvements for their own designs
Technical Knowledge	DT3.12 know how to strengthen a product by stiffening a given part or reinforce a part of the structure DT3.13 know how to create a product with a simple mechanism (e.g. gears, pulleys, cams, levers and linkages)	DT4.11 know how to apply scientific knowledge of electrical systems to their structural or mechanical product (e.g. series circuits incorporating switches, bulbs, buzzers and motors) DT4.12 know how to use IT where appropriate to add to the quality of the product (program, monitor and control)
Cooking & Nutrition	DT3.14 know when food is available for harvesting and understand seasonality DT3.15 know what a balanced diet looks like DT3.16 know how to demonstrate hygienic food preparation DT3.17 know how to weigh out ingredients and follow a given healthy recipe to create a dish	DT4.13 know that animals are reared and caught for food DT4.14 know safe practices in the kitchen and can identify hazards (e.g. hazards when using an oven) DT4.15 know how to weigh and measure accurately (timings, dry ingredients and liquids) to create a dish