



Assessing Design & Technology (KS2)

Pupils should be taught to:

- 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;
- generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design;
- select from and use a wider range of tools and equipment to perform practical tasks accurately;
- select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities;
- investigate and analyse a range of existing products;
- evaluate their ideas and products against their own design criteria and consider the views of others to improve their work;
- understand how key events and individuals in design and technology have helped shape the world; • apply their understanding of how to strengthen, stiffen and reinforce more complex structures;
- understand and use mechanical systems in their products;
- understand and use electrical systems in their products;
- apply their understanding of computing to program, monitor and control their products;
- understand and apply the principles of a healthy and varied diet;
- prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques;
- understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.

DESIGN

Use research to develop design criteria.
Use their knowledge of broad range of existing products to help generate ideas.
Design innovative and appealing products that have a clear purpose and are aimed at a target market.
Identify the design feature of their own products that will appear to the target market.
Explain how particular parts of their own products work.
Use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas.
Use computer-aided designs to develop and communicate their ideas.
When designing, explore different initial ideas before coming up with a final design.
When planning, explain their choice of materials and components, including function and aesthetics.
When planning, consider the availability and costing of materials and resources.
Test out ideas through the use of prototypes.
Work in a broader range of relevant contexts, for example entertainment, the home, school, leisure, culture, enterprise, industry and the wider environment.

PLAN

Independently plan by suggesting what to do next.
With growing confidence, carefully select tools and equipment from a given range and explain their choices.
Select from a range of materials and components according to their functional properties and aesthetic qualities.
Create step-by-step plans as a guide to making.

MAKING SKILLS AND TECHNIQUES

Learn to use a range of tools and equipment safely, appropriately and accurately.
Learn to follow hygiene procedures.
Use a range of materials and components, including construction materials and kits, textiles and mechanical and electrical components.
Independently measure and mark out to the nearest millimetre.
Cut, shape and score materials with precision and accuracy.
Assemble, join and combine materials and components with accuracy.
Demonstrate how to measure, cut, shape and join fabric with accuracy to make an appropriate product.
Demonstrate how to make a seam allowance.
Join textiles with an appropriate stitch, such as running stitch, backstitch, whip stitch, blanket stitch etc.
Select and use different and appropriate finishing techniques to improve the appearance of a product such as sanding, hemming, digital graphics etc.

EVALUATE

Evaluate existing products on the market, explaining the purpose of the product and whether it is designed well to meet the intended purpose.
Explore what products are made from and suggest reasons for this.
Consider their design criteria as they make progress and are willing to alter their plans, sometimes considering the views of others if this helps to improve their product.
Evaluate their product against their original design and make changes as needed.
Evaluate the key events, including technological developments and designs of individuals in design and technology that have helped shape the world.

TECHNICAL KNOWLEDGE

Understand that materials have both functional properties and aesthetic qualities.
Apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products.
Understand and demonstrate how mechanical and electrical systems have an input, process and output.
Make and represent simple electrical circuits (including series and parallel) and components to create functional products.
Explain how mechanical systems, such as levers, linkages and cams, create movement.
Use mechanical systems in their products.
Apply their understanding of computing to program, monitor and control a product.

COOKING & NUTRITION

Know when and where food is produced in the UK, Europe and the wider world.
Know, explain and give examples of food that is grown, reared and caught in the UK, Europe and the wider world.
Understand about seasonality, how this may affect the food availability and plan recipes accordingly.
Understand that food is processed into ingredients that can be eaten or used in cooking.
Understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically.
Use a heat source to cook ingredients, showing awareness of the need to control the temperature of the hob and/or oven.
Prepare ingredients using appropriate cooking utensils
Use a range of techniques such as mashing, whisking, crushing, grating, cutting, kneading and baking.
Use a range of cooking techniques, such as griddling, grilling, frying and boiling.
Explain that foods contain different substances, such as protein, that are needed for health and be able to apply these principles when planning and preparing dishes.
Understand that to be active and healthy, nutritious food and drink are needed to provide energy for the body.
Measure and weigh ingredients to the nearest gram and millilitre.
Calculate ratios of ingredients to scale up or down a recipe.
Independently follow a recipe.
Adapt and refine recipes by adding or substituting one or more ingredients to change the appearance, taste, texture and aroma.
Alter methods cooking times and/or temperatures.

SELF ASSESSMENT

Project	My Comments
Name of project:	What did you use to make your product?
	What do you like about the product and why?
Date:	How would you make this product better?