

Year 3

- Design, make and evaluate some packaging to hold rocky road to raise money for your Children in Need store.
- Design, make and evaluate a sarcophagus toy for someone younger to understand the mummification process.
- Design, make and evaluate a salad based on a traditional Greek Salad to understand what makes a healthy dish.

Key Skills

Design: I can generate and clarify ideas through discussion with peers and adults to develop design criteria / I can generate realistic and appropriate ideas and my own design criteria through discussion, focusing on the needs of the user/ I can use annotated sketches and prototypes to develop, model and communicate ideas.

Make: I can plan the main stages of a recipe, listing ingredients, utensils and equipment/ I can select and use appropriate utensils and equipment to prepare and combine ingredients/ I can select from a range of ingredients to make appropriate food products, thinking about sensory characteristics/ I can order the main stages of making/ I can select from and use appropriate tools with some accuracy to cut and join materials and components/ I can explain my choice of materials according to functional properties and aesthetic qualities/ I can use finishing techniques suitable for the product I am creating/ I can select and use appropriate tools to measure, mark out, cut, score, shape and assemble with some accuracy.

Evaluate: I can carry out sensory evaluations of a variety of ingredients and products and record the evaluations using tables and simple graphs/ I can evaluate the ongoing work and the final product with reference to the design criteria and the views of others/ I can investigate and analyse books, videos and products with pneumatic mechanisms/ I can evaluate my own products and ideas against criteria and user needs, as I design and make/ I can investigate and evaluate a range of existing shell structures including the materials, components and techniques that have been used.

Key Vocabulary:

User, purpose, design, prototype, reflect



Year 4

- To design, make and evaluate a torch using a simple circuit and a switch to use on a night walk.
- To design, make and evaluate a Christmas card that involves a moving mechanism.
- To design, make and evaluate a purse to be used by an Anglo-Saxon person.

Key Skills

Design: I can generate realistic ideas and my own design criteria through discussion, focusing on the needs of the user/ I can design a product that meets the design criteria/ I can generate realistic ideas and my own design criteria through discussion, focusing on the needs of the user/ I can design a product that meets the design criteria/ I can research different types of materials and fastenings to help me design a functional and appealing product/ I can produce detailed lists of equipment and fabrics relevant to my tasks.

Make: I can select from and use appropriate tools with some accuracy to cut, shape and join paper and card/ I can make prototypes using different levers and linkages/ I can complete a simple circuit with a switch/ I can select and use materials and components, including construction and electrical components according to their functional and aesthetic qualities/ I can make and use a 2D paper patterns to cut material (remembering to leave a seam allowance)/ I can use a range of decorating techniques to make my product appealing to the user/ I can use different sewing techniques to join two pieces of material and create a seam.

Evaluate: I know and use technical vocabulary relevant to the project/ I can investigate and analyse products with lever and linkage mechanisms/ I can evaluate my own products and ideas against criteria and user needs, as I design and make/ I can investigate and analyse a range of battery powered products/ I can evaluate my own products and ideas against criteria and user needs, as I design and make/ I can consider the views of others and use this to improve my work.

Key Vocabulary:

Innovation, evaluate, appealing, function, design criteria

Progression in Design and Technology skills and knowledge at Banks Lane Junior School

Aims of KS2 Design and Technology National Curriculum

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].

KS2 Objectives

Design

- 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

Make

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

Evaluate

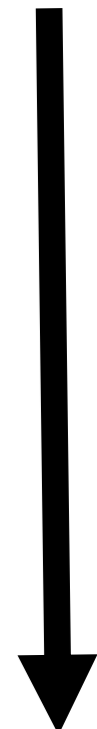
- investigate and analyse a range of existing products
- evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
- understand how key events and individuals in design and technology have helped shape the world

Technical knowledge

- apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
- understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
- apply their understanding of computing to program, monitor and control their products.

Cooking and Nutrition

- 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



Year 6

- Design, make and evaluate a mobile phone carrier for yourself or a family member to keep it secure.
- Design, make and evaluate a toy with oscillating, rotating or reciprocating movement for a younger sibling or family member for them to play with.
- Design, make and evaluate a light for yourself to use at the leavers' assembly.

Key Skills

Design: I can use research to develop a design specification for a functional product/ I can take account of constraints including time, resources and cost/ I can generate and develop innovative ideas and share and clarify these through discussion/ I can communicate ideas through annotated sketches, pictorial representations of electrical circuits or circuit diagrams/ I can generate innovative ideas by carrying out research using surveys, interviews, questionnaires and web-based resources/ I can develop a simple design specification to guide their thinking/ I can develop, model and communicate ideas through talking, drawing, templates, mock-ups and prototypes/ I can design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification.

Make: I can select from and use a range of tools and equipment to make products that are accurately assembled and well finished/ I can work within the constraints of time, resources and cost/ I can produce detailed lists of tools, equipment and materials/ I can formulate a step-by-step plan to guide making, listing tools, equipment, materials and components/ I can competently select and accurately assemble materials, and securely connect electrical components to produce a reliable, functional product.

Evaluate: I can continually evaluate and modify the working features of the product to match the initial design specification/ I can compare the final product to the original design specification/ I can test products with the intended user, where safe and practical, and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose/ I can consider the views of others to improve their work.

Key Vocabulary:

Modify, intended user, critically evaluate, quality



Year 5

- To design, make and evaluate container for tomatoes and an appropriate mechanical system to transport the container across a ravine.
- To design, make and evaluate a money box suitable for collecting money for our Children in Need Fair.
- To design, make and evaluate a healthy meal for Summer.

Key Skills

Design: I can research existing products that have both **functional** properties and **aesthetic** qualities/ I can indicate the design features of their products that will appeal to intended users/ I can use annotated sketches and front and side diagrams to develop and communicate our ideas/ I can find out about different ways of transporting produce in developing countries and research the needs of specific groups/ I can carry out research on levers, gears and pulleys/ I can model ideas using prototypes/ I can communicate ideas through annotated sketches.

Make: I can accurately measure, mark out, cut and shape materials and components/ I can accurately assemble, join and combine materials and components/ I can accurately apply a range of finishing techniques, including those from art and design/ I can select appropriate tools, equipment and materials/ I can accurately assemble, join and combine materials and components, including a mechanical system.

Evaluate: I can critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make/ I can identify the strengths and areas for development in their ideas and products/ I can consider the views of others, including intended users, to improve my work/ I can evaluate my product against the design criteria considering the following: user, purpose, functionality, design decisions, innovation and authenticity/ I can evaluate by identifying areas for further development.

Key Vocabulary:

Design decisions, authentic, design specification, research, evaluate