

Design Technology Curriculum Overview

Purpose of study

Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

Key stage 1

When designing and making, pupils should be taught to:

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 [for example, 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

Evaluate

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

Technical knowledge

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

Key stage 2

When designing and making, pupils should be taught to:

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

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

Pupils should be taught to:

Key stage 1

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

Key stage 2

- 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.

The [National Curriculum Design Technology Programme of Study](#) provides the content that must be taught to each both KS1 and KS2.

Below is a grid showing how at Perran-ar-Worthal School we structure our Design Technology teaching for KS1 and KS2.

Autumn 1 Year 3 WORKING CLOCKS	Autumn 2 Year 2 SEWING – XMAS DECORATIONS	Spring 1 Year 4 BIRD HOUSES AND FEEDERS	Spring 2 Year 1 MOVING PICTURES AND CARDS	Summer 1 Year 6 SEWING	Summer 2 Year 5 MECHANISMS AND MACHINES
Research, design and review: Use research and develop design criteria to inform the design of innovative, functional and appealing products that are fit for purpose. Generate, develop, model and communicate ideas	Research, design and review: Design purposeful appealing products based on design criteria. Generate, develop, model and communicate ideas through talking drawing, templates and	Research, design and review: Use research and develop design criteria to inform the design of innovative, functional and appealing products that are fit for purpose. Generate, develop, model and communicate ideas	Research, design and review: Design purposeful appealing products based on design criteria. Generate, develop, model and communicate ideas through talking drawing, templates and	Research, design and review: Use research and develop design criteria to inform the design of innovative, functional and appealing products that are fit for purpose. Generate, develop, model and communicate ideas	Research, design and review: Use research and develop design criteria to inform the design of innovative, functional and appealing products that are fit for purpose. Generate, develop, model and communicate ideas

through discussion, annotated sketches etc Select from and use a range of tools and equipment to perform practical tasks Select and use a range of materials according to their functional properties and aesthetic qualities Investigate and analyse a range of existing products Evaluate ideas and products against 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 knowledge of how to strengthen. Stiffen and reinforce more complex structures. Understand and use mechanical systems in products e.g. gears, pulleys, cams, levers and linkages Understand and use electrical systems in products	mock-ups. Select from and use a range of tools and equipment for practical tasks. Select from and use a range of materials Explore and evaluate existing products. Evaluate ideas and products against design criteria Explore and use mechanisms in product e.g. sliders Build structures exploring how they can be made stronger/stiffer/more stable	through discussion, annotated sketches etc Select from and use a range of tools and equipment to perform practical tasks Select and use a range of materials according to their functional properties and aesthetic qualities Investigate and analyse a range of existing products Evaluate ideas and products against design criteria and consider the views of others to improve their work. Apply their knowledge of how to strengthen. Stiffen and reinforce more complex structures.	mock-ups. Select from and use a range of tools and equipment for practical tasks. Select from and use a range of materials Explore and evaluate existing products. Evaluate ideas and products against design criteria Explore and use mechanisms in product e.g. sliders Build structures exploring how they can be made stronger/stiffer/more stable	through discussion, annotated sketches etc Select from and use a range of tools and equipment to perform practical tasks Select and use a range of materials according to their functional properties and aesthetic qualities Investigate and analyse a range of existing products Evaluate ideas and products against 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 knowledge of how to strengthen. Stiffen and reinforce more complex structures.	through discussion, annotated sketches etc Select from and use a range of tools and equipment to perform practical tasks Select and use a range of materials according to their functional properties and aesthetic qualities Investigate and analyse a range of existing products Evaluate ideas and products against 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. Understand and use mechanical systems in products e.g. gears, pulleys, cams, levers and linkages Understand and use electrical systems in products
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COOKING IN THE CURRICULUM

	Autumn 1 Year 6	Autumn 2 Year 4	Spring 1 Year 5	Spring 2 Year 3	Summer 1 Year 2	Summer 2 Year 1
Indoor Cooking	Introducing how to make/use shortcrust pastry and puff pastry. Using local and in-season fruit and veg we will make "Herby Sausage & Apple Spirals" and French style "Quiche Lorraine"	Using healthy and nutritious oats we will make Savoury Oat Cakes and an "in-season" Oaty fruit Crumble	Making our own bread dough base, we will make Pizza with homemade tomato sauce and a topping. And on a sweeter side making Spring Butterfly Cakes .	Using local potatoes Year 3 will make Herby Potato Cakes and then decorated Easter Biscuits in preparation for the Easter holidays. One biscuit will be frozen for the final week.	Using "in season" fruit and vegetables we will make our own Fruit & Veg Kebabs and make tasty healthy dips to try with them. Year 2 will then make Summer Raspberry Buns using a biscuit dough recipe.	Using a quick dough recipe we will make our own bread rolls , one of which will be frozen for the final weeks woodland picnic. We will decorate biscuits and make Wholemeal Pitta Pizza's .
Outdoor Cooking	Final Week: Part Bake Jacket Potatoes in school. These will then be finished off on an outdoor campfire/oven and eaten around the campfire.	Final Week: Melting marshmallows and chocolate over a campfire to make S'mores and enjoy with a hot seasonal fireside drink.	Final Week: Campfire hot chocolate made with milk and Campfire Bread Twists (weather permitting)	Final Week: Forest Campfire drinks will be prepared along with enjoying the Easter biscuit made earlier.	Campfire snacks and drinks will be made/provided depending on "in season" ingredients.	Woodland Picnic using our own bread rolls we will grow cress and use this in a sandwich filling.