

Stoke Prior First School Curriculum Offer for Design and Technology

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.

Curriculum – Knowledge, Skills and Understanding

Foundation Stage

Practitioners use the development statements within Development Matters and children's interests to identify possible areas in which to challenge and extend the child's current learning and development.

Early Learning Goal – Expressive arts and design

Use a range of small tools, including scissors, paint brushes and cutlery

Begin to show accuracy and care when drawing.

They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.

Children will have experience of junk modelling such as making houses for the Three Little Pigs or making a collage from a variety of stories. Children design and make lollipop puppets as part of the 'people who help us' topic.

Key Stage 1 (Years 1 and 2)

Pupils will be taught to:

Design

Pupils will design purposeful, functional, appealing products for themselves and other users based on design criteria.

Pupils will generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.

Children in Year 1 and 2 undertake a variety of topic based projects that are exciting and involve the children working to a design specification. For example, Year 1 pupils have to plan a bedroom and create a model that shows others what it would look like.

Make

Pupils will select from and use a range of tools and equipment to perform practical tasks, for example, cutting, shaping, joining and finishing.

Pupils will select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.

Children have experience of working in a range of materials such as card, fabric, clay and wood to build models, developing practical skills.

Evaluate

Pupils will explore and evaluate a range of existing products.

Pupils will evaluate their ideas and products against design criteria

Technical knowledge

Pupils will build structures, exploring how they can be made stronger, stiffer and more stable

Pupils will explore and use mechanisms, for example, levers, sliders, wheels and axles, in their products.

Cooking & Nutrition

Pupils understand and apply the principles of a healthy and varied diet

Pupils can prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques

Pupils understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

Key Stage 2- (Years 3 and 4)

Pupils will be taught to:

Design

Pupils will 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

Pupils will generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.

Children in Year 3 and 4 undertake a variety of topic based projects that are exciting and involve the children working to a design specification. For example, Year 3 pupils learn about Ancient Egyptian houses and then design and build their own.

Make

Pupils will select from and use a wider range of tools and equipment to perform practical tasks, for example, cutting, shaping, joining and finishing], accurately.

Pupils will 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

Pupils will investigate and analyse a range of existing products.

Pupils will evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.

Pupils understand how key events and individuals in design and technology have helped shape the world.

Technical knowledge

Pupils can apply their understanding of how to strengthen, stiffen and reinforce more complex structures.

Pupils understand and use mechanical systems in their products, for example, gears, pulleys, cams, levers and linkages.

Children typically get to experiment with a range mechanics such as pneumatics, learning how they work and designing machines to incorporate their use.

Pupils understand and use electrical systems in their products, for example, series circuits incorporating switches, bulbs, buzzers and motors.

Pupils can apply their understanding of computing to program, monitor and control their products.

Cooking & Nutrition

Pupils understand and apply the principles of a healthy and varied diet.

Pupils prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.

Pupils understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

By the end of Year 4, children will have undertaken a range of projects involving food. For example they will have learned the process of bread making, designed their own recipes and baked them. Healthy menus and food are also incorporated into our topics.

At Stoke Prior First School, pupils' design and technology knowledge and skills are developed throughout their time in the school. The EYFS curriculum ensures that pupils have early experiences of cutting, sticking and building in a range of mediums. Thematically planned topics then ensure pupils have the opportunity to develop design and technology skills as they move through the school. In addition to lessons the pupils regularly take part in technology focussed weeks, create projects as part of homework, enjoy visits with a technology focus and have the opportunity to take part in STEM afterschool clubs.

