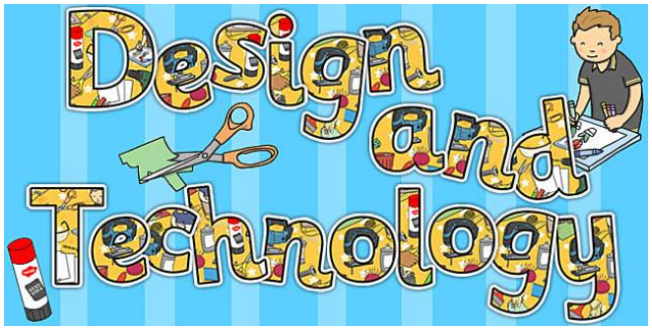


Policy

Hampreston First School

Vision

Our vision for Design and Technology is to encourage children to apply their growing practical skills to fashion objects and working models. We aim to give children a D and T curriculum which allows them gain confidence when working with a range of materials and give them an understanding of the designing, making and evaluating process. We want children to ask questions and find answers. This will involve exciting, practical hands-on lessons that will inspire children of all abilities, releasing their potential.

Why we believe Design and Technology is Important

Children love to make things. Building, shaping, modelling, cutting and sticking are intrinsically enjoyable practical activities for us all. As teachers, we feel it is important to guide children through this natural inquisitive process and support the development of skills required to design and make products successfully. We believe that age-appropriate, progressive acquisition of designing, making and evaluating skills and techniques are the best way to allow this development to take place in our school.

Characteristics of Designers and Technologists

Children at Hampreston school are encouraged to investigate, experiment and make. They are allowed to make mistakes and enabled to learn from these mistakes. They are taught skills and techniques which allow them to develop their technological abilities. Most importantly they enjoy themselves through practical activity and are aware of their progress in the subject. They experience a sense of achievement through their study and practice!

Subject Statement

Intent

Hampreston School offers a coherently planned sequence of lessons to help teachers ensure they have progressively covered the knowledge, understanding and skills required in the National Curriculum. We aim to inspire children through a broad range of practical experiences to create innovative designs which solve real and relevant problems within a variety of different contexts. The iterative design process is fundamental and runs throughout the work. This iterative process encourages children to identify real and relevant problems, critically evaluate existing products and then take risks and innovate when designing and creating solutions to the problems. As part of the iterative process, time is built in to reflect, evaluate and improve on prototypes using design criteria throughout to support this process. Opportunities are provided for children to evaluate key events and individuals who have

helped shape the world, showing the real impact of design and technology on the wider environment and helping to inspire children to become the next generation of innovators.

Implementation

Design and Technology skills and understanding are built into lessons, following an iterative process. However, this is not to say that this structure should be followed rigidly: it allows for the revision of ideas to become part of good practice and ultimately helps to build a depth to children's understanding. Through revisiting and consolidating skills, our lesson plans and resources help children build on prior knowledge alongside introducing new skills, knowledge and challenge. We suggest a specific series of lessons for each key stage, which offer structure and narrative but are by no means to be used exclusively, rather to support planning. The revision and introduction of key vocabulary is built into each lesson. This vocabulary is then included in display materials and additional resources to ensure that children are allowed opportunities to repeat and revise this knowledge. Adult guides and accurate design and technology subject knowledge are always provided within lessons to allow the teacher and adults working in those lessons to feel confident and supported with the skills and knowledge that they are teaching.

Through these lessons, we intend to inspire pupils and practitioners to develop a love of Design and Technology and see how it has helped shaped the ever-evolving technological world they live in.

Level Expected at the End of EYFS:

Expressive Arts and Design (Exploring and Using Media and Materials)

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

Expressive Arts and Design (Being Imaginative)

Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role play and stories.

Physical Development (Moving and Handling)

Children handle equipment and tools effectively, including pencils for writing.

KS1 National Curriculum Expectations

Design

Pupils should be taught to:

- 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

Pupils should be taught to:

- 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
Pupils should be taught to:

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

KS2 National Curriculum Expectations

Design
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.

Make
Pupils should be taught to:

- 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
Pupils should be taught to:

- 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
Pupils should be taught to:

- 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.

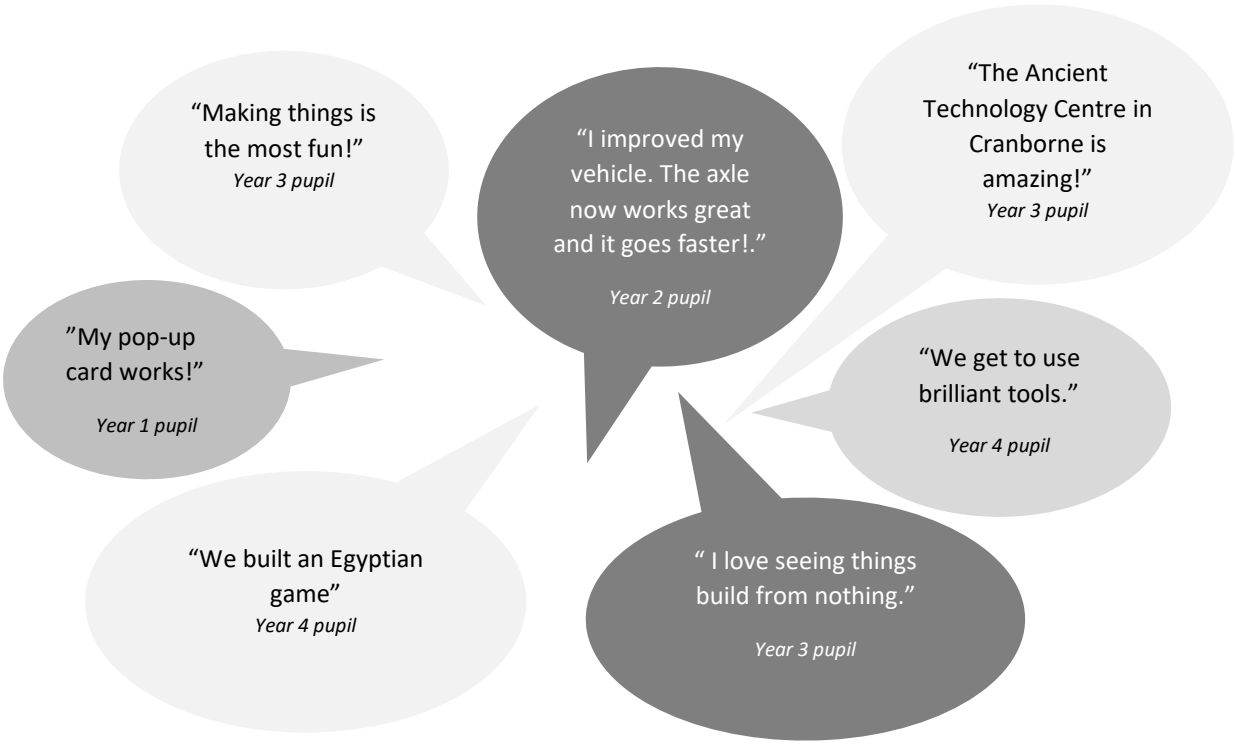
Design and Technology Curriculum Overview

	Autumn	Spring	Summer
EYFS	• Create constructions, collages, painting and drawings of Elmer, Harvest, Autumn, Fireworks, Owls and Christmas.	• Use imagination in art and design, music, dance, role-play and stories	• Express and communicate ideas, thoughts and feelings using a range of materials, tools, movements and designs
	Autumn	Spring	Summer
Year 1	• Design and make moving pictures of toys; • Make simple levers and sliders.	• Develop understanding of structures by creating 3D houses.	• Use knowledge of different fruits to design and make a fruit salad.
	Autumn	Spring	Summer
Year 2	• Making fire engines - Design, make, evaluate; • Technical knowledge - use mechanisms (wheels and axles)	• Growing, preparing and eating a healthy salad; • Use the basic principles of a healthy and varied diet to prepare dishes; • Understand where food comes from; • Design, make and evaluate a bird feeder.	• Design, make and evaluate a glove puppet.
	Autumn	Spring	Summer
Year 3	• N/A	• Learn about stiffening materials; • Learn about making stable structures through the context of free-standing photograph frames; • Design and make a free-standing photograph frame	• Learn about control through investigating simple pneumatic systems; • Work as part of a team to design and make a model controlled by pneumatics; • Evaluate their designs
	Autumn	Spring	Summer
Year 4	• Use basic cutting tools suitable for a variety of materials; • Explore different techniques for joining and fastening a range of materials; • Plan, design and make models which incorporate an electrical circuit	• Explore a range of levers using loose and fixed pivots; • Plan, design and make a storybook which incorporates a moving mechanism	• N/A

Impact

The impact of using the full range of resources, including display materials, will be seen across the school with an increase in the profile of Design and Technology. The learning environment across the school will be more consistent with design and technology technical vocabulary displayed, spoken and used by all learners. Whole-school and parental engagement will be improved through the use of design and technology-specific home learning tasks and opportunities suggested in lessons and overviews for wider learning. We want to ensure that Design and Technology is loved by teachers and pupils across school, therefore encouraging them to want to continue building on this wealth of skills and understanding, now and in the future. Impact can also be measured through key questioning skills built into lessons.

This is what some of our children say about D and T:



Promoting British Values Through Art and Design

We endeavour to promote the British Values of democracy, the rule of law, individual liberty and mutual respect and tolerance of those with different faiths and beliefs through our science curriculum. Please see our British Values policy for further information. Throughout our D and T lessons we promote individual liberty through encouraging children to make their own choices and mutual respect in listening to other people's ideas.

Spiritual, Moral, Social and Cultural Aspects

Design and Technology provides opportunities to promote spiritual development through sensing the world they live in, reflecting on their part in it and asking questions. Moral development is promoted through drawing conclusions using observation and evidence rather than preconceptions. To ensure social development, children learn to respect the opinions of others and work together in groups. Cultural development is promoted through helping children recognise how human discoveries and ideas have affected the way people think, feel, create and behave and live. Beliefs, spiritual awareness, high standards of personal behaviour including a positive caring attitude towards other people, an

understanding of their social and cultural traditions and an appreciation of the diversity and richness of other cultures are all critical skills and dispositions that we nurture, encourage and develop through National Curriculum areas and the wider curriculum.

Inclusion & Equal Opportunities

In school we aim to meet the needs of all our children by differentiation in our D and T planning and in providing a variety of approaches and tasks appropriate to ability levels. This involves providing opportunities for children with Special Education Needs (SEN) or Disabilities to complete their own projects, sometimes with support, to develop speech and language skills, as well as practical skills and knowledge. This will enable children with learning and/or physical difficulties to take an active part in practical activities and to achieve the goals they have been set.

Some children will require closer supervision and more adult support to allow them to progress whilst more able children will be extended through differentiated activities. Children with EAL will need support with language but should be able to access science lessons with appropriate resources and support.

By being given enhancing and enriching activities, more able children will be able to progress to a higher level of knowledge and understanding appropriate to their abilities. Teachers ensure that a range of teaching and learning strategies are used which include and motivate all learners, ensuring that optimum progress is made throughout each part of the lesson.