

Design Technology

Intent

We aim to provide all children with a broad and balanced curriculum which prepares them for life beyond primary education. We encourage children to use their creativity and imagination, to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values.

Design and Technology is an inspiring, rigorous and practical subject. It can be found in many of the objects children use each day and is a part of children's immediate experiences.

Design and Technology encourages children to learn to think and intervene creatively to solve problems both as individuals and as members of a team.

The Design and Technology curriculum combines skills, knowledge, concepts and values to enable children to tackle real problems. It can improve analysis, problem solving, practical capability and evaluation skills.

We aim to, wherever possible, link work to other disciplines such as mathematics, science, computing and art.

The children are encouraged to become innovators and risk-takers.

High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

Aims

The curriculum for design and technology aims to ensure that all pupils:

- develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world
- build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users
- critique, evaluate and test their ideas and products and the work of others
- understand and apply the principles of nutrition and learn how to cook.

Implementation

Teachers plan the following:

- A cycle of lessons for each subject, which carefully plans for progression and depth;
- Challenge questions for pupils to apply their learning in a philosophical/open manner;
- Trips and visiting experts who will enhance the learning experience;

- A means to display and celebrate the pupils' DT work in their class.

Teaching in DT will incorporate a 'Healthy Eating' unit.

Healthy Eating

Know what constitutes a healthy diet (including understanding calories and other nutritional content).

Know the principles of planning and preparing a range of healthy meals.

Know the characteristics of a poor diet and risks associated with unhealthy eating (including, for example, obesity and tooth decay) and other behaviours (e.g. the impact of alcohol on diet or health).

Impact:

Our Design and Technology curriculum is high quality, well thought out and is planned to demonstrate progression. If children are keeping up with the curriculum, they are deemed to be making good or better progress.

In addition, we measure the impact of our curriculum through the following methods:

- A reflection on standards achieved against the planned outcomes;
- A celebration of learning for each term which demonstrates progression across the school;
- Pupil discussions about their learning; which includes discussion of their thoughts, ideas, processing and evaluations of work

SMSC Links

Spiritual

- Enjoy and celebrate personal creativity through cross-curricular opportunities.
- Review and evaluate created things.
- Reflect on products and inventions, as well as the diversity of materials used.
- Reflect on the way that design can improve the quality of our lives

Moral

- Discuss and debate the moral dilemmas created by technological advances.

Social

- Offer opportunities to work as a team and to share equipment.

Cultural

- Explore how different cultures have contributed to technology

British Values

Democracy

- The children must take the views and opinions into account but still have the right to make their own choices.
- To take turns both in speech and practically with others.
- To understand that it is not always possible or right to have their own way and understand the value of compromise.

The rule of law

- To understand the importance of safety rules when using tools.
- To understand and accept that if these rules are not followed that there are consequences to this.

Individual liberty

- To understand that there are able to listen to others but can use their own ideas and design choices when making an artefact.
- To accept that others ideas may not be the same as their own but are able to accept this.

Tolerance

- To tolerate ideas from others that are different to their own.
- To understand that many great design ideas originate from other cultures.

Mutual Respect

- To listen to and consider the ideas and opinions of others even if they differ from your own.
- To be able to take turns during discussions to resolve difficulties or make decisions.
- To offer supportive comments in evaluations that will improve learning outcomes in a way that is objective but sensitive to the listener.

EYFS

1	<p>Explore different materials freely to develop their ideas about how to use them and what to make. Develop their own ideas and then decide what materials to use to express them. Join different materials and explore different textures.</p>
2	<p>Safely use and explore a variety of materials, tools, and techniques with colour, design, texture, form and function. Share their creations, explaining the processes they have used. Return to and build on previous learning, refining ideas and developing their ability to represent them. Create collaboratively, sharing ideas, resources and skills.</p>
3	<p>Safely use and explore a variety of materials, tools, and techniques with colour, design, texture, form and function. Share their creations, explaining the processes they have used.</p> <p>Explore, use and refine a variety of artistic effects to express their ideas and feelings. Return to and build on previous learning, refining ideas and developing their ability to represent them. Create collaboratively, sharing ideas, resources and skills.</p>
4	<p>Safely use and explore a variety of materials, tools, and techniques with colour, design, texture, form and function. Share their creations, explaining the processes they have used.</p> <p>Make use of props and materials when role-playing characters in narratives and stories. Invent, adapt and recount narratives and stories with peers and their teachers.</p> <p>Explore, use and refine a variety of artistic effects to express their ideas and feelings. Return to and build on previous learning, refining ideas and developing their ability to represent them. Create collaboratively, sharing ideas, resources and skills.</p>
5	<p>Safely use and explore a variety of materials, tools, and techniques with colour, design, texture, form and function. Share their creations, explaining the processes they have used.</p> <p>Make use of props and materials when role-playing characters in narratives and stories. Invent, adapt and recount narratives and stories with peers and their teachers.</p>

6	<p>Safely use and explore a variety of materials, tools, and techniques with colour, design, texture, form and function. Share their creations, explaining the processes they have used.</p> <p>Make use of props and materials when role-playing characters in narratives and stories. Invent, adapt and recount narratives and stories with peers and their teachers.</p>
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	KEY STAGE 1	KEY STAGE 2
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2	<p><u>Textiles</u> (Christmas baubles)</p> <p>Understand how simple 3D textile products are made, using a template to create two identical shapes.</p> <p>Understand how to join fabrics using different techniques (running stitch, glue, over stitch, stapling)</p> <p>Explore different finishing techniques (painting, fabric crayons/pens, stitching, sequins, buttons, ribbons)</p> <p>Know and use technical vocabulary relevant to the project</p>	<p><u>Chocolate packaging</u></p> <p>-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</p> <p>-generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p> <p>-select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</p> <p>-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</p> <p>-investigate and analyse a range of existing products</p> <p>-evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p>
3	<p><u>Mechanisms</u> <u>Sliders, & levers</u></p> <p>Explore and use sliders and levers. Understand that different mechanisms produce different types of movement.</p> <p>Know and use technical vocabulary (link to English)</p>	
4	<p><u>Food & Nutrition</u></p> <p>Understand where a range of fruit and vegetables come from</p> <p>Understand and use basic principles of a healthy & varied diet to prepare dishes (link to science & PSHE)</p>	<p><u>Food (pasta, pizza)</u></p> <p>understand and apply the principles of nutrition and learn how to cook</p>

	Know and use technical and sensory vocabulary relevant to the project.	
5	<u>Structures (Free Standing Structures)</u> Mini beast homes/forest school Know how to make freestanding structures stronger, stiffer, and more stable. Know and use technical vocabulary.	
6	<u>Mechanisms</u> <u>Wheels & Axles</u> Explore and use wheels, axles, and axle holders. Distinguish between fixed and freely moving axles. Know and use technical vocabulary relevant to the project.	<u>Space buggies</u> -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 [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 -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