

Design & Technology Intent Statement



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Our curriculum provides a broad range of experiences for all our children

At Golden Hill Short Stay School, we believe that Design and Technology helps to provoke and answer questions about the rapidly changing world. Our school enables children to identify needs and opportunities and to respond to them by developing a range of ideas and by making products and systems. Through the study of Design and Technology, they combine practical skills with an understanding of aesthetic, social and environmental issues, as well as functions and industry. This allows children to reflect on and evaluate past and present technology, its uses and impacts. Our children will connect new knowledge with existing knowledge, as well as developing fluency and applying their knowledge as skills.

<u>Intent</u>

"Design is a funny word. Some people think design means how it **looks**. But of course, if you look deeper, it's really how it **works**." Steve Jobs

Our intent for Design and Technology is to offer children the chance to use creative thinking and design within a defined purpose and tangible outcome. Through a variety of creative and practical activities, children are taught the knowledge, understanding and skills needed to engage in a process of designing and making. Where possible cross curricular links are made to encourage meaningful learning opportunities. Through the evaluation of past and present design and technology, children develop a critical understanding of its impact on daily life and the wider world. The Design and Technology curriculum combines skills, knowledge, concepts and values to enable children to tackle real problems and can help to improve analysis, problem solving, practical capability and evaluation skills.

Design and Technology enables children to develop the skills they need for designing and making through a range of creative and practical activities:

- to provide opportunities for children to work in a range of relevant contexts, reflecting the real world
- to develop children's ability to investigate, analyse and evaluate a range of products, applying their understanding and technical knowledge across a range of products and materials
- to develop the skills needed to prepare and cook healthy food.

Through the study of Design and Technology, children apply a broad range of subject knowledge and must draw on disciplines such as mathematics, science, engineering, computing and art.

When designing the curriculum for Design and Technology, we ensure all children and particularly the most disadvantaged and those with special educational needs and/or disabilities (SEND) or high needs, are given opportunities to develop the knowledge and skills they need to succeed in life. It is important to ensure that health and safety is considered for individual children, as well as, aiding those with poor fine motor skills. We give opportunities for children to develop these skills through supportive activities, giving them the confidence to take risks and have a go. Teachers will adapt plans and lessons to ensure they are accessible to all.

During their learning of Design and Technology, children will be encouraged research and evaluate existing designers and products to inspire them to create their own ideas.

"... Technology empowers people to do what they want to do. It lets people be creative. It lets people be productive. It lets people learn things that they didn't think they could learn before."

Steve Ballmer, Former CEO of Microsoft.

Implementation

Design and Technology is a creative and practical subject that allows children to take risks and be innovative. Design and Technology is taught during Summer Term 2, 1 hour per week for 6 weeks OR in a block of learning for 6 hours. Each objective is taken from the National Curriculum Programme of Study.

Design and Technology knowledge and skills are planned into other subjects where appropriate to ensure sticky knowledge. Wider school activities, like 'cooking option' and 'science week', allow children to further demonstrate the skills they have learnt within the classroom.

Teaching of Design Technology in Early Years Foundation Stage:

Our Early Years pupils are encouraged to explore and develop creative skills through a combination of child initiated, adult directed activities and continuous provision. Opportunities are provided for childen to learn to:

- use different media and materials to express their ideas
- use what they have learnt about media and materials in original ways, thinking about form, function and purpose
- make plans and construct with a purpose in mind using a variety of resources of their choosing
- develop skills to use simple tools and techniques appropriately, effectively and safely
- select appropriate resources for a product and adapt their work where necessary
- cook and prepare food adhering to good health and hygiene routines.

Teaching of Design Technology in Key Stage 1

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 and school, gardens and playgrounds, the local community, industry and the wider environment].

When designing and making, pupils should be taught to:

<u>Design</u>

- 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

<u>Make</u>

- 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

<u>Evaluate</u>

- 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.

Technical knowledge

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- explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.

Teaching of Design Technology in Key Stage 2

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].

When designing and making, pupils should be taught to:

<u>Design</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

<u>Make</u>

- 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

<u>Evaluate</u>

- 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.

Technical knowledge

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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.

At Key stage 1, pupils will be taught to:

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

At Key Stage 2, pupils will 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.

Assessment and record keeping

Informal assessment of progress will be made by the teacher during lessons through questioning and oral feedback. Books may be used to collate the children's work which can also include written activities and photographs. Activities may also be uploaded onto Seesaw.

At the end of the topic, all teaching staff will make a judgement on the ability for each child using the Foundation Subject assessment proforma.

Monitoring and evaluation

The Design and Technology subject leader along with a member of SLT will monitor the delivery by looking at NC key learning documents and discussion with staff.

Impact

We aim to ensure that our children:

- 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 and 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
- design and make a range of products good quality finish will be expected in all designs and activities made appropriate to the age and ability of the child
- are collaborative, thoughtful, problem solvers, resilient, determined and creative thinkers
- consider issues, such as sustainability as part of the process of making.

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