Pray, Learn, Achieve and Celebrate Together

Design and Technology Policy

"And he has filled them with the spirit of God, with wisdom, with understanding, with knowledge and with all kinds of skills"
Exodus 35:31

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School Mission Statement

"Pray, learn, achieve and celebrate together"

Curriculum intent

At Saint Gabriel's we believe that the planning and teaching of Design and Technology is an essential part of the curriculum. We believe that it should provide children with a real-life context for learning. Our aim is to allow children to aspire to be more, creating opportunities for them in the wider world and providing them with invaluable life skills as well as the understanding of how to utilise them best. Through the Design and Technology curriculum, children should be inspired by engineers, designers, chefs and architects to enable them to create a range of structures, mechanisms, textiles, electrical systems and food products with a real-life purpose.

Design and Technology aims and objectives

The national 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.

Design and Technology National Curriculum aims.

In Key stage 1 children should be taught, through a variety of creative and practical activities, 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 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.

When making 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.

When evaluating pupils should be taught to:

-explore and evaluate a range of existing products

-evaluate their ideas and products against design criteria.

Children's technical knowledge should include knowing how to:

-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.

In Key stage 2 children should be taught, through a variety of creative and practical activities, 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 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.

When making 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.

When evaluating 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

Children's technical knowledge should include knowing how to:

-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.

Planning and Teaching.

Design and Technology is a non-core subject and each cohort accesses three projects within the school year. The LTP ensures coverage in each key stage in line with the national curriculum and progression of key skills. Opportunities are given for children to revisit concepts and practice key skills throughout their time in school. Due to the practical nature of this subject area, there is the scope for units of DT, where appropriate, to be blocked in order for the children's skills and experiences to be more meaningful and learning maximised. All planning and teaching of DT follows the design, make and evaluate cycle. Design Technology is predominantly

planned and taught through a cross curricular approach, with projects linking to other areas of learning during the same half term period. The planning and teaching of Design Technology across the key stages 1 and 2 follow the DfE (2013) 'The national curriculum in England', 'Design Technology programmes of study: key stages 1 and 2'. Teachers utilise the Design and Technology Association's 'Projects On A Page' documents to assist with Medium term planning and support core subject knowledge.

Assessment and reporting.

Assessment of children's learning in Design Technology is an ongoing monitoring of children's understanding, knowledge and skills by the class teacher, throughout lessons. This assessment is then used to inform differentiation, support and challenge required by the children. Summative assessments are completed at the end of the school year by class teachers across each year group of the school to inform the subject leader of progress or skills and knowledge still to be embedded. Design Technology is also monitored by the subject leader throughout the year in the form of book monitoring, lesson observations, looking at outcomes and pupil interviews to discuss their learning and understanding and establish the impact of the teaching taking place.

Early Years Foundation Stage.

Design Technology starts in the EYFS. Children are supported in the development of skills, knowledge and understanding that help them make sense of the world. We relate the development of the children's knowledge and understanding of the world to the objectives set out in The Early Years Foundation Stage curriculum and the Early Learning Goals Planning: Medium term plans are created each term by teachers. Short term plans are created by teachers. All plans are shared and stored on the shared server in school.

Resources

DT is resourced within school. There are a range of tools and materials for the children to utilise safely, and these are stored within the DT cupboard with the Art resources. Further supplementary and perishable resources (eg. ingredients for cooking units) are purchased when necessary.

Inclusion

Supporting pupils with SEND Whole school policy on equal opportunities will be adhered to in Design and Technology activities. Teachers ensure that children have access to the range of Design and Technology activities and use opportunities within Design and Technology to challenge stereotypes. Children are encouraged and supported to develop their Design and Technology capability using a range of materials. Children with additional needs or disabilities will have learning and supported appropriately, to ensure development of skills and equal access to the Design and Technology curriculum. All children will be supported through adaptation and adult support to enable equal access to learning in Design and Technology.