



King George V Primary School

Design and Technology Policy January 2016

Aims and objectives

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.

Design and Technology education should:

- develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world;
- develop imaginative thinking in children and to enable them to talk about what they like and dislike when designing and making;
- enable children to think and talk about how things work, and to draw and model their ideas;
- 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;
- use and explore a range of materials, resources and equipment;
- encourage children to select appropriate tools and techniques and to follow safe procedures;
- critique, evaluate and test their ideas and products and the work of others;
- explore attitudes towards the made world and how we live and work within it;
- develop an understanding of technological processes, products, their manufacture and their contribution to our society;
- use the internet to explore ideas and already made products;
- foster enjoyment, satisfaction and purpose in designing and making things;
- understand and apply the principles of nutrition and learn how to cook.



King George V Primary School

Teaching and Learning

Within the Design and Technology Curriculum, teachers will ensure that they provide a range of activities that are challenging, motivating and extend pupils' learning. This is done through a mixture of whole-class teaching and individual or group activities. Within lessons, children are given opportunities both to work on their own and to collaborate with others, listening to other children's ideas and treating these with respect. Teachers will ensure that children apply their knowledge and understanding when developing ideas, during planning and making products and when evaluating them and will plan for children to use a wide range of materials and resources, including ICT.

In all classes there are children of differing ability. This fact is recognised and suitable learning opportunities are provided for all children by matching the challenge of the task to the ability of the child.

Early Years Foundation Stage

The different aspects of Design and Technology are encompassed within the Understanding the World and Expressive Art and Design elements of the Foundation Stage Curriculum, however, important links can also be made with other areas of learning (Physical development, Literacy and Mathematics). In Early Years, teachers will plan quality learning opportunities for Design and Technology using the Early Years Curriculum. There is an emphasis on independence and self-initiated learning, which enables foundation stage children to freely explore resources and pursue their own creative interests and talents in addition to the planned learning experiences.

Children will be assessed against the Development Matters statements and Early Learning Goals, using formative assessment methods such as observations backed up with photographic evidence. *(Appendix 1- Foundation Stage Areas of Development that support / link to the teaching of Design and Technology)*

Planning

Design and Technology is a foundation subject in the National Curriculum and, in our school, is usually taught as part of our Creative Curriculum. All teachers are responsible for ensuring that they plan work that will fully cover the skills required by the National Curriculum for their year group. Activities in Design and Technology are planned so that they build on prior learning and develop skills, knowledge and understanding, ensuring that the children are increasingly challenged as they progress through the school. *(Appendix 2 - Programmes of Study for Design and Technology for Key Stages 1 and 2)*



King George V Primary School

Resources

A wide variety of resources are available within school. Resources are currently stored in various places:

- Cooking resources are in the 'learning room' between the Year 3 and Year 5 classroom.
- There is also some equipment (mostly tools) stored in a cupboard in the learning room.
- Some resources can be found in the art store (next to the ICT suite) and the Science store (between the staffroom and Year 6).

Health and safety

Health and safety is important, particularly when working with tools, equipment and resources. Children are always given suitable instruction on the operation of all equipment before being allowed to work with it.

Children will be:

- strictly supervised in their use of equipment at all times;
- taught to respect the equipment they are using and to keep it stored safely while not in use;
- taught to recognise and consider hazards and risks and to take action to control these risks, having followed simple instructions.

Food Hygiene and Safety:

- Pupils and staff will take care to undertake appropriate hand washing and other hygiene related activities prior to preparing food;
- Pupils and staff working with food must wear aprons designated for cooking;
- All jewellery should be removed and hair tied back;
- Food will always be stored correctly, before and after preparation;
- Teachers will check the dietary needs of the children in their class to identify any foods that should not be available to specific children, or groups of children.

Assessment

Teachers assess children's work in design and technology by making informal judgements as we observe them during each lesson. Discussions during tasks and on completion of work help children and staff to identify strengths and areas for development. Evidence of children's achievement in Design and Technology is likely



King George V Primary School

to be in the form of photographs, brief notes, their own evaluations and sketches, as well as samples of work.

A formal written report of progress is made available to parents on each child's annual report at the end of each academic year and progress is reported on verbally at termly consultation meetings.

Parental Involvement

The support of parents and carers is important in helping us to help every child to achieve to the best of their ability. We sometimes set Design and Technology-related homework, or ask children to undertake research or bring resources into school, and it is important that parents help and encourage their children on these occasions.



King George V Primary School

Appendix 1

Foundation Stage Areas of Development that support / link to the teaching of Design and Technology

	Understanding the world		Expressive Art and Design		Physical Development	Literacy	Mathematics
	Technology	The world	Exploring Media and Materials	Being Imaginative	Moving and Handling	Writing	Shape, space and measure
22-36 months	Operates mechanical toys, e.g. turns the knob on a wind-up toy or pulls back on a friction car.	Notices detailed features of objects in their environment.	Experiments with blocks, colours and marks.	Beginning to use representation to communicate e.g. drawing a line and saying 'That's me'	Shows control in holding and using jugs to pour, hammers, books and mark making tools. Initiates drawing simple shapes such as circles and lines.	Distinguishes between the different marks they make.	Notices simple shapes and patterns in pictures.
30-50 months	Shows an interest in technological toys with knobs or pulleys, or real objects such as cameras or mobile phones. Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images.	Talks about why things happen and how things work.	Understands that they can use lines to enclose a space and then begin to use these shapes to represent objects. Beginning to describe the texture of things. Realises tools can be used for a purpose.	Developing preferences for forms of expression. Captures experiences and responses with a range of media such as music, dance and paint and other materials or words.	Draws lines and circles using gross motor movements. Uses one-handed tools and equipment e.g. makes snips in paper with child scissors.	Sometimes gives meaning to marks as they draw and paint.	Shows interest in shape and space by playing with shapes and making arrangements with objects. Beginning to talk about the shapes of everyday objects eg. Round, and tall
40-60 months		Looks closely at similarities, differences, patterns and change.	Uses simple tools and techniques competently and appropriately.	Create simple representations of events, people and objects.	Uses simple tools to effect changes to materials. Handles tools, objects, construction and malleable materials safely and with increasing control.	Gives meaning to marks they make as they draw, write and paint.	Uses familiar objects and common shapes to create and recreate patterns and build models.
Early Learning Goals	Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.	Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another.	Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	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.	Children show good control and co-ordination in large and small movements. They handle equipment and tools effectively, including pencils for writing.		Children recognise, create and describe patterns.



King George V Primary School

Appendix 2

Programme of Study for Design and Technology

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:

Design

- 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

- 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

- 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.



King George V Primary School

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:

Design

- 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

- 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

- 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.



King George V Primary School

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.