Leamington Community Primary School

Together we make a Difference

Design & Technology Policy

Courage Determination Friendship Honesty Respect

Rationale

At Leamington Community Primary school, we believe Design and Technology gives children the opportunity to develop skills, knowledge and understanding of designing and making functional products. We feel it is vital to nurture creativity and innovation through design, and by exploring the designed and made world in which we all live and work.

Design and Technology is about providing opportunities for children to develop their capability. By combining their design and making skills with knowledge and understanding they learn to create quality products. Children get the opportunity to make decisions for themselves and do practical work. They create products they can see, touch – and even taste and feel proud to have done so. Design and Technology brings learning to life. It is a motivating context for discovering Literacy, Mathematics, Science, Art, PSHE and ICT.

Design and Technology education involves two important elements – learning about the designed and made world and how things work, and learning to design and make functional products for particular purposes and users. Children acquire and apply knowledge and understanding of materials and components, mechanisms and control systems, structures, existing products, quality and health and safety.

They are encouraged to be creative and innovative, and are actively encouraged to think about important issues such as sustainability and enterprise.

National Curriculum

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, resilient, 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.
(*Purpose of Study 2014)*

Aims

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.

Curriculum

Children at Leamington Community Primary School undertake three design and technology projects each year. One of these projects will be food-based and the other two will be practical units that focus on designing, making and evaluating a product based on the design criteria of the unit. All units will follow the same principal format:

- Designer study
- Technical knowledge, understanding and skills development
- Design
- Make

- Evaluate

As part of each unit, children at Leamington will undertake a designer study. They will research the work of influential designers and study their work to gain further understanding of how products are designed to specific criteria. They will evaluate the work of designers and use their knowledge to inform their own designs. For example, as part of a unit where children designed and created a hand puppet of a member of the Beatles, children explored the work of Jim Henson.

Where possible Design and Technology projects are linked to the immersive curriculum that runs throughout the term. A problem is often posed as part of the immersive unit, and Design and Technology can be used to solve the problem. For example, the children from 'The Lion, the Witch and the Wardrobe' are lost in Narnia and need a lamp to light the way. Can you design and make a lamp to help them get back home?

We are developing the use of technology through our DT curriculum. We use programmes such as Tinker CAD to design objects and buildings in 3D. We have also recently invested in some dedicated Art and Design IPADs equipped with all the latest design apps and Apple Pencils for better control.

Early Years

All children under 5 years are given the same access to the Design & Technology Curriculum as KS1 children, but greater emphasis is placed on the use of tactile materials. The three main emphasises are cutting, sticking and designing.

To ensure that the programme of work is achieved the following broad outline of work at Key Stage 1 and Key Stage 2 will be used.

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

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.

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:

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

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 structure
- 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

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- 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

We have developed a robust set of progression documents that highlight the skills, techniques and knowledge children need at different stages in their primary education. We have highlighted some skills

that run across all units, such as designing, making and evaluation of their own and other's work, while there are some skills specific to different design forms. We use knowledge of these skills to assess children during each DT session and we also assess the children's knowledge, understanding and skills in these areas at the end of each unit and feedback to parents at the end of the year.

Enrichment & Extra Curricular

We enrich our DT curriculum with a number of further opportunities for children to develop their skills and passion for design and technology. We always include at least one Design and Technology homework task for the children to complete each term.

Miss Fredson runs a very popular after-school Cookery Club, where the children learn to read and invent recipes, work collaboratively and develop skills for life by making delicious meals and snacks. The children also work with our school catering team to learn about the role of food and technology in the world of work.

We regularly invite professionals into school to develop the aspirations of our children. For example, professional chefs run workshops for the children. The children not only get the opportunity to work alongside a professional to produce a meal, but also to talk to them about their jobs and career.

Absolute Catering run workshops with all children to educate them about healthy food and hygiene. The children learn how to keep themselves safe using kitchen tools and also make a healthy meal such as a pizza or fruit salad.

As part of our mission to develop the children's aspirations and future life experiences, they also have the opportunity to speak to professionals in the workplace and by attending trips and workshops outside of school.

Equal Opportunities.

As mentioned in the Disability Equality Scheme, all reasonable adjustments will be made to allow all stakeholders to have access to the full curriculum regardless of all disability. Any child with a disability will be targeted, tracked and planned for to ensure they have full access to the curriculum, and that good progress is made.

Special Education Needs.

Design & Technology can make a valuable contribution to the education of pupils with special needs. In our school they are given the same access to activities that are challenging and we allow their abilities to develop at their own pace and enable them to encounter success.

Adaptive Teaching

Children will receive an adaptive teaching approach through support, templates, choice of materials in order to achieve the same outcome.

Safeguarding

This is a safeguarding school.
We have a duty to safeguard and promote the welfare of children.
If we have any concerns that a child may be suffering harm, we have no choice but to refer to Social services when appropriate.
Copies of the school's child protection /safeguarding policy can be obtained from the school on request.

Monitoring and evaluation

The Design & Technology subject leader will continually monitor Design & Technology work. This will be carried out by:

- Workbooks collected and monitored for progression.
- Half-term plans along with evaluations to be available to the coordinator for reviewing.
- Assessment of portfolios of the different examples of work from each topic.
- Annotated photographs of work.
- Planned display of work for assessment.
- Monitoring of lessons.

Reporting

Reporting is done on a termly basis through parents` evenings and annually through a written report. The Design & Technology Subject Leader regularly reports to the headteacher and reports annually to governors.

Resources

There is a central Design & Technology resource area. Paper, tools and equipment are stored here with access to the staff**.**

Health and safety.

As D&T is a practical activity it is not possible to remove all risks and hazards, but all children will be carefully supervised in rooms where active learning is well managed and where they can learn to work in a variety of ways.

It is important that:

- Children wear protective clothing when sawing, filing carving, varnishing, spraying and handling clay and hot wax.
- Potentially hazardous tools such as scissors, knives and lino cutters are to be stored in suitable containers.
- Teachers are aware of those children suffering from asthma as dust can cause breathing problems.

Reviewed by: Miss L. Farley