Christ the King Catholic Primary School		
Policy	**Issue**	**02**
Design & Technology	**Date**	**02/12/21**

Design and Technology Policy

The importance of Design Technology

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.

(The National Curriculum 2014)

Intent

We believe it is vital that the pupils at Christ The King are given the opportunity to;

- learn to think and intervene creatively to solve problems, both as individuals and as part of a team;
- 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 products;
- select appropriate tools and techniques with increasing accuracy for making a product, whilst following safe procedures;
- critique, evaluate and test their ideas and products and the work of others;
- reflect on and evaluate present and past design and technology, its uses and its impact;
- use computing to assist designing and making;
- apply the principles of nutrition and learn how to cook.

Implementation

Programmes of Study of EYFS Curriculum and National Curriculum

In the foundation stage we encourage the development of skills, knowledge and understanding that help children make sense of their world. This learning forms the foundations for later work in Design and Technology. These early experiences through Understanding of the World include asking questions about how things work, investigating and using a variety of construction kits, materials, tools and products, developing making skills and handling appropriate tools and construction material safely and with increasing control

Early Years Foundation Stage (Expressive Arts and Design): -
When designing and making, EYFS pupils should be taught to: -

- explore and play with a wide range of media and materials;
- share their thoughts, ideas and feelings through a variety of activities in 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, forest Schools and playgrounds, the local community, industry and the wider environment).
When designing and making, Key Stage 1 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)

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.

Key Stage 1 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 interactive 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, Key Stage 2 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 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 (CAD).

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.

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.

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.

KS2 pupils should 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.

Resources

There is a wide range of resources to support the teaching and learning of design and technology across the school. Each Year group will have made detailed requests as part of the Design and Technology subject bid. The Design and Technology Lead is responsible for monitoring and taking stock of the school's resources for design and technology.

Differentiation

It is recognised that all children should be given opportunities to show what they know and can do. Recognising the differing abilities within a class means that a teacher must plan at a class, group and individual level. This involves:

- Using a range of teaching styles which match the experiences of all pupils within the class and begin to cater for different levels of ability.
- Matching tasks to meet pupil's needs.
- The use of IT to support learning where possible.
- The use of pre- teaching to enable less able/EAL children to have additional access to vocabulary of concepts ahead of time to allow for greater understanding during class activities.

Various strategies are employed to allow pupils to achieve.

- Common tasks, which will expect different outcomes.
- Stepped tasks, with a common starting point but which aim to extend More Able & Talented pupils.
- Grouping, in which pupils work on a task designed for that group.
- Different resources, same task, which modifies the amount of information given to some pupils.
- Independent learning - finding answers from a range of resources.
- Use of Bloom's Taxonomy/ Depth of Knowledge question stems.

Expectations

Design and Technology should be evidenced in books using a mixture of planning sheets photographs and structures/models.

- New unit cover sheet including vocabulary, skills objectives and self-assessment opportunity to be completed throughout the unit.
- Age related expectations sheets should be stuck inside the front/back cover of the pupil's book to support teacher assessment.
- Work should be clearly dated and underlined.

- Skills based learning intentions with a clear context within which this skill will be taught.

- A title should be given to each activity. This should be underlined with a ruler. For younger/less able children this may be printed on a label, with the aim that they will become able to write the question themselves eventually.
- Use of worksheets should be limited and only used when they will promote learning, for example, writing frames for younger/less able children etc.
- Plans and diagrams should be drawn in pencil.
- Images and information should be neatly trimmed and stuck into books carefully.
- When children are asked to plan and present their project, there should be a progression in how this is evidenced, with the aim that in upper key stage two children will be able to produce their own detailed plans.
- Photographs of projects would be a useful addition to books, with children providing a written response about the activities and what they have learned.
- A range of activities should be evident, include extended writing where possible, research, artwork, drama, forest schools, links with maths, science, history and geography use of IT etc. Activities should be added to Theme books as a record of the pupil's learning.
- The school marking policy should be followed. Marking should be linked to the learning intention and marking codes should be used. During each unit of work there should be some evidence of feedback marking, particularly for open ended activities. This is not expected for each piece of learning.

Other considerations

Where possible Design and technology topics may be linked to wider learning related other curriculum areas.

The subject leader will monitor Design and Technology provision throughout the year using a range of strategies:

- Book trawls
- Pupil voice interviews
- Staff voice
- Learning environment review

Feedback will be provided to SLT and Leader of learning to inform them of areas to celebrate and any areas for further development.

Assessment

Teachers allow for assessment to be made during a Design and Technology lesson using discussion, question and answer techniques and in encouraging pupils to communicate findings to others. The use of Assessment for Learning processes will be used to plan further learning opportunities, building on children's existing skills. Teachers should assess children's progress against the Curriculum coverage documents and Age-related expectations for their year group. These focus on appropriate Design and Technology skills for each year group.
At the end of each unit of work in Key Stage 1 and 2, teachers will record achievement of pupils identifying those children who are working below age related expectations, at age related

expectations and exceeding expectations. This will be based on teacher assessment using evidence gathered over a unit of work.

Age related expectation guidance is provided for teachers to support them in identifying relevant Design and Technology skills and what the expectation is for each year group. This will provide formative assessment and inform future planning needs.

This will allow Subject Leader to see progress in Design Technology across the school. This information will be used to assist teachers in setting targets for pupil development.