Notre Dame du Rosaire

Catholic School

"Learning Together, Loving God"

Design and Technology Policy

September 2022 - to be reviewed September 2023

INTENT

Our mission statement 'Learning together, loving God' encapsulates the balance between learning about ourselves, others and knowledge of our world, with the aim of converting this knowledge into understanding and skills that combine to serve our community as a whole.

Our intent is to cover the breadth of the Bailiwick Curriculum augmented with powerful knowledge carefully selected to build upon our pupils' starting points of cultural capital.

At Notre Dame we value Design and Technology because it encourages pupils to use their creativity and imagination to solve real and relevant problems both individually and as part of a team. We recognise that Design and Technology is an inspiring, rigorous and practical subject that appeals to pupils that enjoy practical learning and problem solving. Our curriculum will teach pupils how to take risks, become resourceful, innovative, enterprising and capable citizens. We want our pupils to recognise that good design and engineering can help to solve some of the most important global issues of our time and in the future.

Design and Technology is a vital part of the curriculum, it prepares students to deal with tomorrow's rapidly changing world. Through the subject children can become independent thinkers and creative problem solvers, this can be on their own or as part of a team. Children are encouraged to identify needs and respond to them through the development of ideas and by making products or systems. Through the curriculum they combine practical skills and knowledge with an understanding of aesthetics, as well as industrial practices. They are allowed to reflect and evaluate their own products as well as those made by others. Design and technology enables children to become informed and discriminating consumers and potential innovators.

Here, at Notre Dame, it is an integral part of the school curriculum and is embedded into the planning; it is normally taught discreetly but may be included as a part of a topic. An overview of how D&T sits in the curriculum is clear on the long term curriculum map.

IMPLEMENTATION

We recognise that Design and Technology is often best taught in discrete lessons to ensure the knowledge, skills and understanding is secure. We use the Kapow resources to support our curriculum and meet the Bailiwick programme of study for Design and Technology. The curriculum objectives are divided into strands: Cooking and Nutrition, Mechanisms, Structures, Textiles, and Electrical Systems. The curriculum has been divided into year group objectives, presented on a subject progression map. All strands are taught within each Key Stage on a two year rolling programme, apart from Electrical Systems which only applies to KS2. This ensures that pupils are provided with a good balance of the D & T curriculum throughout their schooling at Notre Dame. Planning and teaching are supported by the Kapow resources, which are designed by expert teachers but adapted as necessary by teachers. Pupils will have opportunities to use a variety of resources to support and inspire their learning.

Our D&T Curriculum is a spiral one which is based on the scheme provided by KAPOW. This enables progression and strand coverage in line with the Bailiwick curriculum and entitlement documents. Revisits build upon prior skills and knowledge with increased complexity. Each unit follows the design process following a particular theme and focus. At the heart of our curriculum are the three main stages of the design process: design, make and evaluate. Each stage is underpinned by technical knowledge which encompasses contextual, historical and technical understanding required for each strand. Lessons incorporate a range of teaching strategies from independent tasks, paired and group work including practical hands-on, computer-based and inventive tasks. This means that lessons are engaging and appeal to a variety of learning styles. Knowledge organisers for each unit support children in building a foundation of factual knowledge by encouraging recall of key facts and vocabulary.

Within the EYFS children are expected to make good progress by the end of the Foundation Stage in the areas of 'Knowledge and Understanding of the World' and expressive 'Art and Design'. They will be given opportunities for developing designing and making skills as set out in these curriculum areas. This should prepare them to move forward into KS1 and is consistent with the Bailiwick Curriculum.

The Notre Dame D&T Curriculum is based upon following four areas of skill:

1. **Design** - in KS1 children design purposeful, functional, appealing products for themselves and other users based on a design criteria. They generate, develop, model and communicate their ideas through talking, drawing, templates, mock ups and where appropriate ICT. When children reach KS2 they use research and to develop a design criteria to inform design of innovative, functional, appealing products that are for a purpose, aimed at particular individuals or groups. They alsol generate, develop, model and communicate their ideas through discussion, annotated sketches, cross sectional and exploded diagrams, prototypes, pattern pieces and computer aided design.

2. **Make -** Children in KS1 select from a range of tools and equipment to perform practical tasks. They select from and use a range of materials and components, including construction materials, textiles and ingredients according to their characteristics. Once in KS2 they select from and use a wider range of tools and equipment to perform practical tasks accurately. They choose from and use a wider range of materials, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.

3. **Evaluate** - The children in KS1 explore and evaluate a range of existing products . They are also required to evaluate their own ideas and products against a design criteria. In KS2 children will investigate and analyse a range of existing products. They will also evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. It is required that they understand how key events and individuals in design and technology have helped shape the world.

4. **Technical Knowledge -** KS1 children will build structures, exploring how they can be made stronger, stiffer and more stable. They will also explore and use mechanisms. Within KS2 the children apply their understanding of how to strengthen, stiffen and reinforce more complex structures. Along with understanding and using mechanical systems in their products. They will understand and use electrical systems in their products. Their understanding of computing to program, monitor and control their products will be applied.

The children at Notre Dame are taught D&T within the key areas of

- Mechanisms
- StructuresTextiles
- Cooking and Nutrition
- Electrical Systems (KS2).

As part of their work with food, pupils are taught to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in the pupils will also open a door to one of human creativity. Learning how to cook is a crucial life skill that enables children to feed themselves and others affordably and well.

Special Educational Needs

Children with Special Educational Needs have equal access to equipment, tools and resources that they require. Activities and learning are adapted to ensure the individual child's needs are met in order for them to be able to make effective progress in their knowledge and skills.

Assessment

Assessment takes place in the main formatively. This is then used to inform and adapt planning and learning where required. Assessment quizzes and knowledge catchers for the end of units are used to support. Within the EYFS children are assessed within the Expressive Arts and Design and Knowledge and Understanding of the World with progress tracked termly.

Subject Lead

The Subject Leader monitors and evaluates the subject throughout the school in a variety of ways; including checking planning, lesson observations, book trawls, questionnaires, interviews. It is the intention of the Subject Lead to support staff in the planning, teaching and CPD of design and technology. It will be ensured that a balanced and broad curriculum will be embedded where skills, progression and vocabulary are identified throughout the school.

Health and Safety

Health and Safety is taken very seriously. Equipment should not be left out and unsupervised. Tools used should be of good quality, in good condition and stored appropriately. Direct safety instructions should be given to the children each time they undertake an activity if deemed necessary, alongside this suitable instruction should be

given on the operation of equipment. Strict supervision should be in place. Children are taught to recognise and consider hazards and risks.

When working with food an adult is required to supervise cooking and food preparation. When undertaking food activities Health and Safety Procedures should be adhered to as should personal hygiene, this is the case for both children and any adults. Dietary requirements and allergies should also be taken into account. Any food that is perishable should be stored in a fridge and only equipment for food should be used.

Knowledge organisers
Accompanying each module is a Knowledge Organiser which contains key vocabulary, information and concepts which all pupils are expected to understand and retain. Knowledge notes are the elaboration and detail to help pupils acquire the content of each module. They support vocabulary and concept acquisition through a well-structured sequence that is cumulative.

Vocabulary
Vocabulary forms a key part of our curriculum. Therefore, subject specific Tier 2 and Tier 3 words are identified in each module. Supporting pupils in the acquisition of knowledge, through the use of key concepts, terms, and vocabulary, provides opportunities to build a shared and consistent understanding. Knowledge organisers, glossaries and displays, along with regular recall and revision, will be used to support this approach.

IMPACT

Pupils are able to develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world. They 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. Pupils critique, evaluate and test their ideas and products and the work of others. Pupils are able to understand and apply the principles of nutrition and learn how to cook - an essential life skill! Design and Technology will promote the pupil's spiritual, moral, social and cultural development by evaluating past and present design and technology and developing a critical understanding of its impact on daily life and the wider world. Design and Technology will help pupils develop a Growth Mindset by encouraging the children to take risks, become resourceful, be innovative and imaginative.
If you visited a Design and Technology lesson at Notre Dame you would see:
• Enthusiastic and engaged learners
• A variety of visual aids and existing products to support learning and inspire
• Children using subject specific vocabulary and terminology confidently
• Good progression for designing, making and evaluating throughout the school • Clear skills being taught using a range of equipment throughout the year
• Children who can confidently reflect on their learning, evaluate their ideas and products against a design criteria in order to improve their work

Our children enjoy and value Design and Technology and know why they are doing things, not just how. Children understand and appreciate the value of Design and

Technology in the context of their personal wellbeing and the creative and cultural industries and their many career opportunities.