St. Patrick's Catholic Voluntary Academy Intent, Implementation and Impact Statement – Design and Technology

Intent:

At St. Patrick's Catholic Voluntary Academy, we believe that Design and Technology is an inspiring, rigorous and practical subject which has a vital role in contributing to an exciting, interesting balanced curriculum, creating the problem solvers of tomorrow.

It is our intention that we will encourage children to learn to think and intervene creatively to solve problems as both individuals and through teamwork. We aim for our children to use their creativity and imagination, to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values.

Wherever possible, we will link work to other disciplines such as mathematics, science, engineering, computing and art.

Through our teaching of Food Technology, we will equip our children with vital life skills, which they are able to retain and transfer to practical, real-life contexts, making informed and healthier life choices.

The children are also given opportunities to reflect upon and evaluate past and present design technology, its uses and its effectiveness and are encouraged to become innovators and risk-takers. It is our intention that the children will become resourceful, pioneering, enterprising citizens, who contribute positively within and beyond our school community.

Implementation:

The knowledge, skills and understanding of Design and Technology at St. Patrick's Catholic Voluntary Academy is taught through a variety of creative and practical activities. We use a variety of the DT Association's Project on a Page to support our children to design and create products that consider the function and purpose and which are relevant to a range of sectors (for example, the home, school, leisure, culture, enterprise, industry and the wider environment), however, we have adapted these, to create our own bespoke curriculum for our children and their learning needs. The context for the children's work in Design and Technology are well considered and enable the children to learn about real life structures, as well as developing their skills through the programme of study. We are confident that our Design and

Technology Curriculum meets and exceeds the National Curriculum requirements.

The intended Design and Technology Curriculum have been outlined on our Long-Term yearly overviews and shared with parents. As well as breaking down these learning intentions further on the Design and Technology Content Subject Organiser which identifies the intended learning and end points for each year group and unit of work to ensure clear progression across the year groups. Key concepts and technical vocabulary are included in medium term plans, which follows the design, make, evaluate structure. The use of technical vocabulary, as well as technical discussion is explicitly referenced and made as this links directly into our whole school focus upon improving and developing our children's oracy skills. These are also shared with and available for our parents to view.

All our children, regardless of need have at least a 1-hour weekly dedicated Design Technology lesson, taught by their teacher or a specialist teacher. Our Design Technology curriculum is taught on a two-year rolling cycle, taught alternate half terms, alternating with Art and Design learning. Our Pastoral team are timetabled to support all classes for some part of their Design and Technology lessons, by being an 'extra pair of hands' in the session, whilst building relationships with all children to develop their accessibility as emotionally available adults.

When designing and making, the children are 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 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, as well as chopping and slicing) accurately.
- select from and use a wider range of materials, ingredients and components, including construction materials, textiles and ingredients, according to their functional properties, aesthetic qualities and, where appropriate, taste.

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.

Develop, Use and Apply Technical Knowledge

- apply their understanding of how to strengthen, stiffen and reinforce more complex structures.
- understand and use mechanical systems in their products.
- understand and use electrical systems in their products.
- apply their understanding of computing to program, monitor and control their products.
- understand some of the ways that food can be processed and the effect of different cooking practices (including baking and grilling).

Each new unit of work begins with a recap of the previous related knowledge. This helps children to retrieve what they have learnt in the earlier sequence of the programme of study, and ensures that new knowledge is taught in the context of previous learning to promote a shift in long term memory. Key vocabulary for the new topic are shared with the children, with definitions and accompanying visuals for each word to ensure accessibility to all. This approach also means that children are able to understand the new vocabulary when it is used in teaching and learning activities and apply it themselves when they approach their work.

All children have a Design and Technology book and at the beginning of each unit, children are asked what they already know about the new topic, what they want to know and then to reflect on what they have learnt. At the end of the unit, children write, some with teacher scaffolding, a summary of what they know

Within all sequences of lessons, teachers plan a phase of progressive questioning which extends to and promotes the higher order thinking of all learners. Questions initially focus on the recall or retrieval of knowledge, they then extend to promote application of the knowledge in a new situation and are designed to promote analytical thinking.

Impact:

By the time our children leave St. Patrick's Catholic Voluntary Academy, they will have experienced an enjoyable Design and Technology curriculum, in which they have met and exceeded the National Curriculum Aims.

Through our bespoke Design and Technology Curriculum, every child will have accessed all of the key areas of the subject, with careful consideration to any potential barriers to learning. They will have received a carefully sequenced, coherent, broad and balanced Design Technology Curriculum, with a clear progression of skills and knowledge that ensures all children can

access learning at an appropriate level, where they are ready for the next stage in their learning.

We will ensure that all children will;
- 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 and 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.
Children will design and make a range of products. A good quality finish will be expected in all design and activities made appropriate to the age and ability of the child

Through, the impact of our carefully created Curriculum, children will learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. They will have developed a critical understanding of its impact on daily life and the wider world. No other subject can provide the creative thinking and hands-on expertise that is essential to producing world-class designers and engineers who are equipped with the tools to thrive in an increasingly fast-paced, innovation-hungry world around them contributing to the culture, wealth and well-being of the nation.

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