

St John Vianney Catholic Primary School, West Denton



Through following Jesus, we aim to be a caring, happy school, where everyone is valued and appreciated and can reach their true potential. We hope to act justly, love tenderly, and walk humbly with our God

Design & Technology Policy 2023-2025

Date reviewed: November 2023

Date of next review: November 2025



Our whole school curriculum vision

Vision

At St John Vianney Catholic Primary School, we endeavor to provide a broad and balanced curriculum which inspires and provides opportunities for success for all of our learners. Through our curriculum, we strive to create independent, curious, creative and critical thinkers, problem solvers and innovators. We aim to provide engaging learning opportunities that encourage our pupils to develop and fulfil their potential academically, socially, emotionally and spiritually. We strive to provide a range of activities and opportunities through a carefully sequenced and progressive curriculum in all subject disciplines, which fosters a passion for learning, stretching beyond the confines of primary school and creates lifelong learners. Our vision is that our curriculum will ignite passion, expand horizons and raise aspirations for all of our learners. We aim to equip our pupils with the knowledge and skills that will prepare them for the world of work in an ever-evolving landscape, and with the confidence, resilience and tolerance to live harmoniously with others.

Intent

Through our curriculum we aim to:

- be inclusive to all learners and provide opportunities for all learners to succeed, regardless of their individual starting points;
- foster a lifelong love of learning;
- develop a rich subject knowledge, including substantive and disciplinary knowledge, conceptual and procedural knowledge;
- make meaningful links between topics within a subject, between different disciplines and across year groups;
- make links to the world in which we live, which goes beyond the white western experience, thereby instilling a positive attitude of respect and tolerance of other societies, cultures and religions;
- raise the self-esteem of children as capable and resourceful learners;
- develop children's ability to think creatively, solve problems and innovate;
- develop children's capacity and confidence working independently and collaboratively;
- to understand the purpose and value of their learning and how it is placed on a timeline of the past, present and future.

We believe that all learners should experience success across the curriculum and be allowed to develop their own interests and passions within the curriculum. Therefore, our curriculum is delivered with the understanding that all of God's children are blessed with different talents and skills, and the knowledge that there is 'something for everyone' within both core and foundation subjects. For this reason, we ensure that the same value and high standards of learning and teaching are upheld in all subjects across the curriculum. In ensuring success for all children across the curriculum, we aim that this will create confident, resilient and impassioned children who have high self-esteem as learners.

Alongside academic success, the emotional, spiritual and physical wellbeing of children is of high priority, and as such, regular and meaningful opportunities for personal development are integrated throughout the curriculum. We believe that it is our duty to educate and develop

the whole child. Our PSHE and RSE curriculum has been refined to ensure that pupils build positive relationships with others, feel valued and those who are most vulnerable are identified and supported. Our curriculum has the flexibility to respond to the needs and priorities of our children and of the local area.

It is our aim that all children develop a knowledge and understanding of and take pride in the British Values of our rich and diverse society and its history. Throughout the curriculum, we present children with the experiences of a diverse range of people, through texts, key figures in different disciplines and exploring the history through a lens that is not always that of the white western experience.

We believe that successful learners are aware of the key skills and strategies of that help them to 'know more and remember more' and make progress. We developed a toolkit of fundamental characteristics of effective learning – LEARNER. These principles are explored with children and modelled within lessons by teachers, creating an ethos of 'lifelong learning' within St John Vianney Catholic Primary School.

At St John Vianney Catholic Primary School we aim for all pupils to receive a broad experience in Design & Technology. Design and Technology is taught as part of a block throughout the school year.

Intent of the Design & Technology

Design and Technology encourages children to learn to think and intervene creatively to solve problems both as individuals and as members of a team. At St John Vianney, we encourage 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. We aim to, wherever possible, link work to other disciplines such as mathematics, science, engineering, computing and art. 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. Children should leave St John Vianney with the skills to think, speak and act like a designer, constructor and evaluator and be able to transfer these skills to everyday life.

Our aims:

- develop imaginative thinking in children and to enable them to talk about what they like and dislike when designing and making;
- develop children's creativity and innovation through designing and making;
- enable children to talk about how things work, and to draw and model their ideas;
- encourage children to select appropriate tools and techniques for making a product, whilst following safe procedures;
- understand and apply the principles of nutrition and learn how to cook.

Implementation of the Design & Technology

Through a variety of creative and practical activities, we teach the knowledge, understanding and skills needed to engage in an iterative process of designing and making.

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) 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
- understand and use electrical systems in their products
- apply their understanding of computing to program, monitor and control their products

Key skills and key knowledge for Design and Technology have been mapped across the school to ensure progression between year groups. This also ensures that there is a context for the children's work in Design and Technology; that they learn about real life structures and the purpose of specific examples, as well as developing their skills throughout the programme of study.

Design & Technology Content

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.

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.

EYFS

As the Nursery and Reception classes are part of the Early Years Foundation Stage, we relate the design and technology aspects of the children's work to the statements and range levels set out in the Development Matters guidance, which underpin the curriculum planning for children aged three to five. The Early Learning Goals of Expressive Arts and Design (Exploring and Using Media and Materials), (Being Imaginative) and Physical Development (Moving and Handling) link most closely to the Design and Technology National Curriculum.

Staff provide a rich environment both in the classroom and outdoors, in which we encourage and value creativity. Children have daily access to a craft area and various construction kits and materials. The adult-led activities that they take part in are imaginative and enjoyable.

Planning

We ensure that there are opportunities for children of all abilities to develop their skills and knowledge in each project. Planning ensures progression throughout the scheme of work so that the children are increasingly challenged as they move up through the school. Long term planning is compiled across a whole school basis, which is determined by the requirements of the 2014 National Curriculum and the EYFS Curriculum. Planning is monitored by the Senior Team and the Design & Technology Champion.

Impact

Teachers assess work in Design Technology by making observations of the children working during lessons. They record progress made against the learning objectives for a unit of work. At the end of a unit of work, children undertake a review of their work that focusses upon an evaluation of the finished product.

By the time the children leave St. John Vianney they will have acquired:

- creativity, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world;
- build and apply knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users;
- evaluate and test their ideas and products and the work of others;
- understand and apply the principles of nutrition and learn how to cook.

Pupils with SEN

We teach Design and Technology to all children, whatever their ability. Design and Technology forms part of our school curriculum policy to provide a broad and balanced education for all our children. Our teachers provide learning opportunities that are matched to the needs of children with learning difficulties. Work in design and technology takes into account the targets set for individual children in their SEN Support Plan.

Metacognition in Design Technology

Within all subjects at St John Vianney, teachers employ metacognitive strategies in lessons, which are based upon EEF research and guidance. In DT, these strategies are evident within lessons, through:

- activating relevant prior knowledge from previous lessons within a DT topic, across previous DT topics and previous year group DT topics (vertical curriculum links);
- activating relevant prior knowledge from other curriculum areas within the current year group (horizontal curriculum links);
- activating relevant prior knowledge from other curriculum areas and year groups (diagonal curriculum links);
- explicit instruction of design and technology strategies, knowledge and skills;
- teacher modelling of design and technology strategies, knowledge and skills, and effective learning behaviours in DT;
- memorisation of DT strategies, knowledge and skills;
- guided practice of tasks in DT;
- independent practice of tasks in DT;
- structured reflection upon understanding and learning behaviours, which is seen in DT, namely through end of lesson discussion and feedback, verbal self-assessment and evaluation of projects at the end of topics.

Metacognition is also promoted across whole topics of work, such as through the use of topic knowledge organisers, which encourage children's retention of knowledge by drawing prior learning back into the working memory, building upon it and creating schemas in the long-term memory – the principle behind this being to ensure that learning is not forgotten. Knowledge organisers allow children to keep track of their previous learning, current learning, where their learning is going next and any key vocabulary for the topic of work they are studying. This affords children an opportunity to monitor their own learning, which is important in fostering self-regulated learners.

Assessment

Assessment of children's work in Design and Technology is an ongoing monitoring of children's understanding, knowledge and skills by the class teacher throughout lessons. This assessment is then used to inform differentiation, support and challenge required by the children. Once the children complete a piece of work, teachers mark and traffic light or tick the learning objective as necessary.

EYFS pupils' progress and attainment is tracked telling us whether each individual child is below expected, at expected or above expected attainment for their age.

Monitoring

The monitoring of the standards of children's work and of the quality of teaching in Design and Technology is the responsibility of the Design and Technology subject leaders. The work of the subject leaders also involves supporting colleagues in the teaching of Design and Technology, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school. The Design and Technology subject leaders gives the head teacher an annual summary report in which they evaluate the strengths and weaknesses in the subject, and indicates areas for further improvement. We allocate special time for the

vital task of reviewing samples of children’s work and for visiting classes to observe teaching in the subject.

Equal Opportunities

We are committed to providing a teaching environment conducive to learning. Each child is valued, respected and challenged regardless of ability, race, gender, religion, social background, culture or disability, in line with the School Policy for Equal Opportunities.

Supporting Documents

This policy is to be read in conjunction with and used alongside the subject 3I statement and where appropriate the End of Year expectation document.

Headteacher’s signature _____

Design and Technology Lead’s signature _____

Chair of Governor’s signature _____

Date: Governor approval 30th November 2023

Renewal time frame: Revisited every two years