

Design and Technology Policy

Design and Technology Leader: Miss K Phelps

Head Teacher: Mrs Christine Ruddy Signed:

Chair of Governors: Mr Harry Gallacher Signed:

Rationale

At St. Mary's Catholic Voluntary Primary Academy we believe it is fundamental to allow the children to think creatively and produce creative influences from a range of different medias and materials design, make and evaluate products and structures for a context and purpose.

Aims

- To foster a love of learning in children to think creatively and to use this to influence their design and technology
- To provide children with the necessary skills, opportunities and tools to create their work/models.
- To Design, Make and Evaluate products appropriate to each Key Stage.
- To use personal experiences to influence art work.
- To generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.
- To explore and improve on design techniques.
- Learn about the great designers and, architects and the history of design.
- To develop ideas based on a healthy diet and lifestyle.
- To support all staff in their needs to develop confidence and techniques in teaching Art and Design by providing on-going effective CPD.

Objectives

There are procedures which will be followed by each member of a year group team to ensure effective equality of provision, continuity and progression.

Early Years Foundation Stage

Nursery and Reception follow the Early Years Foundation Stage curriculum framework and daily objectives will be set from this framework with the aim of meeting the Early Learning Goal at the end of the Reception year. These objectives are embedded within the EYFS framework and will be taught through the different areas of learning:

- To create art in both child-led and adult-led situations.
- To monitor and record strategies in children's 'child-led' art work to challenge the children further.
- To create both large scale and small scale pieces of art to develop children's gross and fine motor skills.
- Manipulate materials to achieve a planned effect.
- Construct with purpose in mind, using a variety of resources.
- Select appropriate resources and adapt work where necessary.
- Select tools and techniques needed to shape, assemble and join materials.
- Create simple representations of events, people and objects.

Key Stage 1

The National Curriculum for Key Stage 1 is used as a basic core for the scheme of work and these skills are applied throughout the curriculum:

- To master practical skills in a range of techniques:
- To prepare, measure and cook ingredients to make a food product.
- To cut materials safely using tools provided and demonstrate a range of cutting and shaping techniques.
- Measure and mark out to the nearest centimetre.

- Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen).
- To shape textiles using templates and join textiles with a running stitch technique.
- Colour and decorate textiles using a number of techniques (such as dyeing, adding sequins or printing).
- To diagnose faults in battery operated electrical devices.
- To model designs using different software in computing.
- Use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products.
- To using mechanical techniques to create products using levers, wheels and winding mechanisms.
- To design, make and evaluate products that have a clear purpose and an intended user.
- To take inspiration from design throughout history.
- Explore objects and designs to identify likes and dislikes of the designs and suggest improvements to existing designs.
- Explore how products have been created.

Key Stage 2

The National Curriculum for Key Stage 2 is used as a basic core for the scheme of work and these skills are applied throughout the curriculum:

(Lower Key Stage 2)

- To master practical skills in a range of techniques.
- To prepare and measure out ingredients hygienically using the appropriate utensils.
- To follow a recipe and accurately measure and calculate ratios to scale up/down a recipe.
- To measure ingredients to the nearest gram accurately.
- To follow a recipe.
- Assemble or cook ingredients (controlling the temperature of the oven or hob, if cooking).
- Cut materials accurately and safely by selecting appropriate tools and to measure and mark out to the nearest millimetre.
- To apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material
- Understand the need for a seam allowance and join textiles with appropriate stitching.
- To create series and parallel circuits.
- To control and monitor models using software designed for this purpose.
- Choose suitable techniques to construct products or to repair items and strengthen materials using suitable techniques.
- Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears).
- To design, make, evaluate and improve designs with a purpose.
- Make products by working efficiently and refine work and techniques as work progresses, continually evaluating the product design.
- Use software to design and represent products.
- To take inspiration from design throughout history and identify some of the great designers in all of the areas of study.
- Improve upon existing designs, giving reasons for choices.
- Disassemble products to understand how they work.

(Upper Key Stage 2)

- To master practical skills in a range of techniques.
- To understand the importance of correct storage and handling of ingredients.
- Measure accurately and calculate ratios of ingredients to scale up or down from a recipe.
- Demonstrate a range of baking and cooking techniques and create and refine recipes, including ingredients, methods, cooking times and temperatures.
- Cut materials with precision and refine the finish with appropriate tools.

- Show an understanding of the qualities of materials to choose appropriate tools to cut and shape.
- Create objects (such as a cushion) that employ a seam allowance.
- Join textiles with a combination of stitching techniques and use the qualities of materials to create suitable visual and tactile effects in the decoration of textiles.
- Create circuits using electronics kits that employ a number of components
- Write code to control and monitor models or products.
- Develop a range of practical skills to create products.
- Convert rotary motion to linear using cams and use innovative combinations of electronics (or computing) and mechanics in product designs.
- To design, make, evaluate and improve designs with a purpose.
- Design with the user in mind, motivated by the service a product will offer.
- Make products through stages of prototypes, making continual refinements and Use prototypes, cross-sectional diagrams and computer aided designs to represent designs.
- Ensure products have a high quality finish, using art skills where appropriate.
- To take inspiration from design throughout history.
- To combine elements of design from a range of inspirational designers throughout history, giving reasons for choices.
- Create innovative designs that improve upon existing products.
- Evaluate the design of products so as to suggest improvements to the user experience.

The role of the Classroom Teacher

- To encourage and instil creativity in children's thoughts around the subject of Design and Technology.
- All teaching staff to model creative and design techniques in which they are teaching within their Design and Technology session.
- All teaching staff to model how to use tools and equipment safely and appropriately for tasks.
- All teaching staff to ensure provision is appropriate for any child with Special Educational Needs.
- All teaching staff will complete assessments by the given dead-line.

The Role of the Classroom Assistant

The Teaching Assistant will also help the Classroom Teacher to set up particular resources that are needed for Design and Technology sessions. The role of the Teaching Assistant is to take on an active role to support children within the Design and Technology lesson as directed by the Classroom Teacher.

The Role of the Design and Technology Leader

The Design and Technology leader is responsible for:

- Working closely with the Head teacher on the standards and progress of Design and Technology throughout the school.
- Writing the Art and Design Action Plan.
- Supporting and advising staff with all aspects of Design and Technology.
- Facilitating professional development in the teaching of Design and Technology.
- Organising appropriate CPD to ensure staff are confident in the teaching of Design and Technology.
- Monitoring the quality of Teaching and Learning in reading throughout the school.
- Ensuring the provision of a wide range of good quality resources for children to use in Design and Technology sessions.

Assessment

The children are assessed and records are kept in line with the school's assessment policy. The data from these assessments is used to:

- Action any special needs provision
- Support and Challenge children.
- Identify the most able children to ensure provision on extension/enrichment work
- Ensure objectives are being covered effectively.

Monitoring and Evaluating

The standards of teaching and learning in Design and Technology are regularly monitored and reviewed. Evidence gathered is used to form an action plan, which the Design and Technology co-ordinator will subsequently implement.