Margaret Roper
Catholic Primary School

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‘Caring, learning and achieving together as part of God’s family’

Design and Technology Policy

Intent

Margaret Roper Catholic Primary School aims to provide a well-rounded education that includes a strong focus on Design and Technology. Our intent is to provide students with opportunities to develop their creativity, design-thinking, problem-solving, and technological skills, so that they can thrive in a rapidly changing world.

Implementation

At Margaret Roper Catholic Primary School, Design and Technology is delivered through a comprehensive and well-structured curriculum called Kapow, that covers a wide range of topics such as textile design, mechanical engineering, electrical and electronic systems, and construction. The curriculum is planned and delivered by experienced teachers in a well-equipped and safe environment that caters to the needs of all students.
We make sure that our students have access to various resources such as modern tools, materials, and equipment, which they can use to develop their skills and knowledge effectively. By incorporating innovative approaches such as project-based learning, we support students to work collaboratively, think critically, and explore their creativity.

Impact

Design and Technology program has had a significant positive impact on the attainment, engagement, and well-being of our students. Students are equipped with a range of skills, such as problem-solving, communication, and creativity, which allow them to develop their individual personalities and skills as they reach secondary school and beyond.

Through Design and Technology, students learn to think outside the box, explore new ideas, and seek innovative solutions to problems. This approach to learning has increased students' confidence, self-belief and has led to a more positive attitude towards education. We are proud of the achievements of our students in Design and Technology and the recognition this has achieved. This highlights our success in delivering a curriculum that prepares our students for the ever-changing technological landscape.

Teaching and Learning

Where possible, and where relevant, links should be made to other curriculum areas. Links should only be made, when the links will enrich the Design Technology Curriculum.

Design and Technology will be taught either in blocked weekly sessions or in a condensed time frame where appropriate; for example, the topic of baking bread may be better suited to a condensed time frame whereas sewing cushions would be better taught over a period of weeks. Individual class teachers will decide whether or not their topics will be taught over a period of weeks or whether to teach it in a condensed period. When evaluating their own work, children should refer to the design criteria established in the design brief as their basis for deciding on how effective their product is.

They will also be given opportunities to handle and use a wide range of materials, developing their knowledge and understanding of these through practical design and make activities. There will be more teacher direction in year 3, but this support will decrease organically as children move through key stage 2.

The work undertaken should be practical, enjoyable and relevant for all children. All children with special educational needs will be given the opportunity to undertake design and technology activities. All design and technology activities will ensure an equal interest and participation level for both boys and girls. While resources are stored in a central storage area, where possible, children should be presented with a choice of tools and resources so that they are best able to meet their designs effectively. (For appropriate use of resources please refer to the Health and Safety section of the policy.)

The Design and technology National curriculum outlines the three main stages of the design process: design, make and evaluate. Each stage of the design process is underpinned by technical knowledge which encompasses the contextual, historical, and technical understanding required for each strand. Cooking and nutrition* has a separate section, with a focus on specific principles, skills and techniques in food, including where food comes from, diet and seasonality. The National curriculum organises the Design and technology attainment targets under four subheadings: Design, Make, Evaluate, and Technical knowledge.

The Kapow Curriculum focuses on these strands: ● Design ● Make ● Evaluate ● Technical knowledge

● Cooking and nutrition

● Mechanisms/ Mechanical systems

● Structures

● Textiles

● Electrical systems (KS2 only)

● Digital world (KS2 only

Kapow Primary's Design and technology scheme has a clear progression of skills and knowledge within these strands and key areas across each year group.

Through Kapow Primary's Design and technology scheme, pupils respond to design briefs and scenarios that require consideration of the needs of others, developing their skills in the six key areas. Each key area follows the design process (design, make and evaluate) and has a particular theme and focus from the technical knowledge or cooking and nutrition section of the curriculum. The Kapow Primary scheme is a spiral curriculum, with key areas revisited again and again with increasing complexity, allowing pupils to revisit and build on their previous learning.

Lessons incorporate a range of teaching strategies from independent tasks, paired and group work including practical hands-on, computer-based and inventive tasks. This variety means that lessons are engaging and appeal to those with a variety of learning styles. Differentiated guidance is available for every lesson to ensure that lessons can be accessed by all pupils and opportunities to stretch pupils' learning are available when required. Knowledge organisers for each unit support pupils in building a foundation of factual knowledge by encouraging recall of key facts and vocabulary.

Strong subject knowledge is vital for staff to be able to deliver a highly effective and robust Design and technology curriculum. Each unit of lessons includes multiple teacher videos to develop subject knowledge and support ongoing CPD. Kapow Primary has been created with the understanding that many teachers do not feel confident delivering the full Design and technology curriculum and every effort has been made to ensure that they feel supported to deliver lessons of a high standard that ensure pupil progression.

Equal Opportunities and Inclusion

All staff will be expected to give every pupil the chance to experience success in their learning regardless of ability, gender, race or cultural background. Teachers ensure that the curriculum is appropriate for the needs of the children.

The majority of learning in design and technology takes place through practical work with a result that pupils, for whom English is an additional language, will not be disadvantaged. The different beliefs and practices which the children have, will be considered when working with food, materials and design. Pupils with physical difficulties will be supported with certain practical tasks and have extra opportunities for practice.

Children have equal opportunities to develop their understanding and enjoyment of art regardless of race, gender and ability. Every effort will be made to ensure that activities are equally interesting to both boys and girls.

Assessment, Attainment and Progress

The Subject Coordinator's plans alongside the Kapow Curriculum and resources should indicate the focus for each unit of work and assessment opportunities will be identified. The teacher will assess the child's work on a continual basis in order to match their ability to the level of descriptions in the National Curriculum. These provide enough information to inform the next teacher of progress made, and to be of use in preparing the annual report to parents.

Before each unit, teachers establish the pupils' level of knowledge, understanding and skills. These assessments are used to refine planning to make it suitably challenging.

Children are given verbal feedback throughout their unit of work. Comments are written on teacher plans which apply to the learning objective and planning is evaluated. Teachers then adjust plans to reinforce knowledge and understanding or further extend pupils knowledge. Photographic evidence or pieces of work are kept by each year group. These are used for future plans and to aid the pupils understanding.

Assessment, Recording and Reporting

Pupils work will be recorded in sketch book as they complete each lesson, where appropriate photos will be used for each unit of work they complete. This will encourage the pupils to record their observations, designs, evaluations and much more in a coherent and organised manner. Coherence of assessment across the school is supported by discussion and consultation between staff. Gathering evidence of pupil attainment is an integral part of assessment, which is built into the schemes of work.

Teachers can obtain evidence by direct observation of children at work, questioning pupils or listening to their conversations, and by photographing and recording their finished products. The class teacher monitors progress in D&T by:

- informal discussions with children;
- assessing work and progress;
- observing children.

Teachers analyse pupils' progress at the end of each unit of work and formal assessments of pupils are made on shaded sheets termly.

Resources – Health and Safety

While individual class teachers must judge for themselves whether or not their class is able to use a particular resource the following guidance must be adhered to:

The class teacher will be responsible for the health and safety of themselves, LSAs, pupils and visitors within the class. Pupils should be made aware of hazards, risks and risk control and encouraged to:

- collect, use and return tools and equipment safely
- follow clear instructions
- only move around the classroom when necessary
- wear safety equipment whenever necessary

The following is accessible in school for lessons:

Cookers: Once instruction has been given, children may be allowed to operate the cooker under close supervision.

Food Hygiene: Children should be made aware as early as possible of the need for hygienic food preparation. Teachers should train the children to prepare food hygienically and supervise preparation.

Glues: Pritt-Sticks: These may be used by children as soon as they are competent not to get any in their eyes, mouth etc. **PVA/Hobby glues**: As above, in addition to some training and then general supervision.

Glue Guns: Only low temperature glue guns should be used. They should be used by the teacher only, until years 5 and 6, where they may be used by the child under close supervision of an adult.

Knives: While use of scissors is preferable, children may be required to use knives for their Design and Technology work. They should only be used by older children and can be used once they have learnt the rules, techniques and skills for cutting. They should be closely supervised while working with a knife.

Paints: Children should use water-based paints only. These may be used under general supervision. Emulsions (house paints) should be used by adults only or with older pupils under supervision.

Sanding/Filing: Sandpaper/Emery paper/Files: Sanding and filing may be carried out using these tools under general supervision as soon as the children's motor skills are sufficient.

Saws – Hand, Hacksaws and Junior Hacksaws: These are suitable for most jobs and may be used by the children providing they have undergone some training and have the appropriate motor skills.

Scissors: Blunt ended scissors: These may be used as soon as the children can actually handle them under general supervision.

Sharp ended scissors: These may be used under general supervision once the children can be relied upon to use the correct techniques.

Left handed scissors: While most children are right-handed, left-handed scissors should be made available for left handed children.

Staplers: Mini staplers may be used by children under general supervision. Heavy duty staplers may be used under close supervision until the children are competent. Electric staplers are never to be used in the classroom. **Staple guns are to be used only by trained adults.**

Review

This policy is monitored through:

- Regular scrutiny of children's work

- Regular monitoring and evaluation of planning
- Evaluation and analysis of assessment evidence
- Lesson observations to monitor the quality of teaching and implementation of planning
- Pupil and staff interviews and questionnaires.

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