Design Technology Policy

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Design and technology is an inspiring, rigorous and practical subject. At St John's we encourage our children to use their creativity and imagination by designing and making products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values through collaborative working and problem solving. The skills developed in DT support learning across the whole of the curriculum and draw on disciplines such as mathematics, science, engineering, computing and art.

Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world and gives children the opportunity to aspire to be more through creating opportunities for them in the wider world. Through the DT curriculum, children are inspired by engineers, designers, chefs and architects, which enables them to create a range of structures, mechanisms, textiles, electrical systems and food products with a real life purpose.

Our mission statement is, 'In God's love we shine together,' at St John's our DT curriculum allows for a deepening of children's spirituality through the process of creative thinking and innovation which inspires pupils to bring out undiscovered talents, which in turn breeds a self-confidence and belief in their abilities. Through initial research and investigation, the children learn about real life designers, architects, chefs and craftspeople and develop their appreciation for how they have nurtured their God given talents.

St John's holds a Gold level LOTC award and our Forest school offers a wide range of opportunities for the children their apply the DT skills across a range of practical, real life contexts through the use of tools and in applying risk assessment. Our pupils have regular access to the outdoors and participate in a wide range of traditional crafts in the woodland. Children have the opportunity to sample a range of tools, for example, using potato peelers to whittle sticks in KS1 to using pocket knives to sharpen toasting sticks in KS2. We plan a wide range of craft activities using tools such as hand saws, pull saws, hand and electric drills. Visits to forest school can also involve: practical sessions such as tree felling, fungal inoculation, bird ringing and willow construction, this work helps the children to understand the range of jobs that involve the use DT skills.

Through teaching DT at St John's we aim to:

- Develop imaginative thinking in children and to enable them to talk about what they like and dislike when 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;
- Develop an understanding of technological processes, products, and their manufacture, and their contribution to our society.
- Train children in the safe and appropriate use and maintenance of tools and techniques in accordance with health and safety requirements.
- Give opportunities for the children to respond to the natural world and takes advantage of traditional crafts through Forest School.

Teaching and learning style

The National Curriculum for Design and Technology aims to ensure that all pupils:

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
- 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.

Our principal aim is to develop the children's knowledge, skills and understanding to ensure that work is progressive and skills are developed through the key stages. There are three core activities children engage with in Design and Technology:

Activities which involve investigating and evaluating existing products

At the start of a unit of work, pupils take part in the exploration and development of ideas, with reference to a wide range of practical and real life examples and where possible, craftspeople, designers and technicians.

Focused tasks in which children develop particular aspects of knowledge and skills

Pupils are given the opportunity to sample the necessary skills that they will need to produce their final outcome and experience the practical applications of tools and materials.

Designing and making activities in which children design and make 'something' for 'somebody' for 'some purpose'

We combine whole-class teaching with individual/group activities. Teachers draw attention to good examples of individual performance as models for the other children. We give children the opportunity within lessons to work on their own and collaborate with others, on projects. Children also have the opportunity to use a wide range of materials and resources. Upon completion, children are encouraged to critically evaluate their own and others work. We encourage children to evaluate their own ideas and methods, and the work of others, and say what they think and feel about them.

These three activities are combined in sequence to create a Design and Technology project.

EYFS and Design Technology

Expressive arts and design involves enabling children to explore and play with a wide range of media and materials, as well as providing opportunities and encouragement for sharing their thoughts, ideas and feelings through a variety of activities in art, music, movement, dance, role-play and design technology. The key learning focuses on: Observation; communication; Aesthetic awareness; Physical skill; Design processes and techniques and Evaluation.

Adapting the curriculum for children with Special Educational Needs

Resources

Use systems such as racks so that items such as tools can be found and put away easily. To make tasks accessible, pupils use, where appropriate:

- specialist aids – e.g. talking weighing scales, jigs to aid cutting, templates, patterns, ready-made parts, kettle-tipping devices, sprung or electric scissors,
- generic aids – e.g. jumbo pencils ""if hand control is weak, non-slip mats to hold papers, books and equipment in place, BluTac to hold small items or as a temporary fixing (e.g. for rulers when drawing).
- One to one support where needed to handle tools and equipment.

Multi-sensory approaches

Prepare visual prompts, using images, photos or symbols, showing the order to carry out a sequence of activities for a particular process. Checklists allow pupils to see what they have completed, what to do next and where to finish.

Some pupils will need to use non-visual means to evaluate different products, to use this information to generate ideas and to become familiar with tools and other equipment.

Use of Computer technology

In Design Technology, ICT can:

- Help pupils model ideas and design products – e.g. using graphics, computer-aided design (CAD) software or spreadsheets
- Support making activities using computer-aided manufacturing (CAM) equipment such as embroidery machines, plotter/cutters etc, and
- Be used to develop symbol-supported recipes or instructions.

Implementing the Design Technology curriculum

We take a thematic approach to planning with each class covering a different topic every half term set out over a two-year cycle. Teachers choose their own topics at the start of the year. We aim to provide topics that are meaningful – through relevant and clear cross-curricular links (tenuous links will not be made simply for the sake of making links).

We carry out the curriculum planning in DT in two phases; long-term and medium-term. Our long-term plan maps out the themes covered in each term during the key stage and shows what links have been made. Our medium-term plans give details of each unit of work for each term with a specific reference to skills development. These plans define what we will teach and ensure an appropriate balance and distribution of work across each term. DT is taught on an alternating cycle with Art, each subject is covered for three half terms a year with a time allocation of 1hr 30 minutes per week. The DT subject leader is responsible for keeping and reviewing these plans and ensures a balance of work in various media and skills over the key stage.

Implementing the Design Technology curriculum

We plan the activities in Design Technology so that they build upon the prior learning of the children and refer to the Lancashire Key Learning documents to ensure progression so that there is an increasing challenge for the children as they move up through the school. The four areas of DT covered are Food, Textiles, Structures and Mechanical and Electrical systems with ICT

DT is taught alternately with Art and three units are covered through the year. We operate on a two year cycle and are currently in Cycle B. The four areas of Design Technology covered are: Food, Textiles, Structures, Mechanical and electrical systems and ICT. We use the 'projects on a page' from the DATA website and planning follows the Six DT principles:

- *User – who is it for? Who will use it?*
- *Purpose – what tasks or functions will the product perform?*
- *Functionality – how will the product actually work? What do they need to do to be successful?*
- *Design decisions – give pupils opportunity to make their own choices – even if it is a mistake, part of learning process,*
- *Innovation – encourage innovations, try things that are different.*
- *Authenticity – how 'real' will the product be?*

Assessment

Teachers use pupils books and notes from their plans to monitor progress and inform assessments, these will be supported with the Lancashire key learning sheets. Teachers assess children's work in Design and Technology by making informal assessments as they observe them working during lessons. When assessing, teachers may look at:

- Drawings, notes, models, comments and written work
- Artefacts made by pupils
- Photographs of pupils engaged in the design process.

At the end of a unit of work, key learning sheets will be annotated to indicate pupil's progress and achievement. These are handed to the subject leader for monitoring. During the year, our staff come together in a joint moderation meeting in which we focus on a strand of DT and monitor the progress of children in that particular area to ensure progression through the year groups is apparent.

At the end of the year, teachers will make a judgement against the National Curriculum levels of attainment. Teachers then use the levels that they record to inform annual assessment of progress for each child, as part of the annual report to parents. Each teacher passes this information on to the next teacher at the end of each year.

The Design and Technology subject leader keeps evidence of the children's work in a portfolio. This demonstrates what the expected level of achievement is in design and technology in each year of the school.