SACRED HEART CATHOLIC PRIMARY SCHOOL AND NURSERY
TOPIC OVERVIEW YEAR N TO YEAR 6

DT Curriculum Overview

Year	EARLY YEARS FOUNDATION STAGE
N	**Nursery children learn to:** • Explore different materials, using all their senses to investigate them. • Explore different materials freely, in order to develop their ideas about how to use them and what to make. • Develop their own ideas and then decide which materials to use to express them. • Join different materials and explore different textures. • Talk about the difference between materials and changes they notice (cooking) • Children are encouraged to use specific vocabulary during role play and role play.
R	**Reception children learn to:** • Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. • Share their creations, explaining the process they have used. • Make use of props and materials when role playing characters in narratives and stories. • Return to and build on their previous learning, refining ideas and developing their ability to represent them. • Create collaboratively sharing ideas, resources and skills. • Use textiles when making products: Children describe different fabrics and know when and why each is used. Children begin to join fabric with simple techniques. • Make different structures, using a range of materials, and explain what they need to be sturdy. Children think about the requirements of their build. Children review whether their structure was effective, and if so, why/why not. • Create a simple mechanism (e.g. use a split pin to create a mechanism that opens and closes (a simple hinge)). • Children are encouraged to use specific vocabulary during role play and role play

KEY STAGE 1

NC 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.*

Cooking and nutrition
As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.
Pupils should be taught:
- *use the basic principles of a healthy and varied diet to prepare dishes;*
- *understand where food comes from.*

Year	Autumn Term	Spring Term	Summer Term
1	**Mechanisms - Sliders and levers** *Pupils will learn how to make a slider and lever using paper. They will then create a moving picture in relation to their class text*	**Food - Preparing fruit and vegetables** Pupils will learn about a variety of vegetables and how to prepare them. They will then design a vegetable skewer to make and evaluate	**Textiles - Templates and joining techniques** *Pupils will learn how to join fabrics together and then apply this skill to a felt pouch for their treasures.*
2	**Mechanisms - Wheels and axles** *Pupils will learn how wheels and axels enable a vehicle to move. They will then create a model emergency vehicle*	**Textiles - Templates and joining techniques** *Pupils will design a puppet to represent a character from their class text for a retelling of the story with their peers*	**Structures - Freestanding structures** Pupils will research landmarks in our area and what makes them memorable. They will then design and build a new landscape for Southend City.

KEY STAGE 2

NC 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 structure. 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.*

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Pupils should be taught:
- *understand and apply the principles of a healthy and varied diet;*
- *prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques;*
- *understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.*

Year	Autumn Term	Spring Term	Summer Term
3	**Food - Healthy and varied diet** Pupils will investigate a range of food products and what needs to be included in *The Eatwell Plate*f or a balance diet. They will then design and make a fruit tart and evaluate the look and taste after.	**Structures - Shell structures** *Pupils will investigate a range of shell structures and their nets. They will then design a treasure box to keep their fossils and treasures safe in.*	**Mechanical Systems - Levers and linkages and Pneumatics** *Pupils will experiment with levers and pneumatics. They will then design and build a mythical creature based around Kuang Li Dragon, their class text.*
4	**Electrical Systems - Simple circuits and switches** Pupils will recap their knowledge of circuit components to then design and create a game that is programed through a control box.	**Textiles - 2-D shape to 3-D product** Pupils will practice sewing 2 small pieces of fabric together and then learn how to make a paper pattern. They will create a 3D product relating to our local area.	**Structures - Shell structures using computer-aided design** Pupils will learn how to use a computer-aided program to design a shell structure in relation to their Anglo-Saxon studies.
5	**Food - Celebrating culture and seasonality** Pupils will look at a range of biscuits that are given as gifts at Christmas. They will learn about food preparation and then design Christmas biscuits as a present for a family member.	**Electrical Systems - Monitoring and control** Children will investigate a range of products that respond to changes in the environment using computer control. They will then design and make an electronic toy moneybox.	**Mechanical Systems - Pulleys or gears** Pupils will investigate pre-made toys and how they incorporate a pulley system. They will design and make a product that involves a pulley system powered by electricity
6	**Textiles - Combining different fabric shapes** Pupils will research a range of textile Victorian products	**Structures - Frame structures** **Electrical Systems - More complex switches and circuits** Pupils will learn how to create frame structures and then create an electricity system within their structure (a lighthouse) to program the light to flash.	**Food - Celebrating culture and seasonality** Pupils will learn about cuisine in South America. They will learn the skills on how to prepare the food and cook a traditional meal for a cultural celebration.