Curriculum Intent & Progression Document
Design and Technology

St. Mary's Catholic Voluntary Academy, Grantham

Subject Leader: Miss Steph Berridge

Miss Berridge
St. Mary's Catholic Voluntary Academy, Grantham

Mission Statement

Christ is at the centre of St. Mary's as we strive to nurture and care for all our community members by encouraging them to **Believe**, **Succeed** and **Soar** within God's love, to achieve the very best that they can, in all areas.

Our Vision

We are disciples who put our faith into action in all that we do.
We are role models who encourage others to shine and be the best version of themselves that they can be.
We are investigators who ask questions about the past, the present and the future.
We are artists who show our creativity and talents with flair and imagination.
We are storytellers who have a passion for reading and are able to communicate in many ways.
We are problem solvers who tackle tasks with an open mind and a positive approach.
We are team players who work together to achieve our goals.
We are explorers who learn new skills, embrace other cultures and value our locality and the wider world.
We **Believe**. We **Succeed**. We **Soar**.

Our Gospel Virtues

To achieve our full Christian potential, we all need to live out our Gospel Virtues: -

Love

A Christ-like love respects the talent of each person in our school.

Faith

Faith helps us to do God's will in this world.

Hope

Hope helps us to see a new life beyond our present one.

Peace

We know that if we love one another, peace will be all around us.

Mercy

We believe that mercy will be shown by the way we forgive others.

Community

We believe our community here unites us all as followers of Jesus.

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Curriculum Intent General Principles:

Below, the General Principles of our whole school curriculum intention are in black print, along with what this translates to as regards DT in red:

The **General Principles** of our curriculum are that children:

- Meet Jesus through all aspects of their work. *Our intention is for pupils to encounter Jesus through their Design and Technology work. Wherever relevant we relate what we teach to the influence of Gospel values. We encourage the children to imitate the resilience of Jesus in their learning behaviour and we want every child to be happy and enthusiastic learners and to be eager to achieve their very best in order to fulfil their God-given talents.*
- Experience the challenge and enjoyment of learning; *As they progress through St Mary's, the children will use 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. Design and technology is an inspiring, rigorous and practical subject. Lessons incorporate a range of teaching strategies from independent tasks, paired and group work including practical hands on, computer based and inventive tasks.*
- Learn within a coherent and progressive framework. *Our design and technology curriculum 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.*

- See clear links between different aspects of their learning. *It is our aim to create strong cross curricular links with other subjects, such as Mathematics, Science, Computing, and Art. We want Design and Technology to prepare our children, to give them the opportunities, responsibilities, and experiences they need to be successful in later life. Our Design and Technology scheme encourages a delivery showing clear following of the design process where each project fill follow: research, design, make and evaluate. Each stage of the design process is underpinned by technical knowledge which encompasses the contextual, historical and technical understanding. Children should be designing SOMETHING, for SOMEONE for SOME purpose*
- Understand the purpose and value of their learning and see its relevance to their past, present and future. *Through our scheme of work, we aim to build an awareness of the impact of Design and Technology on our lives and encourage pupils to become resourceful, enterprising citizens who will have the skills to contribute to future design advancements. It aims to encourage children to take risks, to develop new innovative designs and to be reflective learners by giving them opportunities to evaluate their own work, as well as the design and work of others within school and the wider world.*
- Explore the breadth and depth of the national curriculum. *We intend for all children to acquire appropriate subject knowledge, skills and understanding as set out in the National Curriculum. Our Design and Technology curriculum is designed by identifying the key skills, knowledge and understanding required by the National Curriculum, which is then planned to ensure that the skills are taught sequentially across the key stages and that new skills build on and develop the skills taught in previous year groups.*

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Curriculum Intent: Design and Technology (2024-25)

EYFS DESIGN and TECHNOLOGY		
ADVENT – **Why do squirrels hide their nuts + Harvest & Christmas** Children will…	LENT - **What's that sound?** Making musical instruments Children will…	PENTECOST – **What can you see in summer?** **Making transport** – joining techniques, using tools, large constructions Children will…
Know what a balanced diet means Know how to talk about healthy and unhealthy foods Know how to talk about likes and dislikes, in the context of foods Know how to use a range of tools, beginning to show accuracy and care. Know how to use recipes Know how to discuss what they have made and how they could improve it next time (evaluate)	Know how to explore and evaluate a range of musical instruments. Know to use a range of tools and equipment to join materials. Know how to select and use a range of tools and equipment to cut Know how to design a musical instrument. Know how to communicate their ideas through talking and drawing Know how to select and use a range of materials to make my own musical instrument.	Know how to explore and evaluate a range of toy vehicles/transport Know which parts of the vehicles move. Know how to design my own vehicle/transport by talking and drawing Know how to evaluate their ideas against design criteria Know how to share their likes and dislikes about their vehicle and what they would do to improve it next time.
VOCABULARY		
Diet, balanced, unbalanced, food, vegetables, fruit, food groups, unhealthy, healthy, like, dislike, taste, cut, chop, stir, mix, recipes, ingredients, evaluate,	Explore, materials, plastic, cardboard, paper, ribbon, wool, fur, evaluate, join, attach, template, cut, line, shape, round, square, design, criteria, materials, tools, annotated drawing, evaluate.	Moving, transport, vehicle, wheel, push, pull, direction, up, down, left, right, moving, evaluate, join, fix, split pin, picture, make, remake, cut, draw, design criteria, annotated sketch, idea, discuss, choose, drawing, label, appealing, evaluate, make, improve

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Year 1 DESIGN and TECHNOLOGY		
ADVENT – **Textiles** Children will…	LENT - **Cooking and Nutrition** Children will…	PENTECOST – **Structures** Children will…
L1 Know what makes a good design for a puppet and why. L2 Know how to join fabrics together using pins, staples or glue. L3 Know how to use a template to create a design for a puppet. L4 Know how to join their two puppets' faces together as one. L5 Know how to decorate a puppet to match my design. L6 Know how to evaluate my puppet against my design criteria.	L1 Know how to identify a fruit. L2 Know how to describe where fruit and vegetables grow. L3 Know how to practice food preparation skills. L4 Know how to select ingredients for a recipe. L5 Know how to apply food preparation skills to a recipe. L6 Know how to evaluate against the design brief	L1 Know what a free standing structure is and can evaluate existing structures. L2 Know how to explore and evaluate how to make simple structures. L3 Know how to design a simple structure. L4 Know how to use tools and equipment accurately to start my structure. L5 Know how to add finishing touches to my structure. L6 evaluate my structure
VOCABULARY		
design, equipment, glue, hand puppet, safety pin, technique, decorate, design, fabric, inspiration, model, stencil, template.	fruit, plant, seed, bush, leaf, root, soil, stem, tree, vegetable, vine, chopping board, cut, fork, juice, juicer, table knife, flavour, select, taste, blend blender, ingredients, recipe, compare, evaluate.	base, rotate, rotor, rotor blade, sail, stable, structure, equal, fold, length, same, scissors, width, attach, join, test, turn, evaluate, improve, test.

Year 2 DESIGN and TECHNOLOGY		
ADVENT – **Textiles** Children will…	LENT – **Cooking and Nutrition** Children will…	PENTECOST – **Mechanisms** Children will…
L1 Know what textiles are and some examples. L2 Know that sewing is a method of joining fabric. L3 Know how to design my pouch for Red Riding Hood. L4 Know how to make my pouch for Red Riding Hood. L5 Know how to make my pouch for Red Riding Hood. L6 Know how to evaluate my pouch for Red Riding Hood.	L1 Know the names of the main food groups and identify foods that belong to each group. L2 Know how to identify the balance of food groups in a meal. L3 Know how to identify an appropriate piece of equipment to prepare a given food. L4 Know how to select balanced combinations of ingredients. L5 Know how to design based on criteria. L6 Know how to make and evaluate a dish based on design criteria.	L1 Know what a mechanism is and can give examples. L2 Know what the mechanisms of wheels, axis and chassis are, look like and how they work. L3 Know how to create simple success criteria and start my design. L4 Know how to make my design. L5 Know how to adapt my design. L6 Know how to evaluate my design.
VOCABULARY		
decorate, fabric, fabric glue, knot, needle, needle threader, running stitch, sew, template, thread, evaluate.	carbohydrates, dairy, fruit, oils, proteins, spreads, vegetables, balanced, diet, menu, chopping board, cut, grate, grater, scissors, snip, spread, table knife, combination, design brief, feel, smell, taste, design, ingredients, appearance, evaluate, review.	design, design criteria, wheel, pods, axle, axle holder, frame, mechanism, axle, axle holder, design, design criteria, pod, frame, wheel, stable, strong, test, decorate, evaluate.

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Year 3 DESIGN and TECHNOLOGY		
ADVENT – **Structures** Children will…	LENT – **Cooking and Nutrition** Children will…	PENTECOST – **Electrical Systems** Children will…
L1 Know what a structure is and know their purposes. L2 Know how a shell structure contains, protects or presents. L3 Know how to construct a range of 3D geometric shapes using nets. L4 Know how to create a design criteria for my structure. L5 Know how make my structure. L6 Know how to evaluate my structure.	L1 Know how to explore and explain why food comes from different places around the world. L2 Know how to explain the benefits of seasonal foods. L3 Know how to develop my cutting and peeling skills. L4 Know how to evaluate seasonal ingredients. L5 Know how to design a mock-up using criteria. L6 Know how to make and evaluate a dish.	L1 Know what electricity is and what it is used for. L2 Know and understand the purpose of information design. L3 Know how to research a set topic to develop a range of initial ideas. L4 Know how to develop an initial idea. L5 Know how to develop my initial idea into my final design. L6 Know how to assemble my final product, incorporate a simple circuit and evaluate it.
VOCABULARY		
Structures, Shell Structures, Packaging, Purpose, Forces, Style, Font, Durable, 3D Nets, Tabs, Folding, Layering, Corrugating, Ribbing, CAD, castle, net, shape, structure, design, scoring, tab, evaluate.	arid, climate, country, Mediterranean, mountain, polar, temperate, tropical, weather, climate, export, import, seasonal, seasons, cut, grate, peel, snip, fruit, ingredients, seasonal, taste, texture, vegetable, complementary, design, mock-up, appearance, evaluate, taste, texture.	design, information, information design, public, bulb, design criteria, information design, initial ideas, research, sketch, develop, feedback, final design, initial ideas, peer-assessment, self-assessment, battery, bulb, circuit, circuit component, crocodile wire, electric product, electrical system.

Year 4 DESIGN and TECHNOLOGY		
ADVENT - **Juggling Balls** Children will…	LENT- **Mechanical Posters** Children will…	PENTECOST – **The Great Bread Bake Off** Children will…
L1 Know how to investigate and evaluate a range of existing products, in the context of juggling balls and then how to generate, develop, model and communicate ideas through discussion and annotated sketches L2 Know how to perform tie-dye as a technique for decorating my fabric L3 Know how to research and trial different fillings and decide upon the most functional one. Know how to cut around a template and use a running stitch to create a hem L4 Know how to use a functional technique to carefully decorate my fabric L5 Know how to join using an appropriate stitch to create my finished shape. L6. Know how to evaluate my product	L1 Know how to investigate mechanical systems; existing lever and linkage mechanisms. L2 Know how to make mechanical systems which use levers and linkages L3 Know how to develop design criteria to help me design an innovative product using sketches to develop and communicate ideas L4 Know how to use prototypes to develop my ideas L5 Know how to select and use the correct tools and equipment to make a moving poster L6 Know how to name the parts and functions of a lever and linkage mechanical system when evaluating their poster.	L1 Know how to find out about important people and events in the past that have shaped the way bread is made and sold today. (Talk to Bloomsbury or other local bakery – possible visit?) L2 Know how to investigate and analyse existing products according to their characteristics L3 Know how to develop some design criteria for a bread product and how to shape dough L4 Know how to think of original ideas for a product based on my design criteria. L5 Know how to develop designs based on my design criteria and clearly communicate my final Design for a bread product. L6 Know how to select ingredients and kitchen equipment to help me follow a bread making recipe, knead and bake the bread
VOCABULARY		
explore, textiles, evaluate, interpret, product, analysis, star profile, user, and design, brief, design criteria, annotate, tie-dye, technique, decorate, cut, shape, functional, hem, template, stitch, quality, shape, join, overcast stitch, aesthetic, evaluate, test	Design brief, recycle, mechanism, mechanical system, moving, lever, linkage, design brief, pivot, input, output, design brief, generate, loose/fixed pivot, guide/bridge, system, annotated sketch, generate, design criteria, adapt, Prototype, evaluate, mock-up, high-quality, finish, techniques, select, accuracy, tools, equipment, materials,	pioneer, design, brand, industry, product, market research. texture, appearance, flavour, design criteria, shape, knot, original, annotated, Ingredients, yeast, knead, dough, rise

	components, replicate, evaluate, improve, function, lever, linkage, input, output, design criteria	

Year 5 DESIGN and TECHNOLOGY		
ADVENT – **Super Seasonal Cooking** Children will…	LENT - **Felt Phone Cases (ET, Phone Home)** Children will…	PENTECOST - **Marbulous Structures** Children will…
L1 Know how to explain what seasonality means and when different fruit and vegetables are in season in the United Kingdom L2 Know how to explain where, when and how a variety of ingredients are reared, caught and processed L3 Know how to taste and evaluate seasonal foods, recognising that sometimes we need to try a new food a few times to find out if we like it. L4 Know how to explain the importance of protein as a proportion of a healthy varied diet L5 Know how to work as a group to generate, evaluate and refine recipe ideas, communicating final designs. L6 know how to prepare, cook and evaluate a healthy seasonal meal	L1 Know how to write some design criteria for a mobile phone case L2 Know how to generate a range of design ideas and clearly communicate my final design L3 Know how to make a paper template for a mobile phone case L4 Know how to practise using different types of stitches and choose the best one to use on my final felt phone case L5 Know how to organise my ideas in a step by step plan. L6 know how to select decorative techniques and fastenings according to their functional properties aesthetic qualities. Know how to evaluate their product.	L1 Know how to investigate, and apply my knowledge of, free standing structures L2 Know how to use a wider range of tools and equipment to perform practical tasks accurately (joining cardboard tubes together) L3 Know how to develop a range of practical skills to create bends. L4 Know how to investigate existing products L5 Know how to select from and use materials and components to make a marble run L6 Know how to evaluate and improve my design and technology work.
VOCABULARY		
seasonality, spring, summer, autumn, winter, imported, ripe, sustainable, seasonal, reared, caught, processed, asparagus, kale, spinach, radishes, rocket, Jersey Royal new	Design criteria, aesthetics, functional, innovative, annotate, design process specification, pattern, template, precisely, accurately, scale, measurements, millimetre, centimetre, prototype,	Free standing, structure, support, stiffen, sturdy, stable, reposition, strengthen, reinforce, accurate, join, shape, cut aesthetics,

potatoes, spring onions, taste, texture, smell, balanced, protein, Eatwell plate, Design criteria, specification, annotated diagram, generate, refine, blanch, fry, grill, griddle, chop, slice, peel, grate.	whipstitch, backstitch, running, stitch, blanket stitch, plan, fastenings, decoration, felt, design process, fastenings, decoration, felt, design criteria, evaluate	tools, equipment, functional, bend, skills, tools, equipment, cut, shape, join, existing, product, aesthetic, functional, iterative process, test, evaluate, design criteria, improve

Year 6 **DESIGN and TECHNOLOGY**		
ADVENT – **Global Food** Children will…	LENT - **Automata animals** Children will…	PENTECOST - **Programming Adventures** Children will…
L1 Know how to explain where in the world ingredients come from L2 Know how to explain that diets around the world are based on similar food groups L3 Know how to explain why rice is a good staple Food and how to cook it L4 Know how to demonstrate a range of food skills and techniques when preparing and cooking Mexican food. L5 Know how to demonstrate a range of basic and advanced food skills and cooking techniques when preparing and cooking Chinese food. L6 Know how to accurately and mainly independently follow a recipe demonstrating a range of cooking techniques when cooking pretzels	L1 Know how to research ideas about different animals to inform my design. L2 Know how to explain how simple cam mechanisms work. L3 Know how to make a simple mechanism to help me understand cams and select materials according to their functional properties L4 Know how to use research and develop design criteria to inform my design. L5 Know how to build a framework accurately using a wider range of tools and equipment. L6 Know how to evaluate their product, understand and use a mechanical system	L1 Know how to program and control floor robots L2 Know how to generate and develop ideas, for an adventure map, through discussion L3 Know how to research a range of materials to see how they impact upon the movement and control of a floor robot. L4 Know how to plan an adventure map L5 Know how to use appropriate materials to create an adventure map. L6 Know how to monitor a floor robot and evaluate their finished product
VOCABULARY		

ingredient, climate, taste, prepare, sensory, world, global, flourish, diet, food groups, Eatwell plate, protein, dairy, carbohydrates, starchy fruit, fat, vegetables, rice, boil, hob, heat source, recipe, staple, storage, handling, nutritional, benefits and measure, Mexican, skills, techniques, basic, fry, grate, dice, chop, slice, hygiene, salsa, guacamole, quesadillas, Chinese, skills, techniques, basic, advanced, bake, crack, dice, chop, peel, grate, slice, roll, hygiene, pretzel, knead, bake, recipe, equipment, ingredients, technique	endangered, vulnerable, appearance, habitat, research, design brief, Cam, follower, mechanism, components, mechanical systems, rotary, linear, convert, motion, guide, follower, mechanism, movement, dwell, snail, egg shaped, eccentric, ellipse, hexagon, round, off centre, offset, design criteria, functional, aesthetic, design features, innovative, research, finished, quality, construction, finish, join, cut, saw, square section wood, hacksaw, vice, corner joints, framework, measure, accurately, smooth, finish, notch, mount, framework, finish, join, cut, saw, prototype, evaluate, peer, feedback, off centre, axle, shaft	Floor robot, Bee-Bot, input, output. adventure, map, obstacle, square, background, start, finish, materials, properties, cotton, silk, felt, cardboard, paper, bubble wrap, plastic, plan, evaluate, revise, joining, stapler, staples, glue, tape, programming, monitoring, evaluating.