

# Curriculum Intent & Progression Document

## Design and Technology

St. Mary's Catholic Voluntary Academy, Grantham

2022-23



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St. Mary's Catholic Voluntary Academy, Grantham  
2022-23

### 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.

# 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.*

## Curriculum Intent: Design and Technology (2022-23)

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

**Year 1  
DESIGN and TECHNOLOGY**

<p align="center"><b>ADVENT – Sensational Salads</b> Children will...</p>	<p align="center"><b>LENT - Our Fabric Faces</b> Children will...</p>	<p align="center"><b>PENTECOST – Packed Lunch Problems</b> (Lighthouse Keeper) Children will...</p>
<p>L1 Know the names of different fruits and vegetables and explain where some foods grow.</p> <p>L2 Know how to explore and evaluate a range of products and know why I need to eat fruit and vegetables.</p> <p>L3 Know how to prepare and make a healthy salad made from root vegetables.</p> <p>L4 Know where food comes from in the context of the fish we eat.</p> <p>L5 Know how to prepare a tasty fish salad.</p> <p>L6 Know where different fruits come from and can prepare a tasty fruit salad.</p>	<p>L1 Know how to explore and evaluate fabrics for making dolls/characters.</p> <p>L2 Know which material is suitable for a dolls/character hair and how to shape it.</p> <p>L3 Know how to join different fabrics and materials together.</p> <p>L4 Know how to cut around a template to create a face shape.</p> <p>L5 Know how to think of and discuss ideas to create a design.</p> <p>L6 Know how to follow my design carefully and use different tools to make my design</p>	<p>L1 Know how to explore and evaluate a product's ability to carry a lunch.</p> <p>L2 Know how to investigate and evaluate a range of lunch boxes</p> <p>L3 Know how design new lunch box that can solve the problem</p> <p>L4 Know how to build a lunch box, thinking about its structure and what it is used for.</p> <p>L5 Know how to test and evaluate their design</p> <p>L6 Know how to improve my lunch box, retest and re-evaluate it.</p>
<p align="center"><b>VOCABULARY</b></p>		
<p>STEM, science, design and technology, engineering, mathematics, chronological, events, individuals, changing, inventors, evaluate, vegetable, root, salad, texture, smell, appearance, taste, hygiene, blend, grate, mix, peel, chop, slice, The Bridge, The Claw, fork safe, protein, zest, juice, vitamins, minerals, oily, salmon, mackerel, trout, tuna, shellfish. combine, fruit, recipe.</p>	<p>Explore, fabric, textile(s), lace, felt, corduroy, jean, satin, silk, cotton, velvet, velour, ribbon, wool, fur, evaluate, hessian, join, attach, template, cut, line, shape, oval, round, square, heart, tone, design, criteria, materials, tools, annotated drawing, evaluate.</p>	<p>Evaluate, product, existing, disassemble, materials, waterproof, strong, protect, reclaimed, select, tools, equipment, safety, area, join, tape, glue, structure, hinges, design criteria, specification, test, stronger, stable, stiffer, retest, improvements, appealing</p>

**Year 2  
DESIGN and TECHNOLOGY**

<p align="center"><b>ADVENT – Dips and Dippers</b> Children will...</p>	<p align="center"><b>LENT – Moving Picture</b> (Grace Darling) Children will...</p>	<p align="center"><b>PENTECOST – Fabric Bunting</b> Children will...</p>
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L1 Know how to evaluate different dips and start to think about where different foods come from.	L1 Know how to explore and evaluate existing moving books.	L1 Know how to explore and evaluate bunting.
L2 Know how to explore different dippers and describe them.	L2 Know how to use mechanisms in their product	L2 Know how to design bunting
L3 Know how to explain why I need to eat a balance and variety of food groups to stay healthy	L3 Know how to make a lever and use it in their product.	L3 Know how to a template to help cut a piece of fabric.
L4 Know how use a range of tools and equipment to make dips and dippers	L4 Know how to make a wheel mechanism and use it in their product.	K4 Know how to use running stitch to join fabric
L5 Know how to plan my own appealing dip and dipper and clearly show my ideas.	L5 Know how to design and make decisions about their product and use an annotated sketch to show them.	L5 Know how to select fabrics that are suitable for decorating bunting.
L6 Know how to follow my plan to make my own dip and dipper and evaluate them.	L6 Know how to use mechanisms to make and evaluate against design criteria.	L6 Know how to join fabrics and evaluate their product
<b>VOCABULARY</b>		
Ingredients, dips, evaluate, senses, taste, texture, smell, appearance, dipper, explore, sensory, evaluating, crunchy, dry, hard, sweet, juicy, protein, dairy, fruit, vegetables, carbohydrate, balanced, diet, varied, hygiene, blend, grate, crush, mix, peel, chop, slice, layered, marbled, The Bridge, The Claw, context, equipment, method, design, design criteria, plan.	Moving, picture, book, story, lever, slider, pivot, wheel, push, pull, direction, up, down, left, right, product, moving, mechanism, slider, evaluate, assemble, fix, lever, split pin, pivot, picture, mechanism, disc, reassemble, fixed, push, cut, draw, design criteria, annotated sketch, idea, discuss, choose, drawing, label, appealing, make, improve	Evaluate, product, bunting, existing, design, program, graphics, computer, template, felt, trace, accurately, skill, needle, thread, running stitch, seam, starting off, finishing off, materials, fabrics, join, select, properties, glue, staple, sew

<b>Year 3 DESIGN and TECHNOLOGY</b>		
<b>ADVENT – Battery Operated Lights</b> Children will...	<b>LENT - Let's Go Fly a Kite</b> Children will...	<b>PENTECOST – Edible Garden</b> Children will...
L1 Know how key events and individuals in design and technology have helped shape the world and the way we light our homes	L1 Know how to communicate my existing understanding about kites	L1. Know how to name some herbs and know how to grow them. (Liaise with Syston re possible visit)

<p>L2 Know how to use electrical systems in their products and in particular, how a series and parallel circuit can be used to light a bulb.</p> <p>L3 Know how switches can be made and used in circuits.</p> <p>L4 Know how to develop design criteria for a light.</p> <p>L5 Know how to select materials and components to make my light and then create a well-finished product</p> <p>L6 Know how to complete a detailed evaluation of my finished product against design criteria</p>	<p>L2 Know how to name and explain the function of the different parts of a kite.</p> <p>L3 Know how to investigate kite shapes and then select from and use different materials and components</p> <p>L4 Know how to develop design criteria and be able to communicate a design for my kite</p> <p>L5 Know how to make a strong and stiff frame structure to support the kite, using accurate measurements, cutting and joining.</p> <p>L6 Know how to evaluate my kite using their design criteria</p>	<p>L2. Know how to explain what makes a diet healthy and varied and can cook a healthy balanced meal.</p> <p>L3. Know how to explain where, when and how strawberries are grown in the United Kingdom</p> <p>L4 Know how to use kitchen tools correctly to prepare and make a tasty and nutritious drink.</p> <p>L5 Know how to explain when tomatoes are in season in the United Kingdom and can say where and how they are grown.</p> <p>L6 Know how to can prepare and cook/assemble a healthy and tasty meal using tomatoes as my main ingredient</p>
<b>VOCABULARY</b>		
<p>STEM, science, design and technology, engineering, mathematics, chronological, events, individuals, changing, inventors, mains, battery, operated, energy, electricity, conductor, insulator, connect, series, fault, parallel, circuit, components, symbol, electrical systems, design brief, switch, turn switch, micro switch, connect, circuit, components, design criteria, specification, prioritise, decoration, shape, materials, annotate, sketch, cross-sectional, original, innovative, purpose functional, aesthetic, finished, quality, assemble, evaluate, specification, design criteria.</p>	<p>Key events, design and technology, ideas, Kite, parts, function, bridle, line, tow point, keel, sail, spars, tail, kite, shape, delta, diamond, rokkaku, sled, design criteria, prioritise, decoration, shape, materials structure, frame, strength, stiffen, test, evaluate.</p>	<p>herb, thyme, mint, parsley, tarragon, rosemary, basil, seed, balanced meal, complex carbohydrates, vitamins, minerals, dairy, fats, sugars, nutrition, poly-tunnels, glass houses, seeds, plants, calyx, pollinate, seasonality, smoothie, measure, millilitre, litre, seed, pinch out, sow boil, simmer, seasoning, bruschetta, grate, chop, heat source, hob.</p>

**Year 4  
DESIGN and TECHNOLOGY**

ADVENT - <b>Juggling Balls</b> Children will...	LENT- <b>Mechanical Posters</b> Children will...	PENTECOST – <b>The Great Bread Bake Off</b> Children will...
<p>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</p> <p>L2 Know how to perform tie-dye as a technique for decorating my fabric</p> <p>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</p> <p>L4 Know how to use a functional technique to carefully decorate my fabric</p> <p>L5 Know how to join using an appropriate stitch to create my finished shape.</p> <p>L6. Know how to evaluate my product</p>	<p>L1 Know how to investigate mechanical systems; existing lever and linkage mechanisms.</p> <p>L2 Know how to make mechanical systems which use levers and linkages</p> <p>L3 Know how to develop design criteria to help me design an innovative product using sketches to develop and communicate ideas</p> <p>L4 Know how to use prototypes to develop my ideas</p> <p>L5 Know how to select and use the correct tools and equipment to make a moving poster</p> <p>L6 Know how to name the parts and functions of a lever and linkage mechanical system when evaluating their poster.</p>	<p>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?)</p> <p>L2 Know how to investigate and analyse existing products according to their characteristics</p> <p>L3 Know how to develop some design criteria for a bread product and how to shape dough</p> <p>L4 Know how to think of original ideas for a product based on my design criteria.</p> <p>L5 Know how to develop designs based on my design criteria and clearly communicate my final Design for a bread product.</p> <p>L6 Know how to select ingredients and kitchen equipment to help me follow a bread making recipe, knead and bake the bread</p>
VOCABULARY		
<p>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</p>	<p>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,</p>	<p>pioneer, design, brand, industry, product, market research. texture, appearance, flavour, design criteria, shape, knot, original, annotated, Ingredients, yeast, knead, dough, rise</p>



	components, replicate, evaluate, improve, function, lever, linkage, input, output, design criteria	
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Year 5 DESIGN and TECHNOLOGY		
ADVENT – <b>Super Seasonal Cooking</b> Children will...	LENT - <b>Felt Phone Cases (ET, Phone Home)</b> Children will...	PENTECOST - <b>Marbulous Structures</b> Children will...
<p>L1 Know how to explain what seasonality means and when different fruit and vegetables are in season in the United Kingdom</p> <p>L2 Know how to explain where, when and how a variety of ingredients are reared, caught and processed</p> <p>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.</p> <p>L4 Know how to explain the importance of protein as a proportion of a healthy varied diet</p> <p>L5 Know how to work as a group to generate, evaluate and refine recipe ideas, communicating final designs.</p> <p>L6 know how to prepare, cook and evaluate a healthy seasonal meal</p>	<p>L1 Know how to write some design criteria for a mobile phone case</p> <p>L2 Know how to generate a range of design ideas and clearly communicate my final design</p> <p>L3 Know how to make a paper template for a mobile phone case</p> <p>L4 Know how to practise using different types of stitches and choose the best one to use on my final felt phone case</p> <p>L5 Know how to organise my ideas in a step by step plan.</p> <p>L6 know how to select decorative techniques and fastenings according to their functional properties aesthetic qualities. Know how to evaluate their product.</p>	<p>L1 Know how to investigate, and apply my knowledge of, free standing structures</p> <p>L2 Know how to use a wider range of tools and equipment to perform practical tasks accurately (joining cardboard tubes together)</p> <p>L3 Know how to develop a range of practical skills to create bends.</p> <p>L4 Know how to investigate existing products</p> <p>L5 Know how to select from and use materials and components to make a marble run</p> <p>L6 Know how to evaluate and improve my design and technology work.</p>
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
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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	L1 Know how to research ideas about different animals to inform my design.	L1 Know how to program and control floor robots
L2 Know how to explain that diets around the world are based on similar food groups	L2 Know how to explain how simple cam mechanisms work.	L2 Know how to generate and develop ideas, for an adventure map, through discussion
L3 Know how to explain why rice is a good staple Food and how to cook it	L3 Know how to make a simple mechanism to help me understand cams and select materials according to their functional properties	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 demonstrate a range of food skills and techniques when preparing and cooking Mexican food.	L4 Know how to use research and develop design criteria to inform my design.	L4 Know how to plan an adventure map
L5 Know how to demonstrate a range of basic and advanced food skills and cooking techniques when preparing and cooking Chinese food.	L5 Know how to build a framework accurately using a wider range of tools and equipment.	L5 Know how to use appropriate materials to create an adventure map.
L6 Know how to accurately and mainly independently follow a recipe demonstrating a range of cooking techniques when cooking pretzels	L6 Know how to evaluate their product, understand and use a mechanical system	L6 Know how to monitor a floor robot and evaluate their finished product
VOCABULARY		

<p>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</p>	<p>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</p>	<p>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.</p>
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