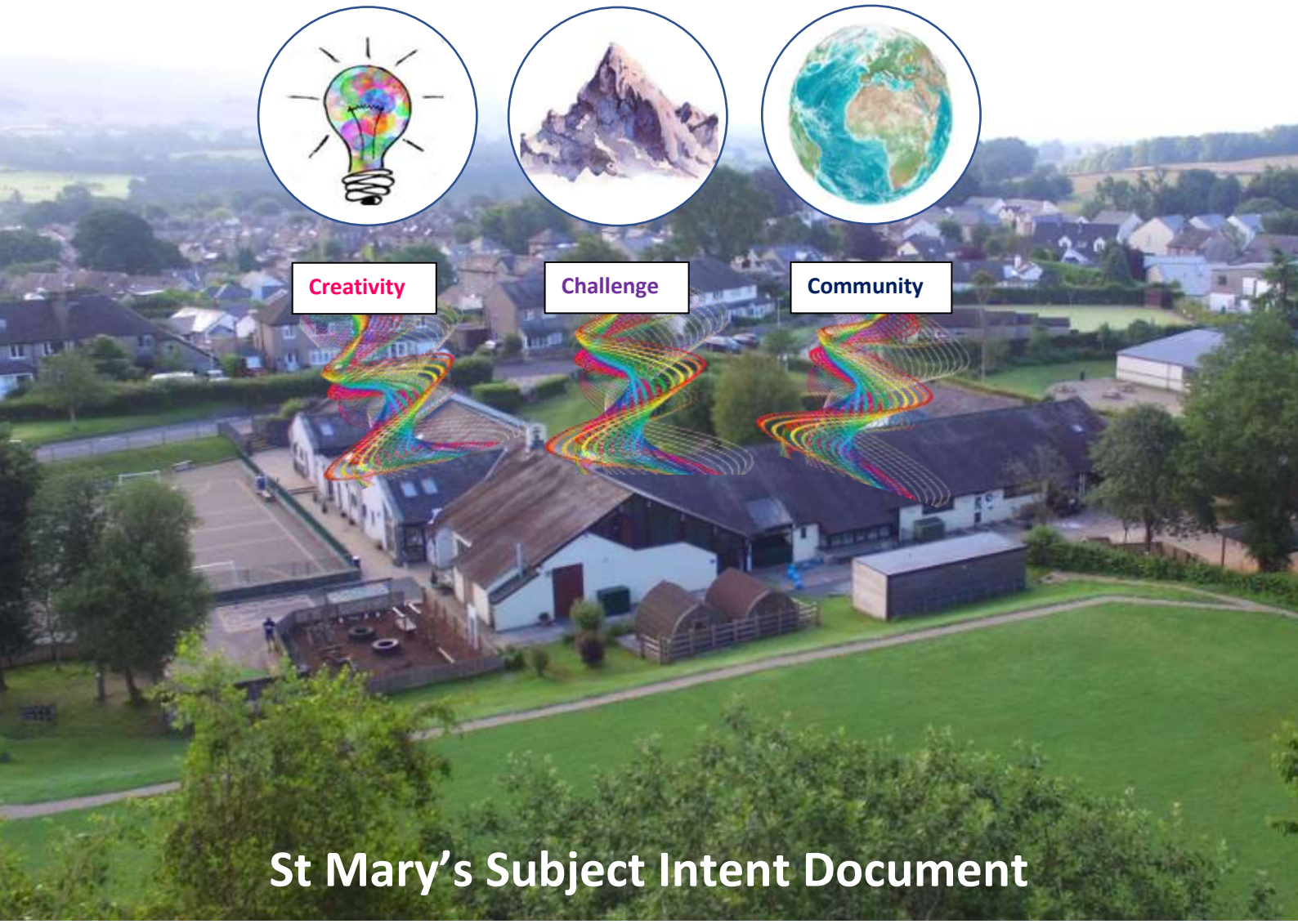

St Mary's Subject Intent Document

Our Curriculum Intent at St Mary's CE School:

To develop a carefully designed, sequential curriculum, underpinned by progressive knowledge and understanding, equipping our children for their future lives. It is aspirational, providing problem solving, challenge and creativity whilst developing character including responsibility, reliability and perseverance. The curriculum ensures the children are able to celebrate uniqueness and diversity and apply their learning to positively impact the local, national and global community.

In order to achieve our Curriculum Intent, we have designed our curriculum around the following **Principles of design:**

- **Core and Progressive knowledge** – a minimum entitlement that all pupils will be required to know, grounded in the National Curriculum

Creativity

We design our curriculum to be as creative as possible, inspiring through first hand experiences which are inclusive and meeting the needs of the individual. We aim to learn and think creatively through a broad curriculum which enables all learners to discover, celebrate and nurture their talents.

Challenge

Inclusively, we aim to challenge all pupils through high expectations of behaviour and academic success. Working collectively, supporting one another, our curriculum broadens children's life experiences and enables children to takes risks in a supportive environment. Central to this, is building self esteem and encouraging deep thinking, valuing pupil voice and providing rich learning experiences.

Community

Not only do we engage the community in learning, but we encourage sharing learning with the community. We aim to provide a curriculum which establishes a good foundation to enable our children to be inspired to make a difference in the world. Outdoor learning and taking responsibility for the environment is central to this as well as contributing meaningfully to our local, national and global community.

End points of our curriculum:

Principles of design					
Aspiration	PP / SEND / HAPS / EAL	Extended experiences	Subject related careers e.g. how learning is applicable / related to real world situation		
Core Knowledge	Subject based				
Procedural / Powerful Knowledge (skills)	Literacy / numeracy reinforcing opportunities within subjects	Debate / oracy skills and confidence	Opportunities to grapple with big concepts / ideas	1. Communication 2. Problem solving 3. Resilience 4. Initiative 5. Organisation 6. Teamwork 7. Digital literacy 8. Creativity	
Developing **Cultural capital**	Student Entitlements (e.g. trips / out of school clubs / residential)	Vocabulary extension and aspiration	Wider reading (stretch & challenge texts)	Engaging with inspirational visits and visiting speakers	School Values: Trust Responsibility Respect Honesty Perseverance
Developing **Character**	Values being lived out in practice	Excellent behaviour for learning	Attendance and punctuality	Independent study skills	
Creativity					
Identifying and addressing C**ontext** specific need **Community**	Healthy lifestyles (Healthy relationships)	Rural Engagement with Yorkshire Dales and Lake District	Developing Understanding of Diversity within the country and world		
Learning is **Sequential**	Key themes enhanced by Rosenshine's Principles of Instruction				

DT subject Intent:

Our intent is comprised of the following 3 sections:

1. Our vision for the subject and the purpose it serves for our pupils
2. Defining what the key concepts and core domains of knowledge are, that pupils will learn about
3. The end points our curriculum is working towards

1. Our vision

At St Mary's design and Technology sequentially develops children's skills and progressive knowledge in design, structures, mechanisms, electrical control and a range of materials, including food. It encourages children's creativity and encourages them to think in an aspirational way about important issues, as outlined in the National Curriculum document. We follow a 'Design, Make, Evaluate' approach to the teaching and learning of DT, and use creative, problem solving questions to initiate design. This creative curriculum gives the children the opportunity to apply their skills and knowledge to a greater depth (mastery) level. Our scheme, 'Projects on a Page' ensures we have the basis for this vision, allowing them to celebrate their unique, individual skills and positively impact the local, national and even global community.

2. Our key concepts and core domains of knowledge

In EYFS, the early learning goals for Expressive Arts and Design indicate what children should know, understand and be able to do by the end of the reception year. We ensure a significant proportion of this learning is delivered through high quality D&T experiences and activities, enabling children to 'safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function' and 'use what they have learnt about media and materials in original ways, thinking about uses and purposes'. EYFS D&T at St Mary's also makes an important contribution to young children's learning across the remaining six areas of the EYFS framework, including Understanding the World, Physical Development, Literacy, Mathematics, Personal, Social and Emotional Development, and Communication and Language.

At Key Stage 1, learners will start to study the Projects on a Page scheme and cover the National curriculum requirements. Over the life of their learning, learners will study:

- Mechanisms - Sliding/levers and Wheels and axles
- Structures
- Food – preparing fruit and veg
- Textiles
- Templates and joining techniques

At Key Stage 2, learners will develop skills in the DT curriculum. Over the life of their learning, learners will study:

- Structures - Simple shell structures/Frames
- Food - Healthy and varied diet
- Electronics -Circuits and switches/ monitoring and control
- Mechanisms pneumatics

- Textiles - 2D to 3D product/ Combining different fabric shapes
- Mechanisms -Cams
- Food - Seasons and culture
- Mechanisms Levers and linkages/ Gears and pulleys

3. The end points of our curriculum

Our learners will be able to:

- Use a deep variety of technical vocabulary in connection to designing and making, over a wide range of topics. To be able to discuss reasons behind their thought processes and solutions to problems. Work collaboratively in groups with their peers, showing each other respect and compromising to find common ground.
- Develop skills systematically throughout their school journey at St Mary's; building on previous learning in textiles, materials, mechanics, food. Use tools, measuring equipment and presentation skills in an increasingly proficient manner. Develop strategies to evaluate their product and resolve shortcomings.
- Understand that the concepts of Design and Technology have a fundamental role in the world around us. Realise how the necessity for problem solving, through creativity, has shaped the world as we know it and will continue to do so in the future. Understand that there are many professions, hobbies and past times that require skilled designers and engineers.
- Foster a lifelong passion for thinking how to overcome an issue and develop ideas in how to solve practical problems. Be able to evaluate themselves and others working, whilst working collaboratively and independently. Develop enjoyment and fulfilment in a subject has no boundaries and limits in success.

By the end of each year our learners will be able to:

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Age 3 to 4 years <u>Personal, Social and Emotional</u> Select and use activities and resources, with help when needed. This helps them to achieve a goal they have chosen or one which is suggested to them. <u>Physical Development</u> Use large-muscle movements to wave flags and streamers, paint and make marks. Choose the right resources to carry out their own plan. Use one-handed tools and equipment, for example, making snips in paper with scissors. <u>Understanding the World</u> Explore how things work. <u>Expressive Arts and Design</u> Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park. 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	**Designing** • Generate ideas based on simple design criteria and their own experiences, explaining what they could make. • Develop, model and communicate their ideas through drawings and mock-ups with card and paper. **Making** • Plan by suggesting what to do next. • Select and use tools, explaining their choices, to cut, shape and join paper and card. • Use simple finishing techniques suitable for the product they are creating. **Evaluating** • Explore a range of existing books and everyday products that use simple sliders and levers. • Evaluate their product by discussing how well it works in relation to the purpose and the user and whether it meets design criteria. **Technical knowledge and understanding** • Explore and use sliders and levers. • Understand that different mechanisms produce different types of movement.	**Designing** • Generate initial ideas and simple design criteria through talking and using own experiences. • Develop and communicate ideas through drawings and mock-ups. **Making** • Select from and use a range of tools and equipment to perform practical tasks such as cutting and joining to allow movement and finishing. • Select from and use a range of materials and components such as paper, card, plastic and wood according to their characteristics. **Evaluating** • Explore and evaluate a range of products with wheels and axles. • Evaluate their ideas throughout and their products against original criteria. **Technical knowledge and understanding** • Explore and use wheels, axles and axle holders. • Distinguish between fixed and freely moving axles. • Know and use technical vocabulary relevant to the project. • Understand how simple 3-D textile products are	**Designing** • Generate realistic ideas and design criteria collaboratively through discussion, focusing on the needs of the user and purpose of the product. • Develop ideas through the analysis of existing products and use annotated sketches and prototypes to model and communicate ideas. **Making** • Order the main stages of making. • Select and use appropriate tools to measure, mark out, cut, score, shape and assemble with some accuracy. • Explain their choice of materials according to functional properties and aesthetic qualities. • Use finishing techniques suitable for the product they are creating. **Evaluating** • Investigate and evaluate a range of existing shell structures including the materials, components and techniques that have been used. • Test and evaluate their own products against design criteria and the intended user and purpose. **Technical knowledge and understanding**	**Designing** • Generate realistic and appropriate ideas and their own design criteria through discussion, focusing on the needs of the user. • Use annotated sketches and prototypes to develop, model and communicate ideas. **Making** • Order the main stages of making. • Select from and use appropriate tools with some accuracy to cut and join materials and components such as tubing, syringes and balloons. • Select from and use finishing techniques suitable for the product they are creating. **Evaluating** • Investigate and analyse books, videos and products with pneumatic mechanisms. • Evaluate their own products and ideas against criteria and user needs, as they design and make. **Technical knowledge and understanding** • Understand and use pneumatic mechanisms. • Know and use technical vocabulary relevant to the project. Understand and use electrical systems in their	**Designing** • Generate innovative ideas by carrying out research using surveys, interviews, questionnaires and web-based resources. • Develop a simple design specification to guide their thinking. • Develop and communicate ideas through discussion, annotated drawings, exploded drawings and drawings from different views. **Making** • Produce detailed lists of tools, equipment and materials. Formulate step-by-step plans and, if appropriate, allocate tasks within a team. • Select from and use a range of tools and equipment to make products that that are accurately assembled and well finished. Work within the constraints of time, resources and cost. **Evaluating** • Compare the final product to the original design specification. • Test products with the intended user, where safe and practical, and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose.	**Designing** • Generate innovative ideas by carrying out research using surveys, interviews, questionnaires and web-based resources. • Develop a simple design specification to guide their thinking. • Develop and communicate ideas through discussion, annotated drawings, exploded drawings and drawings from different views. **Making** • Produce detailed lists of tools, equipment and materials. Formulate step-by-step plans and, if appropriate, allocate tasks within a team. • Select from and use a range of tools and equipment to make products that that are accurately assembled and well finished. Work within the constraints of time, resources and cost. **Evaluating** • Compare the final product to the original design specification. • Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. • Consider the views of others to improve their work. • Investigate famous manufacturing and engineering companies relevant to the project. **Technical knowledge and understanding**

use to expressthem. Create closed shapes with continuous lines, and begin to use these shapes to represent objects. **Age 4 to 5 years** <u>Physical Development</u> Progress towards a more fluent style of moving, with developing control and grace. Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor. <u>Expressive Art and Design</u> Explore, use and refine a variety of artistic effects to express their ideas and feelings. Return to and build on their previous learning, refining ideas and developing their ability to represent them. Create collaboratively, sharing ideas, resources and skills. **Early Learning Goals** **<u>Physical Development</u>** **Use a range of small tools, including scissors, paintbrushes and cutlery.** **<u>Expressive Art and Design</u>** **Safely use and explore a variety of**	• Know and use technical vocabulary relevant to the project. • Know how to make freestanding structures stronger, stiffer and more stable. • Understand where a range of fruit and vegetables come from e.g. farmed or grown at home. • Understand and use basic principles of a healthy and varied diet to prepare dishes.	made, using a template to create two identical shapes. • Understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling. • Explore different finishing techniques e.g. using painting, fabric crayons, stitching, sequins, buttons and ribbons. • Understand where a range of fruit and vegetables come from e.g. farmed or grown at home. • Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of *The eatwell plate*. • Know and use technical and sensory vocabulary relevant to the project.	• Develop and use knowledge of how to construct strong, stiff shell structures. • Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes. • Know and use technical vocabulary relevant to the project. • Understand and use lever and linkage mechanisms. • Distinguish between fixed and loose pivots. • Know how to use appropriate equipment and utensils to prepare and combine food. • Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught.	products, such as series circuits incorporating switches, bulbs and buzzers. • Apply their understanding of computing to program and control their products. • Know how to strengthen, stiffen and reinforce existing fabrics. • Understand how to securely join two pieces of fabric together. • Understand the need for patterns and seam allowances.	• Consider the views of others to improve their work. • Investigate famous manufacturing and engineering companies relevant to the project. **Technical knowledge and understanding** • Understand that mechanical systems have an input, process and an output. • Understand how cams can be used to produce different types of movement and change the direction of movement. Know and use technical vocabulary relevant to the project. • Know how to use utensils and equipment including heat sources to prepare and cook food. • Understand about seasonality in relation to food products and the source of different food products.	• Understand that mechanical and electrical systems have an input, process and an output. • Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement. • Know and use technical vocabulary relevant to the project. • A 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics. • Fabrics can be strengthened, stiffened and reinforced where appropriate. • Understand and use electrical systems in their products. • Understand the use of computer control systems in products. • Apply their understanding of computing to program, monitor and control their products. • Know and use technical vocabulary relevant to the project.

materials, tools and techniques, experimenting with colour, design, texture, form and function. **Share their creations, explaining the process they have used.**						

Design and technology is an incredibly inclusive subject, with no barriers to success, or limits in its appeal. The St Mary's DT curriculum offers a range of learning to inspire inquisition for all. Teachers are encouraged to confident, ambitious and creative in their teaching, requiring the children working at greater depth to challenge their thinking and stretch their abilities as the skills develop.

Children with identified special educational needs often reveal their true talents and strengths in Design and Technology. Children with specific learning difficulties, such as dyslexia are renowned for their intuition and this is a subject that they can lead the way with their peers and receive the acclamation they deserve. Children with physical difficulties benefit from the chance to develop fine motor skills as tools and materials are used, for example in food technology. Our children with communication difficulties make huge advances in the opportunities to work collaboratively in creative, fun and rewarding tasks with their peers, away from the pressure of the more academic subjects. Staff are encouraged to celebrate these successes through display and sharing platforms.
These skills and confidence that our children acquire in this thorough curriculum, can be transferred to other areas of learning and carry them forward in to the next stage of their education and indeed their adult life.