



## Design and Technology Curriculum Map

Through the study of Design and Technology, St. Mary's children will use creativity and imagination to solve real and relevant problems enabling them to become resourceful, innovative, enterprising and capable citizens.

|                               | Autumn 1<br><i>Everyone to allocate the first 3 weeks to Christmas Cards and School Displays</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Autumn 2                                                           | Spring 1                                                                                                                          | Spring 2<br><i>(Yr 5 due to Passion Play perhaps start DT topic in Spring 1 after short art unit on Hokusai)</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Summer 1                                                            | Summer 2                                                                                                                          |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Reception                     | <b>EYFS – Design and Technology - Children at EXP by end of EYFS will:</b><br>Choose the resources they need for their chosen activities <ul style="list-style-type: none"> <li>- Handle equipment and tools effectively</li> <li>- Children know the importance for good health of a healthy diet</li> <li>- They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</li> <li>- Children use what they have learnt about media and materials in original ways, thinking about uses and purposes.</li> </ul> They represent their own ideas, thoughts and feelings through design and technology |                                                                    |                                                                                                                                   | <b>EYFS 2020 - other ELGs that are relevant:</b><br><b>CL</b> - Develop social phrases. Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen. Connect one idea or action to another using a range of connectives. Articulate their ideas and thoughts in well-formed sentences. Learn new vocabulary and use throughout the day in different contexts.<br><b>PSED</b> – Think about the perspectives of others. Show resilience and perseverance in the face of challenge. Build constructive and respectful relationships.<br><b>PD</b> - Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Suggested tools : pencils for drawing and writing, paintbrushes, scissors, knives, forks and spoons.<br><b>M</b> - Compose and decompose shapes so that children recognise a shape can have other shapes within it, Select, rotate and manipulate shapes to develop spatial reasoning skills. Count objects.<br><b>KUW</b> - Explore the natural world around them. |                                                                     |                                                                                                                                   |
| <b>EYFS Themes and Topics</b> | <b>Baseline</b><br><b>All About Me</b><br>My family, my home and my feelings<br>Autumn<br>Hinduism                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Our Wonderful World</b><br>Elves and the shoemaker<br>Christmas | <b>Homes</b><br>Junk modelling - houses                                                                                           | <b>Animals</b><br>Woodwork<br>Homes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Growth</b><br>Growing seeds & plants<br>Woodwork<br>My community | <b>Transport</b><br>Junk modelling - vehicles<br>Woodwork                                                                         |
| Year 1                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Structures</b><br>Freestanding structures<br><br><b>1,2,3,4</b> |                                                                                                                                   | <b>Mechanisms</b><br>Sliders and levers<br><b>1,2,3,4</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                     | <b>Food</b><br>Preparing fruit and vegetables<br><br>(including cooking and nutrition requirements for KS1)<br><br><b>1,2,3,5</b> |
| Year 2                        | <b>Mechanisms</b><br>Wheels and axles<br><br><b>1,2,3,4</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                    | <b>Food</b><br>Preparing fruit and vegetables<br><br>(including cooking and nutrition requirements for KS1)<br><br><b>1,2,3,5</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Pneumatics</b><br><br><b>1,2,3,4</b>                             |                                                                                                                                   |
| Year 3                        | <b>Mechanical Systems</b><br>Levers and linkages<br><br><b>1,2,3,4</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                    | <b>Food</b><br>Healthy and varied diet                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Textiles</b><br>2-D shape to 3-D product<br><b>1,2,3,4</b>       |                                                                                                                                   |

|        |                                                                      |                                                                                                                                |                                                                                                                                            |                                                                                                                    |                                                                                                                                |                                                                                                             |
|--------|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
|        |                                                                      |                                                                                                                                | (including cooking and nutrition requirements for KS2)<br><b>1,2,3,5</b>                                                                   |                                                                                                                    |                                                                                                                                |                                                                                                             |
| Year 4 |                                                                      | <b>Food</b><br>Healthy and varied diet<br>(including cooking and nutrition requirements for KS2)<br><b>1,2,3,5</b>             |                                                                                                                                            | <b>Electrical Systems</b><br>Simple circuits and switches<br>(including programming and control)<br><b>1,2,3,4</b> |                                                                                                                                | <b>Structures</b><br>Shell structures<br>(including computer-aided design)<br><b>1,2,3,4</b>                |
|        |                                                                      |                                                                                                                                |                                                                                                                                            |                                                                                                                    |                                                                                                                                |                                                                                                             |
| Year 5 |                                                                      | <b>Food</b><br>Celebrating culture and seasonality<br>(including cooking and nutrition requirements for KS2)<br><b>1,2,3,5</b> |                                                                                                                                            | <b>Structures</b><br>Frame structures<br><b>1,2,3,4 and 8 from Art and Design</b>                                  |                                                                                                                                | <b>Textiles</b><br>Combining different fabric shapes<br>(including computer-aided design)<br><b>1,2,3,4</b> |
| Year 6 | <b>Mechanical Systems</b><br>Pulley, gears or cams<br><b>1,2,3,4</b> |                                                                                                                                | <b>Electrical Systems</b><br>Using more complex switches and circuits<br>(including programming, control and monitoring)<br><b>1,2,3,4</b> |                                                                                                                    | <b>Food</b><br>Celebrating culture and seasonality<br>(including cooking and nutrition requirements for KS2)<br><b>1,2,3,5</b> |                                                                                                             |

|          |                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                   |  |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|          | <b>National Curriculum Key Skills – Design and Technology</b><br><br><b>DT Association - Projects on a Page Schemes of Work is used to ensure curriculum progression</b> |                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                   |  |
|          | <b>Skill Key</b>                                                                                                                                                         | <b>KS1</b>                                                                                                                                                                                                                                                                                                                                | <b>Lower KS2 + (KS1)</b>                                                                                                                                                                                                          | <b>Upper KS2 + (KS1 and Lower KS2)</b>                                                                                                                                                                                                                                                                                            |  |
| <b>1</b> | <b>Design</b>                                                                                                                                                            | <ul style="list-style-type: none"> <li>Design purposeful, functional, appealing products for themselves and other users based on design criteria</li> <li>Generate, develop, mock-ups and communicate their ideas through talking, drawing, templates, mock-ups and where appropriate information and communication technology</li> </ul> | <ul style="list-style-type: none"> <li>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</li> </ul> |  <ul style="list-style-type: none"> <li>Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and expanded diagrams, prototypes, pattern pieces and computer aided design.</li> </ul> |  |
| <b>2</b> | <b>Make</b>                                                                                                                                                              | <ul style="list-style-type: none"> <li>Select from and use a range of tools and equipment to perform practical tasks, e.g. cutting, shaping, joining and finishing.</li> </ul>                                                                                                                                                            | <ul style="list-style-type: none"> <li>Select from and use a wider range of tools and equipment to perform practical tasks (e.g. cutting, shaping, joining and finishing), accurately.</li> </ul>                                 |                                                                                                                                                                                                                                              |  |

|   |                       |                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                       | <ul style="list-style-type: none"> <li>Select from and use a wide range of materials and components including construction materials, textiles and ingredients, according to their characteristics.</li> </ul>                       | <ul style="list-style-type: none"> <li>Select from and use a wider range of materials including construction materials, textiles and ingredients, according to their functional and aesthetic qualities</li> </ul>                                                                         |                                                                                                                                                                                                                                                                                                                                                       |
| 3 | Evaluate              | <ul style="list-style-type: none"> <li>Explore and evaluate a range of existing products</li> <li>Evaluate their ideas and products against design criteria</li> </ul>                                                               | <ul style="list-style-type: none"> <li>Investigate and analyse a range of existing products</li> <li>Evaluate their ideas against their own design criteria and consider the views of others to improve their work</li> </ul>                                                              | <br><br><ul style="list-style-type: none"> <li>Understand how key events and individuals in design and technology have helped shape the world</li> </ul>                                                                                                           |
| 4 | Technical Knowledge   | <ul style="list-style-type: none"> <li>Build structures, expanding how they can be made stronger, stiffer and more stable</li> <li>Explore and use mechanisms (e.g. levers, sliders, wheels and axels), in their products</li> </ul> | <ul style="list-style-type: none"> <li>Apply their understanding of how to strengthen, stiffen and reinforce more complex structures</li> <li>Understand and use electrical systems in their products (e.g. series circuits incorporating switches, bulbs, buzzers and motors).</li> </ul> | <br><br><ul style="list-style-type: none"> <li>Understand and use mechanical systems in their products (e.g. gears, pulleys, cams, levers and linkages).</li> <li>Apply their understanding of computing to program monitor and control their products.</li> </ul> |
| 5 | Cooking and Nutrition | <ul style="list-style-type: none"> <li>Use basic principles of a healthy and varied diet to prepare dishes</li> <li>Understand where food comes from</li> </ul>                                                                      | <ul style="list-style-type: none"> <li>Understand and apply the principles of a healthy and varied diet</li> <li>Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</li> </ul>                                                                 | <ul style="list-style-type: none"> <li>Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.</li> </ul>                                                                                                                                                                                                                                                                        |

