**Our Lady of the Rosary**
**Design and Technology Curriculum**

| Year Group | Autumn | Spring | Summer |
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| **Year 1** | **Textiles**<br>Puppets<br>Explore methods of joining fabric. Design and make a character-based hand puppet using a preferred joining technique, before decorating. | **Structures**<br>Constructing a windmill<br>Inspired by the song, 'Mouse in a house windmill', design and construct a windmill for a client (mouse) to live in. Explore various types of windmill, how they work and their key features.<br>**Cooking and Nutrition**<br>Food- Fruit and Vegetables<br>Learn to distinguish between fruit and vegetables and where they grow. Design a fruit and vegetable smoothie and accompanying packaging. | **Mechanisms**<br>Making a moving storybook<br>Explore slider mechanisms and the movement they output, to design, make and evaluate a moving storybook from a range of templates |
| **Year 2** | **Mechanisms**<br>Explore levers, linkages and pivots through existing products and experimentation, use this research to construct and assemble a moving monster. | **Cooking and Nutrition**<br>Learn about the food groups, to understand a balanced diet to develop a healthy wrap. Explore the food groups within a balanced diet, including 'hidden sugars'. | **Textiles**<br>Learn to join fabric using a running stitch. Design, make and decorate a pouch using a template.<br>**Structures**<br>Explore stability of 3D shapes, how to strengthen them, use a design criteria and test then fix the design. |
| **Year 3** | **Textiles**<br>Cushion Design<br>Cross stitch and applique<br>Design and decorate cushion<br>Assemble cushion<br>Decorate | **Electricity**<br>Explore the science behind static electricity and apply this new knowledge to generate ideas for and make a static-electricity game.<br>**Cooking and Nutrition**<br>Eating seasonably<br>British/World seasonal foods<br>Rainbow Food /Making tarts<br>Discover the relationship between colour and health benefits. | **Digital World**<br>Electronic Charm. Design and develop a program, house and promote a Micro-bit electronic charm to use in low-light conditions.<br>**Mechanical Systems**<br>Design a hinge joint from the body. Plan, design and evaluate their joint, include thumbnail sketches and exploded diagrams. |
| **Year 4** | **Structure** | **Cooking and Nutrition** | **Textile** |

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| | Pavilions, investigate and model frame structures to improve their stability, then apply this research to design and create a stable, decorated pavilion. | Working in groups to adapt an existing biscuit recipe, whilst taking into account the cost of the ingredients And other expenses against a tight budget. | Analyse and evaluate a range of existing fastenings, then devise a list of design criteria to design, generate templates and make a fabric book sleeve.<br>**Electrical Systems**<br>Identify the difference between electrical and electronic products. Evaluate a range of existing torches and their features, then develop a new functional torch design. |
| **Year 5** | **Cooking and Nutrition**<br>What Could Be Healthier?<br>Adapt a Bolognese recipe by adding or altering ingredients<br>Learn about the ethical and hygienic standards of food. | **Textiles** -Stuffed Toys<br>Design a stuffed toy and make decisions on materials, decorations and attachments, after learning how to sew a blanket stitch.<br>**Mechanical Systems**<br>Pop-up Books<br>Utilise a range of mechanisms and construction techniques to create pop up story books for younger children. | **Electrical Systems**<br>Learn about the development of exchanging personal messages, to the invention of the Penny Black stamp.<br>Develop an electronic greeting card, using paper-applicable circuit components.<br>**Structure**<br>Building Bridges<br>Explore and experiment with a range of different bridge structures, forces and components involved in bridge building. Designing and making their own test construction. |
| **Year 6** | **Digital World**<br>Design and program a navigation tool to produce a multifunctional device for trekkers using CAD 3D modelling software. Pitch and explain the product to a guest panel. | **Structure**<br>Playgrounds<br>Pupils will use skills and knowledge of structures in order to design and create a model of a new playground featuring five apparatus, made from three different structures.<br>**Mechanical Systems**<br>Automata Toys<br>Using woodworking materials and skills, pupils construct a window display using an automata mechanism. | **Cooking and Nutrition**<br>Develop a three-course menu focused on three key ingredients, as part of a paired challenge to develop the best class recipes. Explore each key ingredient's farm to fork process.<br>**Textiles**<br>Children select fabrics, use templates, pin, decorate and stitch to create a waistcoat for a person or purpose of their choosing. |