



# St Jude's Catholic Primary School

## Design & Technology Subject Overview

|      | Autumn                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                          | Spring                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                      | Summer                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                     |
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| EYFS | <p><b>Structures: Junk Modelling</b></p> <p>Investigating materials and construction techniques using junk modelling while developing scissor skills and joining methods. The children make verbal plans, choose suitable materials and solve problems as they design and build their own models. Explore junk modelling Homes</p> | <p><b>Seasonal Projects: Sliding Santa Chimneys</b></p> <p>Children explore a simple paper slider mechanism as part of a practical example and then apply it to create their own sliding Santa chimney picture.</p> <p><b>Seasonal projects: Autumn hibernation</b></p> <p>Pupils learn what it means for an animal to hibernate and discover what different species need. They then develop designs for a hedgehog hibernation box.</p> | <p><b>Textiles: Bookmarks</b></p> <p>Developing fine motor skills through a range of threading activities before moving on to use a binka and a needle. The children design bookmarks, considering what to include and why, then follow their designs to complete them.</p> | <p>Make sea creatures</p> <p><b>Seasonal projects:</b></p> <p><b>Spring flower threading</b></p> <p>Using a range of tools and techniques, pupils create their own flower threading pattern and complete it using coloured wool.</p> | <p><b>Sculpture and 3D: Creation Station</b></p> <p>Create a bug hotel</p> <p>To use a variety of tools to make mini beasts out of playdough.</p> | <p><b>Structures: boats</b></p> <p>Developing fine motor skills through a range of threading activities before moving on to use a binka and a needle. The children design bookmarks, considering what to include and why, then follow their designs to complete them.</p> <p><b>Seasonal projects:</b></p> <p>Design and make a rainbow salad</p> <p>Pupils refresh their knowledge of fruit and vegetables and</p> |



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|           | <b>Seasonal projects: Autumn hibernation</b><br><br>Pupils learn what it means for an animal to hibernate and discover what different species need. They then develop designs for a hedgehog hibernation box.                                                                                                                                                                                             |                                                                                                                                                                                                                            | <b>Seasonal projects:</b><br><br>Easter hanging decorations.<br><br>After listening to the Easter story, and learning about the history of Easter eggs, pupils design and make their own Easter egg hanging decorations.              |  | explore what it means to have a healthy balanced diet. Pupils then create their own salad and taste it. |
| Reception | By the end of the Reception Year the children will be able to:<br>Creating with Materials<br>ELG: Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.<br>ELG: Share their creations, explaining the process they have used<br>ELG: Make use of props and materials when role playing characters in narratives and stories |                                                                                                                                                                                                                            |                                                                                                                                                                                                                                       |  |                                                                                                         |
| Year 1    | <b>Structures: stable structures</b><br><br>Investigating stable shapes and using an understanding of balance to discover how wide or heavy bases improve stability in freestanding structures. Pupils apply their understanding by designing and                                                                                                                                                         | <b>Mechanisms: Wheels and axles</b><br><br>Developing an understanding of how wheels, axles and axle holders work while practising cutting straight and curved shapes with scissors. Pupils problem-solve to improve their | <b>Textiles: Puppets</b><br><br>Examining fabrics, practising basic sewing techniques and identifying how different materials are made from threads. Pupils learn how to thread a needle and sew simple stitches before designing and |  |                                                                                                         |



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|        | making a fun, stable pencil pot for a Year 1 pupil.                                                                                                                                                                                                | wheel designs before designing, building and evaluating a pull-along toy against design criteria.                                                                                                                                                                                                                                     | creating a piece of decorative bunting.                                                                                                                                                                                                                                     |
| Year 2 | <b>Mechanisms: Levers</b><br><br>Investigating different types of levers and how they work in everyday mechanisms. Pupils identify pivots and levers in products before creating their own lever systems and exploring how they make tasks easier. | <b>Structures: A chair for a bear</b><br><br>Investigating strong shapes and the properties of stiff and flexible materials by designing a chair inspired by the story 'There's a Bear on My Chair'. Pupils apply their understanding to build a suitable chair for the bear using appropriate materials and construction techniques. | <b>Cooking and nutrition: Balanced diet</b><br><br>Learning about the importance of a balanced diet and using that knowledge to create a tasty wrap, this unit includes new lessons with both teacher and pupil videos.                                                     |
| Year 3 | <b>Structures: product packaging</b><br><br>Exploring how 3D shell structures are created from nets and used in packaging, pupils evaluate what makes good packaging and follow a simple design criteria to create their own.                      | <b>Digital world: Wearable technology</b><br><br>Exploring the development of LEDs and how they have enabled a wide range of light-up wearable technologies. Pupils apply their understanding by creating and testing programs to control an array of LEDs before using computer-aided design (CAD) to develop a wearable product.    | <b>Cooking and nutrition: Eating seasonally</b><br><br>Discovering where and when fruit and vegetables are grown by learning about seasonality in the UK. Pupils respond to a brief by designing a seasonal tart using ingredients harvested in the UK during May and June. |
| Year 4 | <b>Mechanical systems: Mechanical cars</b>                                                                                                                                                                                                         | <b>Electrical systems: Explore electrical products</b>                                                                                                                                                                                                                                                                                | <b>Cooking and nutrition: Adapt a recipe</b>                                                                                                                                                                                                                                |



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|        | Exploring mechanical systems by building and testing prototype cars to identify effective design features. Pupils conduct market research, create design criteria and evaluate products from a customer perspective before designing their own mechanical car kit.                        | Investigating electrical components and circuits and how they are used in everyday products to improve safety and convenience. Pupils build simple circuits with switches before designing their own electrical product using a cross-sectional diagram. | Designing and making biscuits for a chosen target audience by exploring existing products, following recipes and evaluating ingredients, taste and appearance. Pupils develop food preparation skills by adapting a biscuit recipe, creating their own design and evaluating how well their finished product meets the design criteria. |
| Year 5 | <b>Electrical systems: Wobble bots</b><br><br>Building on existing knowledge of circuits by introducing motors and exploring how they create movement in products. Pupils investigate wobble mechanisms before designing and developing a wobble bot tailored to a specific user's needs. | <b>Mechanical systems: Gears and Pulleys</b><br><br>Investigating the history, mechanics and uses of gears and pulleys. Pupils build a gear-and-pulley mechanism before applying their understanding to design an eco-bike.                              | <b>Structure: Bridges</b><br><br>Investigate different types of bridges and how structural strength is affected by shape and design.                                                                                                                                                                                                    |
| Year 6 | <b>Textiles: bags</b><br><br>Creating a bag for a specific user using pattern piece templates. Pupils select and sew functional and decorative features, including pockets and fastenings, to meet the needs of their design brief.                                                       | <b>Digital world: navigating the world</b><br><br>Designing a product and programming it to function as a compass and a pedometer.                                                                                                                       | <b>Cooking and nutrition: Come dine with me</b><br><br>Developing food preparation and evaluation skills by researching and preparing a three-course meal. Pupils investigate the journey of a main ingredient from 'farm to fork', taste-test and score their dishes, and write a recipe for a favourite meal.                         |



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