



## Design and Technology Long Term Plan

|        | Food technology   | Mechanisms  | Materials and structures   |
|--------|---|---|--|
| EYFS   | <b>Biscuits</b><br>New skills: measure, sieve and stir  | <b>Marvellous Machines</b><br>This interest-led project teaches children about the technology that is part of their daily lives and how machines help us. The project gives children the opportunity to build and create marvellous machines. | <b>Build it up</b><br>This project teaches children about structures and materials and gives them the opportunity to work in groups to create collaborative structures.  |
|        | <i>Can I design, make and evaluate a biscuit for _____ by measuring, sieving and stirring?</i>              | <i>Can I observe and evaluate how different machines are used around the home?</i>  | <i>Can I design, make and evaluate a shelter for me and my friends to sit inside using a range of materials?</i>   |
| Year 1 | <b>Fruit crumble</b><br>New skills: cutting soft fruits using bridge/claw, squeezing, rubbing               | <b>Taxi!</b><br>This project teaches children about wheels, axles and chassis and how they work together to make a vehicle move.  | <b>Shade and shelter</b><br>This project teaches children about the purpose of shelters and their materials. They name and describe shelters and design and make shelter prototypes. Children then design and build a play den as a group and evaluate their completed product.  |
|        | <i>Can I design, make and evaluate a fruit crumble for _____ by chopping, squeezing and rubbing?</i>        | <i>Can I design, make and evaluate a taxi for people travelling around London using wheels, axles and chassis?</i>  | <i>Can I design, make and evaluate a play den for children using a range of materials?</i>   |
| Year 2 | <b>Coleslaw</b><br>New skills: cutting harder foods using bridge, snipping, grating and squeezing.          | <b>Push and pull</b><br>This project teaches children about three types of mechanism: sliders, levers and linkages. They make models of each mechanism before designing and making a greetings card with a moving part.                       | <b>Beach hut</b><br>This project teaches children about making and strengthening structures, including different ways of joining materials.  |
|        | <i>Can I design, make and evaluate coleslaw for _____ by cutting, chopping and grating?</i>                 | <i>Can I design, make and evaluate a birthday card for a friend using sliders, levers and linkages?</i>   | <i>Can I design, make and evaluate a model beach hut for a family using a range of joining skills?</i>   |
| Year 3 | <b>Sandwich lunch</b><br>New skills: Cutting harder foods using claw, peeling, mixing, spreading.           | <b>Making it move</b><br>This project teaches children about cam mechanisms. They experiment with different shaped cams before designing, making and evaluating a child's automaton toy.  | <b>Greenhouse</b><br>This project teaches children about the purpose, structure and design features of greenhouses, and compares the work of two significant greenhouse designers. They learn techniques to strengthen structures and use tools safely. They use their learning to design and construct a mini greenhouse. |
|        | <i>Can I design, make and evaluate a sandwich for a busy professional by peeling, mixing and spreading?</i> | <i>Can I design, make and evaluate an automaton toy for a child using a cam mechanism?</i>  | <i>Can I design, make and evaluate a mini greenhouse to provide shelter for a plant using strengthening techniques?</i>  |



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| Year 4 | <p><b>Pizza sauce and toppings</b><br/>New skills: grating harder foods, chopping, seasoning, peeling.<br/>(Mixing, kneading and shaping dough)</p> | <p><b>Tomb builders</b><br/>This project teaches children about simple machines, including wheels, axles, inclined planes, pulleys and levers, exploring how they helped ancient builders to lift and move heavy loads.</p>  | <p><b>Functional and Fancy Fabrics</b><br/>This project teaches children about home furnishings and the significant designer William Morris. They learn techniques for decorating fabric, including block printing, hemming and embroidery and use them to design and make a fabric sample.</p> |
|        | <p><i>Can I design, make and evaluate a pizza for a group of friends by grating, chopping and seasoning?</i></p>                                    | <p><i>Can I design, make and evaluate a simple machine for the Egyptians using wheels, pulleys and levers?</i></p>   | <p><i>Can I design, make and evaluate a William Morris-inspired printed fabric for a home furnishing using block printing, hemming and embroidery?</i></p>  |
| Year 5 | <p><b>Seasonal tart</b><br/>New skills: combing bridge &amp; claw, finer grating, handling &amp; rolling pastry, glazing.</p>                       | <p><b>Moving Mechanisms</b><br/>This project teaches children about pneumatic systems. They experiment with pneumatics before designing, making and evaluating a pneumatic machine that performs a useful function.</p>  | <p><b>Architecture</b><br/>This project teaches children about how architectural style and technology has developed over time and then use this knowledge to design a building with specific features.</p>  |
|        | <p><i>Can I design, make and evaluate a seasonal tart for a family dinner party by grating, chopping and glazing?</i></p>                           | <p><i>Can I design, make and evaluate a prototype for a toy for a young child using pneumatics?</i></p>  | <p><i>Can I design, make and evaluate a model football stadium focussing on strengthening, stiffening and reinforcing?</i></p>  |
| Year 6 | <p><b>Bread</b><br/>New skills: kneading, mixing, shaping.</p>  | <p><b>Engineer</b><br/>This project teaches children about remarkable engineers and significant bridges, learning to identify features, such as beams, arches and trusses. They complete a bridge-building engineering challenge to create a bridge prototype.</p> | <p><b>Make Do and Mend</b><br/>This project teaches children a range of simple sewing stitches, including ways of recycling and repurposing old clothes and materials.</p>  |
|        | <p><i>Can I design, make and evaluate a cultural bread for a Year 6 Bake Off by kneading, mixing and shaping?</i></p>                               | <p><i>Can I design, make and evaluate a bridge that will carry a road over a river using beams, arches or trusses?</i></p>   | <p><i>Can I design, make and evaluate a pencil case for Mrs Sew and Sew using a range of simple sewing stitches?</i></p>  |



| Technology Thursdays! | Advent 1                 | Advent 2                            | Lent 1                      | Lent 2                                  | Pentecost 1                            | Pentecost 2                |
|-----------------------|--------------------------|-------------------------------------|-----------------------------|---|--|----------------------------|
|                       | <b>Food technology</b>   |                                     | <b>Mechanisms</b>           |   | <b>Materials and structures</b>        |                            |
| EYFS                  |                          | Biscuits – 2/11/23                  |                             | Marvellous mechanisms – 11/3/24-22/3/24 | Build it up – 13/5/24-17/5/24          |                            |
| Year 1                | Fruit crumble – 12/10/23 |                                     | Taxi – 25/1/24              |   | Shade and shelter – 9/5/24             |                            |
| Year 2                | Coleslaw – 14/9/23       |                                     | Push and Pull – 1/2/24      |   | Beach hut – 23/5/24                    |                            |
| Year 3                |                          | Sandwich lunch – 9/11/23            | Making it move – 8/2/24     |   | Greenhouse – 18/4/24                   |                            |
| Year 4                |                          | Pizza sauce and toppings – 23/11/23 |                             | Tomb builders – 14/3/24                 | Functional and fancy fabrics – 25/4/23 |                            |
| Year 5                | Seasonal tart – 28/9/23  |                                     | Moving mechanisms – 15/2/24 |   |  | Architecture – 20/6/24     |
| Year 6                |                          | Bread – 14/12/23                    |                             | Bridges – 7/3/24                        |  | Make do and mend – 12/6/24 |