



# Marshland Primary Academy

## Design and Technology Long Term Plan

*If you would like more information about the Design and Technology curriculum we offer at Marshland Primary Academy, then please contact the school office.*

| Year Group                          | Autumn                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          | Spring                                                                                                                                                                                                                                                                              |          | Summer                                                                                                                                                                                                                                                                                                               |          |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
|                                     | Autumn 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Autumn 2 | Spring 1                                                                                                                                                                                                                                                                            | Spring 2 | Summer 1                                                                                                                                                                                                                                                                                                             | Summer 2 |
| <b>Early Years Foundation Stage</b> | <p>Design and Technology is embedded within the Early Years Foundation Stage Curriculum through the use of the learning environment and classroom provision. The children are given a wealth of opportunities to engage in activities, both child-initiated and adult-directed, which enable them to develop knowledge of materials, to construct with a purpose, to develop an understanding of nutrition and to use a range tools and equipment safely. During the children’s time in Early Years Foundation Stage, the essential building blocks of Design and Technology capability are established.</p> <p>Design and Technology in the Early Years Foundation Stage is incorporated into all aspects of the curriculum. However, it can primarily be classified as part of ‘Expressive Arts and Design’, which includes the strand ‘Creating with Materials’.</p> <p>It can also be seen through ‘Physical Development’ within the strand ‘Fine Motor Skills’.</p> |          |                                                                                                                                                                                                                                                                                     |          |                                                                                                                                                                                                                                                                                                                      |          |
| <b>Year 1</b>                       | <p style="text-align: center;"><b>Structures</b></p> <p><b>Existing Products: models of playground equipment such as a slide or a climbing frame</b></p> <p>Can children improve the playground by designing and making a piece of playground equipment?<br/><b>Link: Geography - My School in the Locality and Science -Materials</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          | <p style="text-align: center;"><b>Cooking and Nutrition</b></p> <p><b>Existing Products: healthy snacks made with fruit and vegetables</b></p> <p>What treats can children prepare for the street party using fruit and vegetables?<br/><b>Link: History – The Royal Family</b></p> |          | <p style="text-align: center;"><b>Mechanisms – Wheels and Axles</b></p> <p><b>Existing Products: models of toy vehicles</b></p> <p>Can children make a model of something that moves on wheels?<br/><b>Link: History - Transport</b></p>                                                                             |          |
| <b>Year 2</b>                       | <p style="text-align: center;"><b>Mechanisms – Slider and Levers</b></p> <p><b>Existing Products: story books with moveable parts</b></p> <p>Can children create a moving scene to tell a part of the story of The Great Fire of London?<br/><b>Link: History – The Great Fire of London</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          | <p style="text-align: center;"><b>Cooking and Nutrition</b></p> <p><b>Existing Products: healthy pasty</b></p> <p>Can children make a healthy pasty for a miner’s snap tin?<br/><b>Link: Local History and Science</b></p>                                                          |          | <p style="text-align: center;"><b>Textiles</b></p> <p><b>Existing Products: variety of fabric mittens and muffs</b></p> <p>What can children make to keep their hands warm when they are exploring polar regions?<br/><b>Link: Geography - Hot &amp; cold Places, History- Explorers and Science - Materials</b></p> |          |
| <b>Year 3</b>                       | <p style="text-align: center;"><b>Mechanical Systems - Levers &amp; Linkages</b></p> <p><b>Existing Products: pop-up story books</b></p> <p>Can children create a pop-up facts book to teach others about the Stone Age?<br/><b>Link: History – The Stone Age to The Iron Age</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |          | <p style="text-align: center;"><b>Cooking and Nutrition</b></p> <p><b>Existing Products: healthy soups</b></p> <p>Can children prepare and cook a healthy soup?<br/><b>Link: Science - Nutrition</b></p>                                                                            |          | <p style="text-align: center;"><b>Textiles – 2D to 3D Shape</b></p> <p><b>Existing Products: a range of purses with different fastenings</b></p> <p>What can children design and make to carry valuable Roman coins?<br/><b>Link History – The Roman Empire</b></p>                                                  |          |



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| <b>Year 4</b>        | <p style="text-align: center;"><b>Structures – Shell Structures</b></p> <p style="text-align: center;"><b>Existing Products: variety of jewellery boxes with different fastenings</b></p> <p style="text-align: center;">How can children store Anglo-Saxon trinkets?</p> <p style="text-align: center;"><b>Link: History - Anglo-Saxons</b><br/><b>Maths - Nets of shapes</b></p> | <p style="text-align: center;"><b>Mechanical Systems – Pneumatics</b></p> <p style="text-align: center;"><b>Existing Products: toys that use pneumatics to move parts</b></p> <p style="text-align: center;">How can children make the jaw of a monster open without touching it?</p> <p style="text-align: center;"><b>Link: Science -Teeth &amp; Eating</b></p> | <p style="text-align: center;"><b>Electrical Systems – Simple Circuits and Switches</b></p> <p style="text-align: center;"><b>Existing Products: night lights and reading lights</b></p> <p style="text-align: center;">What can children design to help them read at night?</p> <p style="text-align: center;"><b>Link: Science - Electricity</b></p>                            |
| <b>Year 5</b>        | <p style="text-align: center;"><b>Mechanical Systems – Pulleys and Gears</b></p> <p style="text-align: center;"><b>Existing Products: models showing pulleys and gears</b></p> <p style="text-align: center;">How can children lift, rotate and lower a stone?</p> <p style="text-align: center;"><b>Link: History – The Mayans</b></p>                                            | <p style="text-align: center;"><b>Electrical Systems – Monitoring and Control</b></p> <p style="text-align: center;"><b>Existing Products: alarm systems</b></p> <p style="text-align: center;">How would children know if their birdhouse is being occupied?</p> <p style="text-align: center;"><b>Link: Science - Living things and their habitats</b></p>      | <p style="text-align: center;"><b>Mechanical Systems – Cams</b></p> <p style="text-align: center;"><b>Existing Products: variety of toys, models using cams for moveable parts</b></p> <p style="text-align: center;">How can children create a moving alien scene for younger children to enjoy?</p> <p style="text-align: center;"><b>Link: Science - Earth &amp; Space</b></p> |
| <b>Year 6</b>        | <p style="text-align: center;"><b>Cooking and Nutrition</b></p> <p style="text-align: center;"><b>Existing Products: recipe books and prepared food from this period in history</b></p> <p style="text-align: center;">What meal can you prepare and cook using your rations?</p> <p style="text-align: center;"><b>Link: History - WWII</b></p>                                   | <p style="text-align: center;"><b>Textiles - Accessories</b></p> <p style="text-align: center;"><b>Existing Products: a range of cases with accessories and decorations</b></p> <p style="text-align: center;">Can you design and make a case for your own tablet or mobile phone?</p>                                                                            | <p style="text-align: center;"><b>Structure – Framed Structures</b></p> <p>Throughout this unit of work, children will work collaboratively to create a framed structure as a legacy piece. People from the community and local art groups will be used to work alongside the children in order to develop their skills and knowledge as designers and users of technology.</p>   |
| <b>As designers:</b> | <p style="text-align: center;">The children will be encouraged to be creative when designing and making their own products that solve real problems. They will be taught to take risks, to evaluate and improve their own products and use a variety of skills that will prepare them for the world of work.</p>                                                                   |                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                   |