



|                    | AUTUMN   | SPRING   | SUMMER   |
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| <b>Approach</b>    | <p>English Martyrs' approach to Design and Technology is a process where ideas are generated, externalised, communicated and evaluated by action. This process in DT equips our pupils with the skills to become creative and reflective individuals, who can be resilient problem solvers. We apply the following six principles in each project: who the <b>user</b> is, what the <b>purpose</b> of the products are, that it functions effectively, the <b>product</b> must be innovative, pupils can make their own design decisions and that their product is authentic. We also ensure that each DT project includes <i>investigative and evaluative activities</i> (IEAs), <i>focused tasks</i> (FTs) and a <b>design, make</b> and <b>evaluate</b> element (DMEA).</p> |  |  |
| <b>Early Years</b> | <p style="text-align: center;"><b>Structures, Mechanisms and Textiles</b></p> <p>Children in EYFS are offered a range of opportunities to develop a range of skills in many strands of DT throughout engagement across all seven areas of learning. These align with guidance from 'Development Matters' (2023) and the Statutory Framework for the Early Years Foundation Stage (2023). The examples below are not exhaustive.</p>  |  |  |
|                    | <p style="text-align: center;"><b>Mechanisms</b></p> <p>Make a moving Easter egg card (and other cards) – hinge and lever mechanism<br/>Exploring different fastenings – (eg. nuts and bolts)<br/>Communicating correct technical vocabulary for different mechanisms and forces (eg. wheel, force, pull, push, up, down, wedge, slope, lever, axle)</p>   | <p style="text-align: center;"><b>Structures</b></p> <p>Constructing dens<br/>Using Lego and Mobilo to construct<br/>Providing a range of non-fiction books related to machines, vehicles, etc<br/>Graphical instructions for building block structures to support graphical communication</p> | <p style="text-align: center;"><b>Textiles</b></p> <p>Sock puppets – (link with Literacy text – Bringing the Rain to Kapiti Plain)<br/>Weaving, lacing boards, sticking and cutting<br/>Exploring and understanding that there is different media that can be combined to create new effects</p> |
|                    | <p style="text-align: center;"><b>Cooking and Nutrition</b></p> <p>Cooking and nutrition is covered throughout the year by linking with our half term topics. Weekly provision is planned to give children the opportunity to explore cooking and nutrition through teaching of the EYFS curriculum. For example in Reception children prepare and assemble fruit kebabs, in EYFS children learn about where food comes from and undertake exploration of food linking to celebrations and festivals, EYFS children explore measuring (standardised and non-standardised) and through imaginary play EYFS children might explore food for a party or dinner.</p>   |  |  |

| Year 1  | Textiles   | Mechanisms  | Cooking and Nutrition   |
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| Problem | How can we create a puppet linked to a character from a story we are reading?  | How can we create a Chinese New Year Card?  | How can we prepare and assemble a summer salad/s for a picnic using produce from our garden and/or purchased from the shop?   |
|         | <p><b>Link:</b> Literacy – Traditional Tales and other stories (Beegu, Lost and Found and Yeti and the Bird), Art – observational drawings, colour, pattern, texture, shape and experimenting with control marks, Science – use of everyday materials</p> <p><b>Key knowledge:</b> templates and joining techniques (gluing, stapling, sewing)</p>             | <p><b>Link:</b> Literacy – Chinese New Year traditional story and using correct technical vocabulary, Religion – families and celebrations, Geography – China, Maths – position, direction, and movement, using standard and non-standard measures,</p> <p><b>Key knowledge:</b> sliders and levers</p> | <p><b>Link:</b> Science – seasonal changes (summer) and plants, Computing – using technology to research, Maths – measuring and counting, Literacy – Jack and the Beanstalk, and The Mango Tree</p> <p><b>Skills and knowledge:</b> preparing fruit and vegetables, use the basic principles of a healthy and varied diet to prepare dishes, understand where food comes from. Other skills – peeling, cutting, slicing, grating, squeezing, and mixing</p>                   |
| Year 2  | Structures   | Mechanisms  | Cooking and Nutrition   |
| Problem | How can we create a freestanding swing structure using different materials?  | How can we create our very own environmentally friendly dragon machine car?   | How can we prepare a mango/papaya lassi in celebration of Vaisakhi (Sikhism festival)?  |
|         | <p><b>Link:</b> Reading – toys and games (non-fiction), Science – use of everyday materials, History – toys, Art – quick drawings, Maths – shapes, measuring</p> <p><b>Key knowledge:</b> freestanding structures, 2-D shape to 3-D shape</p> <p>See Ivydale DT <a href="http://ISTS.homepage.southwarklea.org.uk">ISTS homepage (southwarklea.org.uk)</a></p> | <p><b>Link:</b> Main Topic – Going Green, Literacy – The Dragon Machine, Maths – measuring, more than, less than, number, Science - forces</p> <p><b>Key knowledge:</b> wheels and axles</p> <p>*Using Primary Engineer Pack</p>  | <p><b>Link:</b> Religion – Sikhism, Science – plants (how seeds grow into mature plants), PSHE – celebrating different cultures and inclusion, Computing – using technology for research purposes, Maths - measuring</p> <p><b>Skills and knowledge:</b> preparing fruit and vegetables, use the basic principles of a healthy and varied diet to prepare dishes, understand where food comes from. Other skills – cutting (bridge and claw technique), peeling, blending</p> |

| Year 3  | Cooking and Nutrition  | Textiles   | Structure  |
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| Problem | <b>How can we prepare and bake a challah (Jewish sweet bread) in celebration of Hannukah and other Jewish days of importance?</b>  | <b>How can we create one of the very first shoes for someone from the Stone Age or Iron Age?</b>   | <b>How can we create an erupting volcano?</b>  |
|         | <p><b>Link:</b> Religion – Judaism, Science – materials and their changing properties, healthy and balanced diets, scientific skills – observing and questioning, Maths – measuring and mass (kg, g), Literacy – spoken language using key vocabulary, PSHE – importance of cultural and religious celebrations and sense of belonging to a community</p> <p><b>Skills and knowledge:</b> understand and apply the principles of a healthy and varied diet, prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques, understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. Other skills – kneading, mixing, forming, basting</p> | <p><b>Link:</b> History - Stone Age to Iron Age, Science – properties of materials (suitability of fabric for particular uses) and friction, Literacy – The First Drawings (by Mordicai Gerstein) and using technical vocabulary, Computing – using technology to create for a purpose, Maths – nets of shapes and measurement, Art – investigating visual and tactile qualities of fabrics and using colour and pattern appropriately</p> <p><b>Key knowledge:</b> 2-D shape to 3-D product</p> | <p><b>Link:</b> Geography – Tremors, Literacy – Escape from Pompeii, Science – rocks and properties and suitability of materials, Maths – 2-D and 3-D shapes, nets, measuring, Computing – designing and creating content</p> <p><b>Key knowledge:</b> computer aided design and shell structures</p>  |
| Year 4  | Cooking and Nutrition  | Mechanical Systems   | Electrical Systems   |
| Problem | <b>How can we prepare and cook globuli (Ancient Roman cheese curds) like the Ancient Romans who invaded Britain?</b>   | <b>How can we create Farther’s wings (Story Farther by GBS) so that they move?</b>   | <b>How can we create a torch to use when camping in the rainforest in Peru?</b>  |
|         | <p><b>Link:</b> History – the Roman Empire and its impact on Britain, Literacy – The Romans, technical vocabulary, Geography – Italy and Rome, Science – states of matter, nutrition, Maths – measuring, mass, Religion – Romans during biblical times</p> <p><b>Skills and knowledge:</b> understand and apply the principles of a healthy and varied diet,</p>   | <p><b>Link:</b> Literacy – Farther by Grahame Baker-Smith, Science – identify and compare the suitability of a variety of everyday materials for particular uses, Computing – using technology to research</p> <p><b>Key knowledge:</b> pneumatics</p>   | <p><b>Link:</b> History – rainforests, Geography – South America, Literacy – Where the Forest Meets the Sea, Science – electricity and uses of everyday materials, Computing – using technology to research</p> <p><b>Key knowledge:</b> simple circuits and switches<br/> <a href="https://www.youtube.com/watch?v=...">How to make a torch (youtube.com)</a></p> |

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|                | prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques, understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed, safety and hygiene. Other skills – combining/mixing, rolling, frying, coating/dipping  |   |   |
| <b>Year 5</b>  | <b>Mechanical Systems</b>   | <b>Cooking and Nutrition</b>  | <b>Structures</b>   |
| <b>Problem</b> | <b>How can we use the invention of the compound pulley by Archimedes (Ancient Greek) to create our own electric carousel?</b>   | <b>How can we prepare and cook a healthy stew (potage) meal for the Vikings or Anglo Saxons?</b>  | <b>How can we create a fruit and vegetable market stall for the people of the Kingdom of Benin?</b>   |
|                | <p><b>Link:</b> History - Ancient Greece achievements and influence on the western world, Maths – measuring and ratios, Science – electricity and forces, Literacy – Tempest and Percy Jackson and the Olympians</p> <p><b>Key knowledge:</b> pulleys or gears and simple circuits and switches</p> <p>*Using a class kit from Ivydale Technology Shop</p> <p>* Primary Engineer will also be providing a car kit for KS1 &amp; KS2</p> | <p><b>Link:</b> History - Anglo Saxons and Vikings, Science – properties and changes of materials, Geography – Fair Trade, Literacy – Beowulf, Maths – measuring, addition and time</p> <p><b>Skills and knowledge:</b> understand and apply the principles of a healthy and varied diet, prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques, understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed, safety and hygiene. Other skills – cutting, slicing, simmering, chopping, grating, peeling</p> | <p><b>Link:</b> History – Benin Kingdom, Science – compare and group everyday materials on the basis of their properties, Literacy – Children of Benin, Maths – 2-D shapes to 3-D shapes, Computing – use technologies for research purposes</p> <p><b>Key knowledge:</b> frame structures, computer aided design</p> |
| <b>Year 6</b>  | <b>Textiles</b>   | <b>Cooking and Nutrition</b>  | <b>Electrical Systems</b>   |
| <b>Problem</b> | <b>How can we create our own Advent Calendar including a nativity scene for Christmas?</b>  | <b>How can we prepare and cook a meal fit for Queen Victoria?</b>   | <b>How can we create an electronic moneybox?</b>  |

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|  | <p><b>Link:</b> Religion – Christmas and religious celebrations, Science – materials and their properties, Computing – using technology and software to create and for research purposes</p> <p><b>Key knowledge:</b> combining different fabric shapes, computer aided design</p> | <p><b>Link:</b> History – Battle of Britian, Geography – Changes in local community, Art – the Victorians, Science – properties and changes of materials, Literacy – Suffragette: The Battle for Equality, Maths – measuring, addition and time, Computing – use technology for research purposes</p> <p><b>Skills and knowledge:</b> understand and apply the principles of a healthy and varied diet, prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques, understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed, food safety and hygiene. Other skills – cutting, baking</p> | <p><b>Link:</b> PSHE – Lifesavers and financial education, Maths – money, Science – electricity (circuits, switches, conductors and insulators), Maths – measuring using standard units, Computing – use technology for research purposes</p> <p><a href="https://www.youtube.com/watch?v=...">How to Make Electric Saving Money Box (youtube.com)</a></p> <p><b>Key knowledge:</b> more complex switches and circuits (including programming, monitoring and control)</p> |
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