

Design and Technology Long Term Plan

| | Autumn | | Spring | | Summer | |
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| EYFS Nursery | Once Upon a Time Cooking – make cakes | Walking through the zoo Christmas Create a class book – Dear Zoo. Using flaps as mechanisms | Travel through London Collaborative build – make a bus | Are We there yet? Investigate and explore different materials to make a boat to carry the penguin across the water. | How does your garden grow? Try and evaluate different exotic fruits with different textures Design a fruit kebab | We could be Heroes Textiles – Make superhero capes |
| | <p>Explore different materials, using all their senses to investigate them. Manipulate and play with different materials. (0-3). Use their imagination as they consider what they can do with different materials. (0-3). Make simple models which express their ideas. (0-3)</p> <p>Explore different materials freely, to develop their ideas about how to use them and what to make. (3-4). Develop their own ideas and then decide which materials to use to express them. (3-4). Join different materials and explore different textures. (3-4)</p> <p>Junk modelling, block area and Duplo always available in continuous provision</p> | | | | | |
| EYFS Reception | Once Upon a Time Create fairytale stick puppets to retell a story. (cutting and shaping, joining materials) Cooking - Make gingerbread people. | Walking through the zoo Build a zoo with different structures for the animals (thinking carefully about what the animals will need in their enclosures) | Travel through London Investigate wheels and axels (have different toy vehicles for the children to look at and investigate how the wheels work.) | Are We there yet? Make a split pin hatchling. (cutting and shaping, joining materials) | A gardener's World Collaborative build – create a den/cave for silly doggy to sleep in. Evaluate and make improvements | We could be Heroes Cooking – make bread. Evaluate Design and build a trap for the evil pea (junk modelling, mechanisms) |
| | <p>Return to and build on previous learning, refining ideas and developing their ability to represent them.(Reception) Create collaboratively sharing ideas and resources. (Reception) Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.(ELG) Share their creations explaining the processes used. (ELG)</p> <p>Junk modelling, block area and Duplo always available in continuous provision</p> | | | | | |
| KS1 | Autumn | | Spring | | Summer | |
| Years 1 and 2 Route A | <u>JOURNEY: FOOD</u> Explore which foods come from farms and which come from animals. | | <u>OUR LOCAL HEROES: Create a coat of arms for the local heroes.</u> | | <u>GREAT EXPLORERS: Make a boat for an explorer</u> | |
| | <p>Understand where food comes from.</p> <p>Make butter</p> | | <p>Generate, develop, model and communicate their ideas through talking and drawing a design.</p> <p>Make a template.</p> <p>Make - Select from and use a wide range of, textiles according to their characteristics</p> <p>Develop sewing skills over time – create samples on scrap textiles to practise and develop sewing skills – running stitch.</p> <p>Use a running stitch to join textiles in the finished product.</p> | | <p>Research waterproof materials and explore floating/sinking</p> <p>Design a boat</p> <p>Make - Select from and use a range of tools and equipment to perform practical tasks</p> | |

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| Years 1 and 2 Route B | <u>BONFIRE NIGHT AND THE GREAT FIRE OF LONDON</u> <u>Make a pull along vehicle with wheels.</u> | <u>WHERE DO OUR FAVOURITE ANIMALS LIVE?: Create a healthy meal over an open fire.</u> | <u>HOLIDAYS: Create a seaside puppet using a lever or slider mechanism.</u> |
| | <p>Review and build on previous learning (from /reception) on wheels and axles. Develop existing knowledge and vocabulary by investigating a range of existing wheeled toys and products.</p> <p>Design a purposeful, functional, appealing products for themselves or other users based on design criteria.</p> <p>Make – a basic prototype</p> <p>Make finished product -Select from and use a range of tools and equipment to perform practical tasks.</p> <p>Explore and use mechanisms (wheels and axels), in their products.</p> <p>Evaluate as an iterative process – return to design and build to make evaluations and amendments as you go along.</p> | <p>Research/investigate/review prior learning – what makes a healthy diet/ balanced meal? Understand where food comes from.</p> <p>Explore how different foods cook over an open fire by cooking and tasting them.</p> <p>Design a well-balanced meal where at least one aspect is to be cooked over an open fire.</p> <p>Cook the meal.</p> <p>Evaluate finished dish.</p> | <p>Research/explore existing toys and products that use a range of different mechanisms (sliders/ levers/pulleys)</p> <p>Design a purposeful, functional, appealing seaside puppet to a given criteria.</p> <p>Create a mock-up of design including mechanism</p> <p>Evaluate design and mechanism and make changes to design as necessary.</p> <p>Select from and use a wide range of materials and components, according to their characteristics to create a final product. .</p> <p>Explore and use mechanisms (sliders/levers), in their products.</p> |
| LKS2 | Autumn | Spring | Summer |
| Years 3 and 4 Route A | <u>THE STONE AGE: Invention</u> | <u>COASTS: Create a Seaside picnic</u> | <u>WHAT HAPPENED WHEN THE ROMANS CAME TO BRITAIN? Create your own Roman Catapult</u> |
| | <p>Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose and aimed at particular individuals</p> <p>Invent something new that would help in the palaeolithic era.</p> | <p>Apply the principles of a healthy and varied diet.</p> <p>Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.</p> <p>Understand how and where a variety of ingredients are grown, reared, caught and processed.</p> | <p>Look at a range of exploded diagrams of roman catapults to understand how they work.</p> <p>Make a roman catapult (select tools and materials to perform practical tasks and select from and use a wider range of materials.</p> <p>Understand and use mechanical systems in their products (levers)</p> |
| Years 3 and 4 Route B | <u>HOW MUCH DID THE ANCIENT EGYPTIANS ACHIEVE? Create a banner using Images and hieroglyphics</u> | <u>HOW HAS CRIME AND PUNISHMENT CHANGED OVER TIME? Create an alarm to protect an important item</u> | <u>WHY SHOULD WE PRESERVE OUR LOCALITY? Create your own castle</u> |
| | <p>Investigate the use of hieroglyphics and their purpose.</p> <p>Design banner</p> <p>Practise different sewing techniques and how to attach different pieces of material.</p> <p>Create a banner using images and hieroglyphics</p> <p>Evaluate against their design criteria.</p> | <p>Research the use of alarms – what would it need to include?</p> <p>Evaluate everyone's ideas through class discussion and decide on common areas. Consider the views of each other to adapt and improve existing designs.</p> <p>Understand and use electrical systems in their products (alarm)</p> | <p>Research Beeston castle. Using information found, design own castle by annotated sketching or CAD.</p> <p>Make own castle – select materials and components according to their functional and aesthetic qualities.</p> <p>Apply their understanding of how to stiffen and reinforce more complex structures.</p> |

| <u>USK2</u> | Autumn | Spring | Summer |
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| Years 5 and 6 Route A | <u>WHY WAS THE ANGLO-SAXON PERIOD REALLY A DARK AGE? Create an Anglo-Saxon long boat</u> | <u>THE VIKINGS: Create own Viking broach using textiles and cross-stitch patterns</u> | <u>WHAT MAKES PEOPLE GO ON A JOURNEY? Cook a repertoire of predominantly savoury dishes</u> |
| | <p>Research anglosaxon longboats – what did they look like, what were they used for?</p> <p>Investigate pulleys – understand how pulleys work.</p> <p>Design own longboat using annotated sketches and cross-sectional diagrams. Include a sail that is controlled by a pulley.</p> <p>Make - Select from and use a wider range of materials and components, including construction materials and textiles according to their functional properties and aesthetic qualities. Apply their understanding of how to strengthen, stiffen and reinforce more complex structures for the mast</p> <p>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</p> | <p>Research viking broaches.</p> <p>Design your own viking broach using Vector drawing (CAD)</p> <p>Rehearse using a pattern piece.</p> <p>Make own Viking broach using textiles and cross-stitch patterns.</p> <p>Evaluate their product</p> | <p>Evaluate and investigate a range of existing products. Understand and apply the principles of a healthy and varied diet.</p> <p>Cook a repertoire of predominantly savoury dishes Become competent in a range of cooking techniques.</p> <p>Understand the source, seasonality and characteristics of a broad range of ingredients.</p> |
| Years 5 and 6 Route B | <u>WHY SHOULD WE REMEMBER THE MAYA? Create your own mayan weaving</u> | <u>WHAT DID THE GREEKS DO FOR US? Cook a repertoire of savoury greek dishes</u> | <u>ARE WE DAMAGING OUR WORLD? Create your own reading lamp</u> |
| | <p>Research and design how Mayan's used weavings and textiles.</p> <p>Learn how to weave on a loom.</p> <p>Create own Mayan weaving selecting from a wide range of textiles. Return to the weaving over time so skills are practised and developed.</p> <p>Apply skills and learning to create a weaving using recyclable materials (bike wheels, baskets, colanders).</p> | <p>Research a chef who has developed healthy eating menus.</p> <p>Evaluate existing Greek food by tasting</p> <p>Design their own healthy Greek dish by applying the principles of a healthy and varied diet.</p> <p>Understand the source, seasonality and characteristics of a broad range of ingredients.</p> <p>Make your own dish</p> <p>Evaluate your dish.</p> | <p>Research Thomas Edison and how he and his fellow scientists invention of the light bulb changed the world.</p> <p>Design your own reading lamp, using a lever and a switch and bulb.</p> <p>Create your own reading lamp, using a lever and a switch and bulb.</p> <p>Apply understanding of computing to programme, monitor and control their products.</p> <p>Evaluate their product against their design criteria.</p> |