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| **EYFS Cycle 1** | **Autumn Term 1** | **Autumn Term 2** | **Spring Term 1** | **Spring Term 2** | **Summer Term 1** | **Summer Term 2** |
| **Topic** | **All About Me**  **Autumn** | **Light and Dark**  **Winter**  **Christmas**  **Diwali** | **Superheroes**  **Chinese New Year** | **Traditional Tales**  **Spring** | **Holidays**  **Summer** | **Growing** |
| **Continuous Provision** | **3-4 years**  Make imaginative and complex ‘small worlds’ with blocks and construction kits such as a city with different buildings and a park  Explore their ideas freely in order to develop their ideas about how to use them and what to make  Join different materials and explore different textures  **Reception**  Return to and build on their previous learning, refining ideas and developing their ability to represent them | | | | | |
|  | **3-4 years**  Join different materials and explore different textures  Explore how things work  **Reception**  Return to and build on their previous learning, refining ideas and developing their ability to represent them | **3-4 years**  Join different materials and explore different textures  **Reception**  Return to and build on their previous learning, refining ideas and developing their ability to represent them | **3-4 years**  Make imaginative and complex ‘small worlds’ with blocks and construction kits such as a city with different buildings and a park  **Reception**  Return to and build on their previous learning, refining ideas and developing their ability to represent them**.**  Create collaboratively, sharing ideas, resources and skills | **3-4 years**  Make imaginative and complex ‘small worlds’ with blocks and construction kits such as a city with different buildings and a park  **Reception**  Explore how things work |  |  |

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| **EYFS Cycle 2** | **Autumn Term 1** | **Autumn Term 2** | **Spring Term 1** | **Spring Term 2** | **Summer Term 1** | **Summer Term 2** |
| **Topic** | **Travel and Transport**  **Autumn** | **Pets**  **Winter**  **Christmas**  **Diwali** | **People who help us**  **Chinese New Year** | **Fantasy and adventure**  **Spring** | **Recycling and the environment**  **Summer** | **Dinosaurs** |
| **Continuous Provision** | **3-4 years**  Make imaginative and complex ‘small worlds’ with blocks and construction kits such as a city with different buildings and a park  Explore their ideas freely in order to develop their ideas about how to use them and what to make  Join different materials and explore different textures  **Reception**  Return to and build on their previous learning, refining ideas and developing their ability to represent them | | | | | |
|  | **3-4 years**  Join different materials and explore different textures  Explore how things work  **Reception**  Create collaboratively sharing ideas resources and skills  Return to and build on their previous learning, refining ideas and developing their ability to represent them | **3-4 years**  Join different materials and explore different textures  **Reception**  Return to and build on their previous learning, refining ideas and developing their ability to represent them | **3-4 years**  Join different materials and explore different textures  **Reception**  Create collaboratively sharing ideas resources and skills  Return to and build on their previous learning, refining ideas and developing their ability to represent them |  | **3-4 years**  Join different materials and explore different textures  Explore how things work  **Reception**  Create collaboratively sharing ideas resources and skills  Return to and build on their previous learning, refining ideas and developing their ability to represent them |  |

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| **Year 1** | **Autumn Term 1** | | **Spring Term 1** | | **Summer Term 1** | |
| **Topic** | **Mechanisms - Wheel and Axles**  Pupils experiment with mechanisms and troubleshoot why some wheels don’t rotate, before designing and building a moving vehicle | | **Food & Nutrition - Fruit and Vegetable Smoothie**  Children learn how to identify fruits and vegetables and then design and make a smoothie | | **Textiles – Puppets**  Children learn the different ways they can join fabrics together through the creation of a puppet | |
| **National Curriculum Coverage** | | | | | | |
| **Design** | * Designing mechanisms | | * Designing for others | | * Designing for others | |
| **Design format** | * Drawing | | * Exploded diagram | | * Mock-up of puppet | |
| **Make** | * Adapting Mechanisms * Measuring and cutting accurately * Following a design brief * Working to scale * Identifying materials commonly used for wheels | | * Chopping fruit and vegetables * Making a smoothie | | * Selecting suitable equipment * Sequencing steps for construction | |
| **Evaluate** | * Researching and testing mechanisms | | * Evaluating and adapting designs | | * Reflecting on their finished product | |
| **Technical knowledge** | * Understanding how an axle works | | * Describing and grouping fruits by texture and taste * Understanding the difference between fruit and vegetables | | * Knowing the different ways fabric can be joined * Understanding how to prepare fabric for joining | |
| **Key Vocabulary** | Axle  Axle holder  Chassis  Design  Evaluation  Fix | Mechanic  Mechanism  Model  Test  Wheel | Blender  Carton  Fruit  Healthy  Ingredients  Peel  Peeler | Recipe  Slice  Smoothie  Stencil  Template  Vegetable | Decorate  Design  Fabric  Glue  Model | Hand puppet  Safety pin  Staple  Stencil  Template |

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| **Year 2** | **Autumn Term 1** | | **Spring Term 1** | | **Summer Term 1** | |
| **Topic** | **Food & Nutrition - A Balanced Diet**  Pupils explore what makes a balanced diet and taste test combinations of different food groups before designing and making a wrap | | **Mechanisms - Moving Monsters**  Pupils analyse existing levers and linkage systems to identify components that they can use to plan, design and develop a mechanical monster | | **Structures - Baby Bears chair**  Pupils experiment with different shapes and manipulate materials to explore and evaluate a range of structural properties. They apply this knowledge to their own design, make and test task | |
| **National Curriculum Coverage** | | | | | | |
| **Design** | * Designing packaging for their wrap | | * Creating and using design criteria, generating ideas * Planning for design and manufacture | | * Designing for others, using criteria and applying their knowledge of structures | |
| **Design format** | * Exploded diagram | | * IT – Drawing on iPad | | * Mock-up | |
| **Make** | * Preparing food safely and hygienically * Chopping safely using the bridge grip | | * Cutting and assembling accurately * Selecting appropriate equipment and materials | | * Cutting and assembling accurately | |
| **Evaluate** | * Conducting product research * Evaluating a design | | * Carrying out primary research and applying to design | | * Evaluating examples of natural & manmade structures * Testing and evaluating their own product | |
| **Technical knowledge** | * Understanding how fruit and vegetables grow * Knowing the food groups * Understanding what makes a balanced diet | | * Learning mechanical components * Identifying input and output | | * Understanding the definition and importance of strength, stability and stiffness * Knowing that different shapes can strengthen or weaken structures and that materials can be manipulated to improve strength and stiffness | |
| **Key Vocabulary** | Alternative  Diet  Balanced diet  Evaluation  Expensive  Healthy | Ingredients  Nutrients  Packaging  Refrigerator  Sugar  Substitute | Evaluation  Input  Lever  Linear motion  Linkage  Mechanical  Mechanism | Motion  Oscillating motion  Output  Pivot  Reciprocating motion  Rotary motion  Survey | Function  Man-made  Mould  Natural  Stable | Stiff  Strong  Structure  Test  Weak |

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| **Year 3** | **Autumn Term 1** | | **Spring Term 1** | | **Summer Term 1** | |
| **Topic** | **Mechanisms - Pneumatic Toys**  Pupils examine pneumatic systems using syringes and balloons. They then apply their understanding of mechanical systems to create their own pneumatic toys | | **Food & Nutrition - Eating Seasonally**  Pupils learn about seasonality and how the climate a food is grown in can alter the way it tastes. They will then make a crumble and tart using seasonal ingredients. | | **Textiles - Cushions**  Pupils learn to sew cross stitch and appliqué and then apply this to the design and creation of a cushion. | |
| **National Curriculum Coverage** | | | | | | |
| **Design** | * Generating and communicating ideas using sketching and modelling, using the views of others to improve their designs | | * Designing to criteria | | * Designing for a purpose | |
| **Design format** | * Exploded diagram | | * Annotated sketch | | * Prototype | |
| **Make** | * Selecting appropriate materials and equipment for functional and aesthetic purposes | | * Safely preparing fruit and vegetables * Following a recipe | | * Sewing cross stitch and using applique | |
| **Evaluate** | * Assessing how well their product works and if it matches their design | | * Tasting and evaluating their dessert | | * Compare to designs | |
| **Technical knowledge** | * Understanding how pneumatic systems work | | * Knowing what foods are in season and when * Understanding the benefits of foods by their colour * Knowing how climate alters the sweetness of food | | * Construction of cushions * Understanding that fabrics can be layered for effect * Knowing different stitch types | |
| **Key Vocabulary** | Exploded-diagram  Function  Input  Lever  Linkage  Mechanism | Motion  Net  Output  Pivot  Pneumatic system  Thumbnail sketch | Climate  Dry climate  Exported  Imported  Mediterranean climate  Nationality  Nutrients | Polar climate  Recipe  Seasonal food  Seasons  Temperate climate  Tropical climate | Accurate  Appliqué  Cross-stitch  Cushion  Decorate  Detail  Fabric  Patch | Running-stitch  Seam  Stencil  Stuffing  Target audience  Target customer  Template |

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| **Year 4** | **Autumn Term 1** | | **Spring Term 1** | | **Summer Term 1** | |
| **Topic** | **Electrical Systems – Torches**  Pupils are introduced to electricity and electrical safety before making a simple electric circuit to create a functioning torch. | | **Structures - Pavilions**  In an introduction to pavilion architecture, pupils experiment with frame structures before designing their own landscape and pavilion, using a wider range of materials and construction techniques. | | **Food & Nutrition - Adapting a Recipe**  Children work in groups to adapt a simple biscuit recipe, to create the tastiest biscuit. While making they will also ensure that their creation comes within the given budget of overheads and costs of ingredients | |
| **National Curriculum Coverage** | | | | | | |
| **Design** | * Designing for others | | * Exploring and designing within a given context/theme | | * Adapting a recipe | |
| **Design format** | * Cross-sectional diagram | | * Computer design | | * Annotated sketch | |
| **Make** | * Creating neatly presented work * Making an electrical circuit | | * Using a range of materials and equipment to create frame structures | | * Making a simple biscuit recipe * Bring a creative element to the food product being designed | |
| **Evaluate** | * Evaluating to improve their work * Testing their final products | | * Discuss existing pavilions | | * Sampling and evaluating a range of biscuits * Evaluating chosen adaptations to a recipe. | |
| **Technical knowledge** | * Electricity is energy * Batteries are used to store electricity * Know terminology of: insulator, conductor, L.E.D., battery, coin cell batteries | | * Knowing what a pavilion is * Building on prior knowledge of net structures and broadening knowledge of frame structures * Knowing that architects consider light, shadow and patterns when designing | | * Awareness of how much ingredients cost. * Measuring ingredients in grams * Know how to be both hygienic and safe when using food | |
| **Key Vocabulary** | Battery  Bulb  Buzzer  Cell  Component  Conductor  Copper  Design criteria  Electrical item | Electricity  Electronic item  Function  Insulator  Series circuit  Switch  Test torch  Wire | Aesthetic  Cladding  Design criteria  Evaluation  Frame structure  Function  Inspiration  Pavilion | Reinforce  Stable  Structure  Target audience  Target customer  Texture  Theme | Adapt  Budget  Equipment  Evaluation  Flavour  Ingredients  Method  Net | Packaging  Prototype  Quantity  Recipe  Target audience  Unit of measurement  Utilities |

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| **Year 5** | **Autumn Term 1** | | **Spring Term 1** | | **Summer Term 1** | |
| **Topic** | **Food & Nutrition - Food: What Could Be Healthier**  Pupils adapt a Bolognese recipe by adding or altering ingredients and learn about the ethical and hygienic issues of food | | **Mechanical systems: Making a pop-up book.**  After choosing a simple story or nursery rhyme, children create a four-page pop-up storybook design. They will also add accompanying captions, incorporating a range of mechanisms and decorative features, including: structures, levers, sliders, layers and spacers | | **Structures – Bridges**  Pupils explore and experiment with a range of different bridge structures, forces and components involved in bridge building, before designing and making their own to test to destruction | |
| **National Curriculum Coverage** | | | | | | |
| **Design** | * Adapting a recipe | | * Designing a pop-up book based on a simple story and what mechanisms will be used inside it. * Design a product that requires pulleys or levers | | * Design arch and truss bridges | |
| **Design format** | * Annotated sketch | | * Exploded diagram | | * Computer design | |
| **Make** | * Cutting and preparing vegetables hygienically * Cooking meat safely | | * Creating a book that uses a range of mechanisms and decorate features. * Make and use pulleys and levers. | | * Selecting materials and equipment according to functional properties * Working with increasing accuracy in practical tasks * Use triangulation for bracing | |
| **Evaluate** | * Tasting and adapting the dish during cooking process | | * Evaluate the effectiveness of their finished product and the mechanisms that have been used. | | * Testing to destruction to evaluate the successful and unsuccessful properties of a design and its materials | |
| **Technical knowledge** | * Know where meat comes from and understand ethical issues around beef * Know nutritional values of packaged food | | * Links scientific knowledge to design by using pulleys or levers | | * Understanding the importance of compression and tension in bridge structures | |
| **Key Vocabulary** | Beef  Cross-contamination  Diet  Ethical issues  Farm  Healthy  Ingredients  Method  Nutrients | Packaging  Reared  Recipe  Research  Substitute  Supermarket  Vegan  Vegetarian  Welfare | Aesthetic  CAD  Caption  Design  Design brief  Design Criteria  Exploded-diagram  Function  Input | Linkage  Mechanism  Motion  Output  Pivots  Prototype  Sliders  Structure  Template | Abutment  Accurate  Arched bridge  Beam bridge  Bridge  Compression  Coping saw  Evaluation  File  Forces  Mark out  Measure  Predict | Reinforce  Research  Right-angle  Sandpaper  Set square  Shape  Strong structure  Suspension bridge  Tenon saw  Tension  Test  Truss bridge  Weak |

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| **Year 6** | **Autumn Term 1** | | **Spring Term 1** | | **Summer 1** | |
| **Topic** | **Textiles – Waistcoats**  After drawing a design in accordance with their own criteria, pupils learn how to measure, cut and assemble fabric to create a waistcoat | | **Mechanical Systems - Automata Toy**  Pupils develop their woodworking skills and explore cams to design and make mechanical window displays | | **Food & Nutrition - Come Dine with Me**  Working in groups, children research and prepare a three course meal that will be taste tested and scored as well as researching the journey of their main ingredient ,from ‘farm to fork’ | |
| **National Curriculum Coverage** | | | | | | |
| **Design** | * Designing for a process | | * Experimenting with cams to make suitable design decisions | | * Using recipe books/websites | |
| **Design format** | * Prototype | | * Computer design | | * Exploded diagram | |
| **Make** | * Accurate cutting and joining, using running stitch * Creating something in a given style | | * Measuring, marking and cutting woodwork accurately * Selecting appropriate equipment * Assembling components accurately | | * Working with food hygienically and safely * Working to a timescale | |
| **Evaluate** | * Evaluating work continually | | * Checking accuracy of work | | * Tasting and evaluating their own food | |
| **Technical knowledge** | * Knowing how to create hidden seams | | * Naming types of cam * Knowing how cams impacts follower movements | | * Understanding the risks of meat or fish when not cooked or stored properly * Understanding safe storage of meat/fish | |
| **Key Vocabulary** | Accurate  Adapt  Annotate  Design  Design criteria  Detail  Fabric  Fastening  Knot  Properties  Running-stitch | Seam  Sew  Shape  Target audience  Target customer  Template  Thread  Unique  Waistcoat  Waterproof | Accurate  Assembly-diagram  Automata  Axle  Bench hook  Cam  Clamp  Component  Cutting list  Diagram  Dowel  Drill bits  Exploded-diagram  Finish | Follower  Frame  Function  Hand drill  Jelutong  Linkage  Mark out  Measure  Mechanism  Model  Research  Right-angle  Set square  Tenon saw | Accompaniment  Adjective  Caption  Collaboration  Cookbook  Cross-contamination  Equipment  Farm  Flavour  Illustration  Imperative-verb | Ingredients  Method  Nationality  Preparation  Processed reared  Recipe  Research  Storyboard  Target audience  Top-tips  Unit of measurement |