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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 parkExplore their ideas freely in order to develop their ideas about how to use them and what to makeJoin 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 texturesExplore 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 parkExplore their ideas freely in order to develop their ideas about how to use them and what to makeJoin 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 texturesExplore how things work**Reception**Create collaboratively sharing ideas resources and skillsReturn 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 skillsReturn 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 texturesExplore how things work**Reception**Create collaboratively sharing ideas resources and skillsReturn 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** | AxleAxle holderChassisDesignEvaluationFix | MechanicMechanismModelTestWheel  | BlenderCarton FruitHealthy IngredientsPeelPeeler | RecipeSliceSmoothieStencilTemplateVegetable  | DecorateDesignFabricGlueModel | Hand puppetSafety pin StapleStencil 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 DietBalanced diet Evaluation ExpensiveHealthy | IngredientsNutrients Packaging RefrigeratorSugarSubstitute  | Evaluation InputLeverLinear motion LinkageMechanicalMechanism | MotionOscillating motionOutputPivotReciprocating motionRotary motion Survey  | Function Man-madeMouldNatural Stable | StiffStrongStructureTestWeak  |

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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-diagramFunctionInputLeverLinkageMechanism | MotionNetOutputPivotPneumatic systemThumbnail sketch  | ClimateDry climateExportedImportedMediterranean climateNationality Nutrients | Polar climateRecipeSeasonal foodSeasonsTemperate climateTropical climate  | AccurateAppliquéCross-stitchCushionDecorateDetailFabricPatch | Running-stitchSeamStencilStuffingTarget audienceTarget customerTemplate  |

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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** | BatteryBulbBuzzerCellComponentConductor CopperDesign criteriaElectrical item  | ElectricityElectronic itemFunction Insulator Series circuitSwitchTest torchWire  | AestheticCladdingDesign criteriaEvaluation Frame structure Function Inspiration Pavilion | Reinforce Stable StructureTarget audienceTarget customer TextureTheme  | AdaptBudgetEquipment Evaluation Flavour Ingredients MethodNet | Packaging PrototypeQuantity RecipeTarget 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** | BeefCross-contaminationDietEthical issuesFarmHealthyIngredientsMethodNutrients | PackagingRearedRecipeResearchSubstitute SupermarketVeganVegetarianWelfare  | Aesthetic CADCaptionDesignDesign briefDesign CriteriaExploded-diagramFunctionInput | LinkageMechanismMotionOutputPivotsPrototypeSlidersStructureTemplate  | Abutment Accurate Arched bridge Beam bridge Bridge Compression Coping sawEvaluation File Forces Mark out Measure Predict  | Reinforce Research Right-angleSandpaperSet square ShapeStrong structureSuspension bridge Tenon sawTensionTest 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** | AccurateAdaptAnnotate DesignDesign criteria DetailFabric Fastening KnotProperties Running-stitch | SeamSewShapeTarget audience Target customer Template ThreadUnique Waistcoat Waterproof  | Accurate Assembly-diagram Automata AxleBench hookCamClampComponent Cutting list Diagram Dowel Drill bits Exploded-diagram Finish  | Follower Frame Function Hand drill JelutongLinkage Mark out MeasureMechanism Model Research Right-angle Set square Tenon saw  | Accompaniment AdjectiveCaption Collaboration CookbookCross-contamination Equipment FarmFlavour Illustration Imperative-verb | Ingredients MethodNationality Preparation Processed rearedRecipeResearchStoryboardTarget audience Top-tipsUnit of measurement  |