



Abberley Parochial V.C. Primary School
Rooted and Grounded in love
 Design & Technology Curriculum Overview

Rotation 1

	Autumn	Spring	Summer
EYFS	Structures: Junk modelling Seasonal projects: Hibernation boxes, Santa sliding chimney Cooking and nutrition: Soup	Structures: Junk modelling Seasonal projects: Hanging egg decoration, Flower threading	Structures: Junk modelling Textiles: Bookmarks Seasonal activities: Design and create a rainbow salad
Year 1 & 2	Structures: Constructing a windmill <i>Construct a windmill to complete a request from a user. Develop an understanding of different types of windmill, how they work and their key features. Begin to use technical skills such as making evenly spaced cuts and adding weight to ensure a successful structure.</i> Mechanisms: Making a moving monster <i>After learning the terms: pivot, lever and linkage, pupils design a monster that will move using a linkage mechanism. Pupils practise making linkages and experiment with various materials to bring their monsters to life.</i>	Structures: Baby bear's chair <i>Using the tale of Goldilocks and the Three Bears as inspiration, pupils help Baby Bear by making him a brand new chair, exploring different shapes and materials. When designing the chair, they consider his needs and what he likes.</i>	Mechanisms: Wheels and axles <i>Learn about the main components of a wheeled vehicle. Develop understanding of how wheels, axles and axle holders work; problem-solve why wheels won't rotate; to design and build their own vehicle designs.</i> Cooking & Nutrition: Balanced diet <i>Explore and learn what forms a balanced diet, pupils will taste test ingredient combinations from different food groups that will inform a wrap design of their choice which will include a healthy mix of protein, vegetables and dairy.</i>
Year 3 & 4	Mechanical systems: Pneumatic toys <i>Design and create a toy with a pneumatic system, learning how trapped air can be used to create a product with moving parts. Pupil are introduced to thumbnail sketches and exploded diagrams.</i> Electrical systems: Electric poster <i>An introduction to information design and electrical systems, pupils create an electric poster using a basic circuit to develop a museum display.</i>	Structures: Constructing a castle <i>Learning about the features of a castle, pupils design and make one of their own. They will also be using configurations of handmade nets and recycled materials to make towers and turrets before constructing a stable base.</i>	Textiles: Cushions <i>Introduce two new skills to add to the pupils' repertoire: cross stitch and appliqué. Pupils apply their knowledge to the design, decoration and assembly of their own cushions.</i> Cooking & Nutrition: Eating seasonally <i>Pupils discover when and where fruits and vegetables are grown and learn about seasonality in the UK. They respond to a design brief to design a seasonal food tart using ingredients harvested in the UK in May and June.</i>
Year 5 & 6	Textiles: Stuffed Toys <i>Create a stuffed toy by applying skills learnt in previous units. Introduce blanket stitch.</i> Electrical systems: Doodlers <i>Explore series circuits further and introduce motors. Explore how the design cycle can be approached at a different starting point, by investigating an existing product, which uses a motor, to encourage</i>	Structures: Bridges <i>After learning about various types of bridges and exploring how the strength of structures can be affected by the shapes used, create their own bridge and test its durability - using woodworking tools and techniques</i>	Cooking & Nutrition: Developing a recipe <i>Research and modify a traditional bolognese sauce recipe to improve the nutritional value. Cook improved version and create packaging that fits design criteria. Learn about where beef comes from.</i> Mechanical Devices: Gears and Pulleys

	<i>pupils to problem-solve and work out how the product has been constructed, ready to develop their own.</i>		<i>Investigate the history, mechanics, and uses of gears and pulleys. Construct a gear and pulley system and design an eco-bike that utilises energy from an exercise bike for practical work.</i>
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Rotation 2

	Autumn	Spring	Summer
EYFS	Structures: Junk modelling Seasonal projects: Hibernation boxes, Santa sliding chimney Cooking and nutrition: Soup	Structures: Junk modelling Seasonal projects: Hanging egg decoration, Flower threading	Structures: Junk modelling Textiles: Bookmarks Seasonal activities: Design and create a rainbow salad
Year 1 & 2	Cooking & Nutrition: Smoothies <i>Handle and explore fruits and vegetables and learn how to identify fruit, before undertaking taste testing to establish chosen ingredients for a smoothie they will make, with accompanying packaging.</i> Mechanisms: Making a story Book <i>Experiment with sliders before planning and making three pages of a moving story book, based on a familiar story, drawing the page backgrounds, creating the moving parts and assembling it.</i>	Textiles: Puppets <i>Explore different ways of joining fabrics before creating hand puppets based upon characters from a well-known fairytale. Develop technical skills of cutting, glueing, stapling and pinning.</i>	Textiles: Pouches <i>Introduction to sewing. Pupils make their own template, accurately cut their fabric and sew a basic running stitch.</i> Mechanisms: Fairground wheel <i>Design and create a functional fairground wheel, consider how the different components fit together so that the wheel rotates and the structure stands freely. Select appropriate material properties and develop their cutting and joining skills. Research existing structures and survey to further inform the design.</i>
Year 3 & 4	Mechanical systems: Making a slingshot car <i>Transform lollipop sticks, wheels, dowel and straws into a moving car. Pupils use a glue gun to construct, make the launch mechanism, design and create the chassis of a vehicle using nets.</i> Cooking & Nutrition: Adapting a recipe. Cooking & Nutrition: Adapting a recipe <i>Work in groups to adapt a simple biscuit recipe, to create a biscuit suited to a chosen target audience. They ensure that their creation comes within a given budget of overheads and ingredients.</i>	Structures: Pavilions <i>Exploring pavilion structures, learning about what they are used for and investigate how to create strong and stable structures before designing and creating their own pavilions, complete with cladding.</i>	Textiles: Fastenings <i>Building upon their sewing skills from previous years, pupils design and create a book sleeve; exploring a variety of fastenings and selecting the most appropriate for their design based on strength and appropriate-use.</i> Electrical systems: Torches <i>Pupils apply their scientific understanding of electrical circuits to create a torch made from recycled and reclaimed materials and objects. They design and evaluate their product against set design criteria.</i>
Year 5 & 6	Textiles: Waistcoats <i>Select fabrics, use templates, pin, decorate and stitch materials together to create a waistcoat for a person or purpose of their choosing. Create or use a pattern template to fit a desired person or item (e.g. teddy bear).</i> Electrical systems: Steady Hand Game <i>Design and create a steady hand game, use nets to create the bases and apply knowledge of electrical circuits to build an operational circuit with a buzzer that completes the circuit when the handle makes contact with the wire.</i>	Structures: Playgrounds <i>Design and create a model for a new playground featuring five apparatus, made from three different structures. Using a footprint as the base, practise visualising objects in plan view and get creative including natural features.</i>	Cooking & Nutrition: Come dine with me <i>Research and prepare a three-course meal and taste-test and score their food. Research the journey of their main ingredient from 'farm to fork' and write a favourite recipe.</i> Mechanical systems: Automata toys <i>Use woodworking skills, pupils construct an automata; measuring and cutting their materials, assembling the frame, choosing cams and designing the characters that sit on the followers to form an interactive shop display.</i>