

Menston Primary School Design Technology Long-Term Overview 2023-24



There are **4** Kapow units across each year group - **Structures**, **Mechanisms**, **Food Tech** and **Textiles**. Each unit is **4 lessons** long. At Menston, we ensure Food tech, textiles and structures is taught over the phase. Mechanisms being taught in most year groups. For KS2, we ensure that there is enough coverage of **STEM and the Digital World** over the 4 year groups. We ensure that there is enough coverage of the National curriculum and progression as the children move up year groups. For one of Year 2 units, we will be using a Plan Bee unit for structures because there is more coverage compared to Kapow.

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Autumn Term	<p>Structures: Junk Modelling Exploring materials through junk modelling, children develop their scissor skills and awareness of different materials and joining techniques. Children begin to make verbal plans and material choices before starting and problem solve while making their model.</p>	<p>Mechanisms: Wheels and Axels 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.</p>	<p>Structures: Homes Use a range of materials to design and make a home.</p>	<p>Structures-Pavilions from Year 4. 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.</p>	<p>STEM- Electrical systems- Torches 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.</p>	<p>STEM-Doodlers 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 pupils to problem-solve and work out how the product has been constructed, ready to develop their own.</p>	<p>Mechanisms: Automata toys 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.</p>

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Spring	<p>Food Tech- Soup. Learning about vegetables and where they come from while preparing to make a soup. Children describe the taste of a range of vegetables and design a soup recipe as a class. They practise cutting skills and prepare the vegetables for their class soup before testing the final product.</p>	<p>Food Technology- Making smoothies Handle and explore fruits and vegetables and learn how to identify which category they fall into, before undertaking taste testing to establish chosen ingredients for a smoothie they will make, with accompanying packaging.</p>	<p>Mechanisms: Making a moving monster 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.</p>	<p>Textiles: Cross stitch and applique. Making cushions. 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 or Egyptian collars.</p>	<p>Food tech-Soup Design and make a healthy soup using seasonal food making healthy eating choices.</p>	<p>Food tech- What could be healthier? Research and modify a traditional bolognese sauce recipe to make it healthier. Cook improved versions, creating appropriate packaging and learn about where the ingredients the importance of animal welfare when farming cattle.</p>	<p>Textiles- Stuffed toys Create a stuffed toy by applying skills learnt in previous units. Introduce blanket stitch.</p>

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Summer	<p>Textiles- Bookmarks</p> <p>Developing fine motor skills through a range of threading activities before moving on to use binka and a needle. Children design a bookmark, considering what to include and why and then follow their designs to complete their bookmarks.</p>	<p>Textiles: Puppets</p> <p>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.</p>	<p>Food technology: A balanced diet-making wraps</p> <p>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.</p>	<p>Digital World- Wearable tech.</p>	<p>Mechanisms: Slingshot cars.</p> <p>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.</p>	<p>Structures- Bridges</p> <p>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.</p>	<p>Digital World- Navigating the World</p> <p>Program a navigation tool to produce a multifunctional device for trekkers. Combine 3D virtual objects to form a complete product concept in 3D computer-aided design modelling software.</p>