



Curriculum overview for parents and carers

Design and technology

Summary of key Design and technology learning for Reception to Year 6.

Autumn Term	<p style="text-align: center;">Workshop</p> <p>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>
Spring Term	<p style="text-align: center;">Textiles</p> <p>Bookmarks 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>
Summer Term	<p style="text-align: center;">Structures</p> <p>Boats Considering the properties of materials through water play, children discover which materials are waterproof and whether they float or sink. Children evaluate a variety of boats and use their new-found knowledge to design and make a boat that is waterproof and floats.</p>

	Year 1
Autumn Term	Structures/ Mechanisms Constructing a windmill Designing, decorating and building a windmill, developing an understanding of different types of windmill, how they work and their key features. Looking at examples of windmills and exploring the functions that they carry out.
Spring Term	Textiles Puppets Exploring different ways of joining fabrics before creating hand puppets based upon characters from a well-known fairytale. Developing technical skills of cutting, glueing, stapling and pinning.
Summer Term	Cooking and nutrition Smoothies Handling and exploring fruits and vegetables and learning how to identify a fruit. Undertaking taste tests to identify ingredients for a smoothie they make, and designing and creating packaging for their smoothie.

Year 2

Autumn Term

Structures

Baby bear's chair

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.

Spring Term

Mechanisms

Fairground wheel

Designing and creating a functional Ferris wheels, pupils consider how the different components fit together so that the wheels rotate and the structure stands freely. Selecting appropriate materials and developing their cutting and joining skills.

Summer Term

Mechanisms

Making a moving monster

Learning the terms: pivot, lever and linkage, pupils then 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.

Year 3

Cooking and nutrition

Autumn

Eating seasonally

Discovering when and where fruits and vegetables are grown and learning about seasonality in the UK. Pupils respond to a brief to design a seasonal food tart using ingredients harvested in the UK.

Digital world

Spring

Wearable technology

Designing, coding and promoting a piece of wearable technology to use in low light conditions, developing their understanding of programming to monitor and control products to solve a design scenario.

Mechanical Systems

Summer

Pneumatic Toys

Exploring how squashed air can be used to create movement within a mechanism and applying this to a design and build a working pneumatic toy. Understanding that different drawings have their own purpose and using different drawings as part of the design process.

	Year 4
Autumn	Structure Pavilions Exploring pavilion structures, learning what they are used for and investigating how to create strong and stable structures before designing and creating their own pavilions, complete with cladding.
Spring	Mechanical systems Making a slingshot car Using lollipop sticks, wheels, dowels and straws to create a moving car. Pupils build a car chassis and design the body of the car, giving consideration to how the shape will affect the car's air resistance. They then construct and test their cars.
Summer	Electrical systems Torches Applying their scientific understanding of electrical circuits, pupils design and create a torch made from recycled and reclaimed materials and objects. They then evaluate their products against a set design criteria.

Year 5	
Autumn	Electrical systems Doodlers Further exploring series circuits and introducing motors. Pupils investigate existing products and use their problem-solving skills to establish how they think the products have been constructed, before then creating their own doodler.
Spring	Mechanical systems Making a pop-up book Creating a four-page pop-up story book design, incorporating a range of functional mechanisms that use levers, sliders, layers and spacers to give the illusion of movement through interaction.
Summer	Cooking and nutrition Developing a recipe Researching and modifying a traditional bolognese sauce recipe to improve the nutritional value before then cooking an adapted version and creating packaging that fits a given design criteria. Learning where beef comes from.

Year 6

Textiles

Autumn

Waistcoats

Selecting fabrics, using templates, pinning, decorating and stitching materials together to create a waistcoat.

Mechanical Systems

Spring

Automata toys

Using 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 display.

Digital world

Summer

Navigating the world

Programing a navigation tool to produce a multifunctional device for trekkers. Combining 3D virtual objects to form a complete product concept in 3D computer-aided design modelling software.