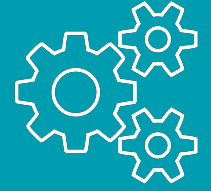


Curriculum overview for parents and carers

Design and technology

Summary of key Design and technology learning for Reception to Year 5/6.



EYFS: Reception			
Unit 1	Workshop	Autumn lesson	Hibernation box Designing and making a hibernation box, children consider the function of a product.
	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.		
Unit 2	Cooking and nutrition	Christmas lesson	Sliding picture Creating a sliding mechanism chimney picture, children develop their cutting and joining skills.
	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.		
Unit 3	Textiles	Spring lesson	Flower threading Creating their own threading cards, children practise using scissors and a hole punch.
	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.		
Unit 4	Structures	Easter lesson	Hanging decoration Designing a hanging egg decoration, children make choices about how to decorate their egg.
	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.		
		Summer lessons	Rainbow salad Researching, designing and making a colourful and healthy salad.

Year 1/2 Cycle A

		Year 1/2 Cycle A	
Unit 1	Mechanisms	Unit 2	Structures/ Mechanisms
	<p>Matching slider game An introduction to different types of mechanisms used in products, with a focus on sliding mechanisms. Exploring how to make a simple paper slider before creating a mock-up and final version, of a game with two sliders.</p> <p>Making a moving story book Experimenting with sliders, pupils then plan and make three pages of a moving story book - drawing the page backgrounds, creating the moving parts and assembling it.</p>		<p>Stable structures Exploring stable shapes using innate sense of balance. Discovering ways to make freestanding structure more stable with a wide or a heavy base. Designing and making a fun and stable pencil pot for a Year 1 pupil.</p> <p>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.</p>
Unit 3	Textiles	Unit 4	Mechanisms
	<p>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.</p>		<p>Wheels and axles Learning about the main components of a wheeled vehicle. Developing understanding of how wheels, axles and axle holders work and problem-solving why wheels won't rotate. Pupils then design and build their own vehicles and evaluate them against a set design criteria.</p>
Unit 5	Cooking and nutrition		
	<p>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.</p>		

Year 3/4 Cycle A

Year 3/4 Cycle A			
Autumn 1	Mechanical systems	Autumn 2	Digital world
	<p>Pneumatic toys Exploring how squashed air can be used to create movement within a mechanism and applying this to design and build a working pneumatic toy. Considering that different diagrams have their own purpose and beginning to use different drawings as part of the design process.</p>		<p>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.</p>
Spring 1	Cooking and nutrition	Spring 2	Structure
	<p>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 in May and June.</p>		<p>Constructing a castle Learning about the features of a castle, pupils design and make one of their own. Using configurations of handmade nets and recycled materials to make towers and turrets and constructing a stable base.</p>
Summer 1	Textiles	Summer 2	Electrical systems
	<p>Cross stitch and appliqué Cushions or Egyptian collars Pupils learn two new sewing skills: cross stitch and appliqué and then apply these to the design, decoration and assembly of their own cushions or Egyptian collars.</p>		<p>Electric poster An introduction to information design and electrical systems, pupils create an electronic poster using a basic circuit to develop a museum display.</p>

Year 5/6 Cycle A			
Autumn 1	Textiles	Autumn 2	Electrical systems
	<p>Stuffed toys Designing and making a stuffed toy. Pupils learn a new stitch - blanket stitch - which they use to join the fabric together for their toys, before creating and adding decoration.</p>		<p>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.</p>
Spring 1	Structures	Spring 2	Digital world
	<p>Bridges Learning about different types of bridges and exploring how the strength of structures can be affected by the shapes used within them. Pupils then create their own bridge and test its durability - using woodworking tools and techniques.</p>		<p>Monitoring devices Applying computing skills to program a Micro: bit to monitor optimal temperatures; designing and creating a case or stand for the Micro:bit and developing 3D CAD skills.</p>
Summer 1	Cooking and nutrition	Summer 2	Mechanical systems
	<p>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.</p>		<p>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.</p> <p>Gears and pulleys Exploring the history, mechanics and uses of gears and pulleys, children apply their understanding to make a gear and a pulley system and design an eco-bike that harnesses the energy from an exercise bike to do work.</p>