

Design Technology

	Early Years	Y1	Y2	Y3	Y4	Y5	Y6
Autumn	Exploring & using Media and Materials Safely use and explore a variety of materials, tools and techniques Creating with Materials share their creations explaining the process they have used	Puppets (L1-4) Explore methods of joining fabric. Design and make a character-based hand puppet using a preferred joining technique, before decorating. Constructing windmills(L1-3) Explore various types of windmill, how they work and their key features. Design and construct a windmill	Pouches (L1-3) Learn how to sew a running stitch ready to design, make and decorate a pouch using a template. Fairground wheel (L1-4) Design and create a functional Ferris wheel, learn how different components fit together so that the wheel rotates and the structure stands freely.	Cross stitch and applique Cushions (L1-4) Learn and apply two new sewing techniques – cross-stitch and appliqué. Utilise these new skills to design and make a cushion Constructing a castle (L2-4) Identify and learn about the key features of a castle, before designing and making a recycled-material castle	Fastenings (L2-4) Analyse and evaluate a range of existing fastenings, then devise a list of design criteria to design, generate templates and make a fabric book sleeve. Making a slingshot car (L1-4) Using a range of materials, design and make a car with a working slingshot mechanism and house the mechanism using a range of nets.	Doodlers (L1-3) Explore series circuits and motors. Investigate 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. Making a pop-up book(L1-3) Create a functional four-page pop-up storybook design, using lever, sliders, layers and spacers to create paper-based mechanisms.	Playgrounds (L1-3) Research existing playground equipment and their different forms, before designing and developing a range of apparatus to meet a list of specified design criteria. Automata toys (L1-4) Develop a functional automata window display, to meet the requirements in a design brief. Explore and create cam, follower and axle mechanisms to mimic different movements.
Spring	Health & Self-care Know the importance of a healthy diet and talks about ways to keep healthy and safe. Shape, Space & Measure Uses everyday language to talk about capacity, weight size. Creating with Materials share their creations explaining the process they have used	Smoothies (L1,2,5,6) Opportunities to learn food preparation skills and focus on taste testing and ingredient choices.	Balanced diet (L1,2,5,6) Opportunities to learn about the importance of a balanced diet and use that knowledge to create a tasty wrap.	Eating seasonally (L2,4,5,6) Learn about various fruits and vegetables, and when, where and why they are grown in different seasons. Discover the relationship between colour and health benefits.	Adapting a recipe (L1-3, L5) Learn a basic biscuits recipe and adapt it to suit a target audience.	Developing a recipe(L2-4,L6) Learn a simple bolognese recipe and adapt it to improve nutritional content.	Come dine with me(L2,4,5,6) Develop a three-course menu focused on three key ingredients, as part of a paired challenge to develop the best class recipes. Explore each key ingredient's farm to fork process.
Summer	Exploring & using Media and Materials Experiments with form and function Manipulates materials to achieve a planned effect Being Imaginative Represent their ideas through design and technology Creating with Materials Share their creations explaining the process they have used	Moving story book (L1-3) Explore slider mechanisms and the movement they output, to design, make and evaluate a moving storybook from a range of templates. Wheels and axles (L1-4) Learn about the key parts of a wheeled vehicle, to develop an understanding of how wheels, axles and axle holders work. Design and make a moving vehicle.	Baby bear's chair (L2-4) Explore stability and methods to strengthen structures, to understand Baby Bear's chair weaknesses and develop an improved solution for him to use. Moving monster (L1-4) Explore levers, linkages and pivots through existing products and experimentation, use this research to construct and assemble a moving monster.	Wearable technology (L2-4) Explore wearable technology. Use programming to design a light-up wearable device. Pneumatic toys (L2-4) Explore pneumatic systems, then apply this understanding to design and make a pneumatic toy including thumbnail sketches and exploded diagrams.	Pavilions (L1-4) Investigate and model frame structures to improve their stability, then apply this research to design and create a stable, decorated pavilion. Torches (L2-4) Identify the difference between electrical and electronic products. Evaluate a range of existing torches and their features, then develop a new functional torch design.	Monitoring devices (L1-4) Apply computing knowledge and understanding to program a Micro: bit animal monitoring device. Develop 3D CAD skills by learning how to navigate the Tinkercad interface and essential tools to combine multiple objects. Bridges (L1-4) Test and analyse various types of bridge to determine their strength and stability. Explore material properties and sources, before marking, sawing and assembling a wooden truss bridge.	Steady hand game (L2-4) Understand what is meant by fit for purpose design and form follows function. Design and develop a steady hand game using a series circuit, including housing and backboard. Navigating the world (L1-5) Design and program a navigation tool to produce a multifunctional device for trekkers using CAD 3D modelling software. Pitch and explain the product to a guest panel.