

Design & Technology Overview

| | Autumn | Spring | Summer |
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| EYFS | Making junk models – using scissors; simple joins using glue and tape Building models of familiar objects eg buildings, vehicles using construction eg. blocks, Duplo, Lego, Mobilo, multilink, natural materials Outdoor blocks | | |
| Year 1 | <p>Introduction to planning, making & evaluating</p> <p>Structures</p> <ul style="list-style-type: none"> Know how to design, make and evaluate simple structures for a book character using familiar materials. <p>Freestanding structures</p> <ul style="list-style-type: none"> Know how to make freestanding structures stronger, stiffer and more stable. | <p>Food – making smoothies</p> <p>Where food comes from</p> <ul style="list-style-type: none"> Know the difference between fruit and vegetables that food has to be farmed, grown elsewhere (e.g. home) or caught <p>Food preparation, cooking and nutrition</p> <ul style="list-style-type: none"> how to use techniques such as cutting, peeling and grating safely. | <p>Mechanisms</p> <p>Sliders and levers</p> <ul style="list-style-type: none"> Explore and use sliders and levers. Understand that different mechanisms produce different types of movement. |
| Year 2 | <p>Textiles</p> <p>Templates and joining</p> <ul style="list-style-type: none"> Understand how simple 3-D textile products are made, using a template to create two identical shapes. Understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling. Explore different finishing techniques e.g. using painting, fabric crayons, stitching, sequins, buttons and ribbons. | <p>Mechanisms</p> <p>Wheels and axles</p> <ul style="list-style-type: none"> Explore and use wheels, axles and axle holders. Distinguish between fixed and freely moving axles | <p>Food Kebabs</p> <p>Preparing fruit and veg</p> <ul style="list-style-type: none"> Understand where a range of fruit and vegetables come from e.g. farmed or grown at home. Understand and use basic principles of a healthy and varied diet to prepare dishes. Using a variety of cutting techniques with grips such as bridge grip to cut food to size for the purpose. |

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| <p>Year 3</p> | <p>Mechanical systems Levers & linkages</p> <ul style="list-style-type: none"> • Understand and use lever and linkage mechanisms. • Distinguish between fixed and loose pivots. | <p>Food Healthy and varied diet</p> <ul style="list-style-type: none"> • Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught. • Know how to use appropriate equipment and utensils to prepare and combine food. <p>Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of <i>The eatwell plate</i>.</p> | <p>Electrical systems Simple circuits</p> <ul style="list-style-type: none"> • Understand and use electrical systems in their products, • Apply their understanding of computing to program and control their products. (Crumble) |
| <p>Year 4</p> | <p>Textiles 2-D shape to 3-d product</p> <ul style="list-style-type: none"> • Know how to strengthen, stiffen and reinforce existing fabrics. • Understand how to securely join two pieces of fabric together. • Understand the need for patterns and seam allowances. | <p>Mechanical systems Pneumatics</p> <ul style="list-style-type: none"> • Understand and use pneumatic mechanisms | <p>Structures Shell structures</p> <ul style="list-style-type: none"> • Develop and use knowledge of how to construct strong, stiff shell structures. • Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes. |
| <p>Year 5</p> | <p>Food Celebrating culture & seasonality</p> <ul style="list-style-type: none"> • Know how to use utensils and equipment including heat sources to prepare and cook food. • Understand about seasonality in relation to food products and the source of different food products | <p>Mechanical systems Cams</p> <ul style="list-style-type: none"> • Understand that mechanical systems have an input, process and an output. • Understand how cams can be used to produce different types of movement and change the direction of movement. | <p>Electrical systems More complex switches & circuits</p> <ul style="list-style-type: none"> • Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers. • Apply their understanding of computing to program, monitor and control their products. (Crumble) |

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| Year 6 | <p>Structures</p> <p>Frame structures</p> <ul style="list-style-type: none"> • Understand how to strengthen, stiffen and reinforce 3-D frameworks. | <p>Using CAD in textiles</p> <ul style="list-style-type: none"> • A 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics. | <p>Textiles</p> <p>Combining different fabric shapes</p> <ul style="list-style-type: none"> • A 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics. • Fabrics can be strengthened, stiffened and reinforced where appropriate. |
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Throughout the process of design, make and evaluate in each unit, pupils also will work on objectives at each stage encompassing:

- Generate, develop, model and communicate their ideas as appropriate through talking, drawing, templates, mock-ups and information and communication technology.
- Select from and use a range of materials, tools and equipment to perform practical tasks.
- Evaluate their ideas throughout and their final products against original design criteria.
- Know and use technical vocabulary relevant to the project.