

# Y1

**Autumn Term – Mechanisms**  
**Focus: Sliders and levers**  
 \*Design, make and evaluate a moving picture.  
 \*Select and use tools, explaining their choices to cut, shape and join paper and card.  
 \*Explore and use sliders and levers and understand different mechanisms produce different types of movement.

**Spring Term – Structures**  
**Focus: Freestanding structures**  
 \*Design, make and evaluate a structure that stands on its own foundation or base.  
 \*Select new and reclaimed materials and construction kits to build their structures.  
 \*Know how to make freestanding structures stronger, stiffer and more stable.

**Summer Term – Food**  
**Focus: Preparing fruit and vegetables**  
 \*Design, make and evaluate a fruit or vegetable snack.  
 \*Use simple utensils and equipment to peel, cut, slice, squeeze, grate and chop safely.  
 \*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 including how fruit and vegetables are part of "The eatwell plate".

# Y2

**Autumn Term – Mechanisms**  
**Focus: Wheels and axels**  
 \*Design, make and evaluate a wheeled product.  
 \*Use a range of tools and equipment to cut and join in order to allow movement.  
 \*Use a range of materials such as paper, card, plastic and wood.  
 \*Use wheels, axel and axel holders and distinguish between fixed and freely moving axels.

**Spring Term – Food**  
**Focus: Preparing fruit and vegetables**  
 \*Design, make and evaluate a fruit or vegetable snack.  
 \*Use simple utensils and equipment to peel, cut, slice, squeeze, grate and chop safely.  
 \*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 including how fruit and vegetables are part of "The eatwell plate".

**Summer Term – Textiles**  
**Focus: Templates and joining techniques**  
 \*Design, make and evaluate a textile product.  
 \*Use a range of tools to perform marking out, cutting, joining and finishing.  
 \*Understand how simple 3-D textile products are made, using a template to create 2 identical shapes.  
 \*Understand how to join fabrics using different simple techniques e.g. running stitch, glue, over stitch, stapling.

**Autumn Term – Mechanical Systems**  
**Focus: Levers and linkages**  
 \*Design, make and evaluate a moving picture.  
 \*Select from and use appropriate tools with some accuracy to cut, shape and join paper and card.  
 \*Understand and use lever and linkage mechanisms.  
 \*Distinguish between fixed and loose pivots.

**Spring Term – Food**  
**Focus: Healthy and varied diet**  
 \*Design, make and evaluate a bread based product with a filling (without a heat source).  
 \*Know how to use appropriate equipment and utensils to prepare and combine food.  
 \*Use techniques such as chopping, peeling, grating, slicing, mixing, spreading.  
 \*Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught.

**Summer Term – Textiles**  
**Focus: 2-D shape to 3-D product**  
 \*Design, make and evaluate a textile product.  
 \*Select and use a range of appropriate tools with some accuracy e.g. cutting, joining and finishing.  
 \*Know how to strengthen, stiffen and reinforce existing fabrics.  
 \*Understand how to securely join two pieces of fabric together and the need for patterns and seam allowances.

# Y3

**Autumn Term – Food**  
**Focus: Healthy and varied diet**  
 \*Design, make and evaluate a simple dish using a heat source – bread/blini/soup.  
 \*Know how to use appropriate equipment and utensils to prepare and combine food.  
 \*Use techniques such as chopping, peeling, grating, slicing, mixing, spreading, kneading, baking.  
 \*Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught.

**Spring Term – Electrical Systems**  
**Focus: Simple circuits and switches**  
 \*Design, make and evaluate a product with a light or buzzer.  
 \*Select from and use construction materials and electrical components.  
 \*Understand and use electrical systems in their products – series circuits incorporating switches, bulbs and buzzers.  
 \*Program and control their products.

**Summer Term – Structures**  
**Focus: Shell structures**  
 \*Design, make and evaluate packaging (with or without CAD).  
 \*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.

# Y4

**Autumn Term – Structures**  
**Focus: Frame structures**  
 \*Design, make and evaluate a small scale frame structure.  
 \*Accurately measure, mark out, cut, shape and join construction materials (including straws and pieces of wood) to make frameworks.  
 \*Understand how to strengthen, stiffen and reinforce 3-D frameworks (including triangulation).

**Spring Term – Food**  
**Focus: Celebrating culture and seasonality**  
 \*Design, make and evaluate a savoury yeast based snack – e.g. pizza, savoury biscuits, scones, savoury muffins.  
 \*Use utensils and equipment including heat sources to prepare and cook food.  
 \*Use techniques such as mixing, rubbing in, kneading, baking.  
 \*Understand about seasonality in relation to food products and the source of different food products.

**Summer Term – Electrical Systems**  
**Focus: Using more complex switches and circuits**  
 \*Design, make and evaluate an electrical product to work automatically (with computer control).  
 \*Assemble materials and securely connect electrical components to produce a reliable, functional product.  
 \*Understand and use electrical systems in their products.  
 \*Apply their understanding of computing to program, monitor and control their products.

# Y5

**Autumn Term – Textiles**  
**Focus: Combining different fabric shapes (including computer aided design)**  
 \*Design, make and evaluate a textile product using CAD to create patterns.  
 \*Know that a 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics.  
 \*Develop skills of sewing textiles using a range of stitches and making seams.  
 \*Know that fabrics can be strengthened, stiffened and reinforced where appropriate.

**Spring Term – Mechanical Systems**  
**Focus: Pulleys, gears or cams**  
 \*Design, make and evaluate a product with moving parts.  
 \*Develop measuring, marking, cutting, shaping and joining skills using junior hacksaws, G-clamps, bench hooks, square section wood, card triangles and hand drills.  
 \*Understand how cams can be used to produce different types of movement and change direction of movement.  
 \*Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement.

**Summer Term – Food**  
**Focus: Celebrating culture and seasonality**  
 \*Design, make and evaluate a savoury yeast based snack – e.g. pizza, savoury biscuits, scones, savoury muffins.  
 \*Use utensils and equipment including heat sources to prepare and cook food.  
 \*Use techniques such as mixing, rubbing in, kneading, baking.  
 \*Understand about seasonality in relation to food products and the source of different food products.

# Y6

# Purpose of Study

Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

# Design and Technology

