



Design Technology

Key Stage 3 (Years 7 to 9)

In Years 7 to 9, students rotate through the areas of Design Technology during the year, completing one project in each. Groups take the rotations in different orders, so no terms are shown.

Rotation	Project	What students learn
Year 7		
Engineering	Acrylic key fob	Understanding plastics and manufacturing processes: designing to constraints, using coping saws and files, CAD with 2D Design and laser cutting, the impact of CAD/CAM in industry, finishing, assembly and evaluation.
Product Design	Wooden mobile phone holder	The full design process from research to evaluation: hardwoods and softwoods, product analysis, design ideas, modelling and testing, cutting, shaping, dowel joints, assembly and finishing, and isometric drawing.
Graphics	Design communication	Drawing skills through one-point and two-point perspective, from shapes and lettering to rooms and interiors, and an introduction to typography, ending with a hand-drawn and digital feature word.
Textiles	Fabric gift bag	Designing and hand-sewing a drawstring gift bag: fabric properties, running and back stitch, construction and an appliqué decoration.
Food and Nutrition	Welcome to food; fruit salad; pasta salad; cheese straws	Food room routines, hygiene and safety; healthy eating, nutrients and the Eatwell Guide; knife skills (bridge, claw and pinch), safe hob use and the rubbing-in method through practical dishes.
Year 8		
Engineering	Metal tealight holder	Ferrous and non-ferrous metals; designing, card modelling and marking out; cutting, filing, bending and finishing aluminium safely (including COSHH).
Product Design	Design-movement clock	Designing a clock inspired by Art Deco, Bauhaus or Memphis: brief and specification, card modelling, CAD with 2D Design, laser cutting, assembly, finishing and evaluation.
Graphics	Branding project	Creating a business and brand identity: logo design, the psychology of colour, composition, poster design and loyalty cards.
Design Challenge	Inclusive playground design	Designing and modelling a playground ride that children with a range of needs and disabilities can enjoy: inclusive design, product analysis, specification, mechanisms and card prototypes.
Food and Nutrition	Pizza; cookies; savoury pastry; the grain chain	Carbohydrates, food hygiene and safety; the food science of ingredients; designing and making a pizza, a batch of cookies with packaging, and a shortcrust pastry product; where flour comes from (longer rotations).
Year 9		
Engineering	Electronic lightbox	Combining timber, acrylic and electronics: circuit theory and safe soldering, CAD/CAM and CNC manufacture, marking out, pillar drill and machine processes, assembly and fault-finding.

Rotation	Project	What students learn
Product Design	Wooden desktop game	Product analysis, motion and mechanisms, iterative design development, isometric drawing, a cutting list and production plan, then manufacture, quality control, testing and evaluation.
Design Challenge	Packaging with a second life	The environmental impact of single-use packaging; researching users and products; writing a brief and specification; developing ideas through feedback and iteration; making a scaled packaging prototype.
Food and Nutrition	Packaging and labelling; eggs; muffins; soda bread; quiche	Food packaging and labelling law; the versatility of eggs; food science including raising agents, coagulation and shortening; designing and independently making savoury muffins, soda bread and a quiche.