

KS3 Design & Technology – Curriculum rationale 2025 2026

Year 7 Design & Technology 2025 2026		
Carousel 1 (Product Design)	Carousel 2 (Engineering)	Carousel 3 (Food and Nutrition)
Project: Chocolate mould	Project: Novelty light	Projects: Preparing products from the food groups... Apple Crumble, Fruit smoothie, Pizza, Fajitas and cupcakes.
Project focus... -Plastics: Source, examples and applications	Project focus... -Electronic components: Types and applications -Circuit basics -LEDs vs filament lamps	Project focus... -What is a balanced diet? -An introduction to the Eatwell guide. -Getting to know the food room -Personal hygiene -How to clean correctly -Exploring the Eatwell guide -The importance of vitamins
Additional topics... -Plastic processes: Vacuum forming -Packaging design and nets	Additional topics... -Plastic processes: Press forming and strip heating -Plastic categories: Thermoplastics and thermosetting plastics	Additional Topics... -The seasons, climate change and their impact on food sources -Exploring nutrients -Weighing and food preparation -Cross curricular, using products from other DT lessons (cookie cutter)
General vocabulary -Source/extraction -Crude oil -Chemical processing -Polymer -Vacuum forming -Former -Draft angle	General vocabulary -Circuit -Components -Filament lamp -Light Emitting Diode -Computer Aided Design (CAD) -Computer Aided Manufacture (CAM) -Press forming -Strip heating	General vocabulary -Seasons -Rubbing in method -Vitamins -Hygiene -Safety -Dairy -Blending -Flavour -Function
Material, component and ingredient vocabulary -Former: Pine -Plastic mould: HIPs (High Impact Polystyrene) -Packaging: Card	Material, component and ingredient vocabulary -Diffuser: Acrylic -Circuit: PCB (Printed Circuit Board), LED Light Emitting Diode, resistor, battery snap, self-tapping screws. -Cover: Expanded PVC -Base: Plywood, machine screws, nuts, acrylic spacers.	Material, component and ingredient vocabulary -apple -flour -butter -banana -yogurt -dough -passata -Chicken -peppers -seasoning -wrap
Tools, equipment and machinery vocabulary -Former: Bench vice, flat file, template -Plastic mould: Vacuum former, profile cutter -Chocolate moulding: Bain marie, glass bowl, saucepan, wooden spoon	Tools, equipment and machinery vocabulary -Diffuser: 2D Design, laser cutter, strip heater, bending jig -Cover: Press forming, press forming jig, profile cutting, drilling, drilling jig, glass paper, sanding board -Circuit: PCB drill, safety glasses, screwdriver, side cutters -Base: Template, coping saw, bench vice, disc sander, cordless drill,	Tools, equipment and machinery vocabulary -Cooker -Hob -Main oven
Health and Safety: Basic workshop safety Profile cutter, Pillar drill and disc sander		Health & Safety: Getting to know the food room and hazard spotting and preventing.
Keywords: -Personal Protective Equipment (PPE) -Apron -Safety goggles -Visor/ face shield -Machine guard -Safety zone -Hazard -Precaution -Signs and symbols		Keywords: -Apron -handwashing -Hair tied back -Hot water -Washing up liquid -Drying

Year 8 Design & Technology 2025 2026

Carousel 1 (Product Design)	Carousel 3 (Engineering)	Carousel 4 (Food and Nutrition)
Project: USB LED light	Project: Electric race car	Projects: Exploring the benefits of each food group through preparing Banana Bread, Cheesecake, pasta bake, burgers and jam tarts.
Project focus... -Woods and wood processes -Sources of timber -Softwoods, hardwoods and manufactured boards	Project focus... -Motion and mechanisms -Types of motion -Application of mechanisms	Project focus... -What is the function of food? -Exploring the benefits of each food group. -Sauce making -Chilling foods to set -Cooking meat products thoroughly
Additional topics... -Circuit design -2D Computer Aided Design -CAM – Laser cutting	Additional topics... -Exploring the factors which effect vehicle performance -Plastic processes: Recycling plastics and injection moulding	Additional Topics... -Different functions of foods in the body -Cross curricular, using products from other DT lessons (chocolate mould)
General vocabulary -Forest, felling -Softwood: pine, spruce, larch -Hardwood: oak, beech, mahogany -Manufactured board: plywood, MDF	General vocabulary -Mechanism (Gear, cam, pulley, chain and sprocket) -Motion (Rotary, linear, reciprocating, oscillating) -Aerodynamics -Streamlined -Drag -Friction -Air resistance -Car chassis and body shell	General vocabulary -Fat -Protein -Starchy Carbohydrates -Sugary -Slow release -Dairy -Fruits -Food poisoning -Roux -bechamel sauce -Combine -Consistency
Material, component and ingredient vocabulary Circuit components: Power LED, resistor, PCB (Printed Circuit Board), USB lead, self-tapping screws Lamp frame: Plywood top, pine base, dowel supports Lampshade: Paper	Material, component and ingredient vocabulary Circuit components: Electric motor, battery snap, battery holder and copper tape. Mechanism: plastic pulleys, drive belt, aluminium axles and spacers Shell components: Medium Density Fibreboard, High Impact Polystyrene, thick card, vinyl Chassis: MDF (Medium Density Fibreboard) Wheel material: Polypropylene, neoprene tyres	Material, component and ingredient vocabulary -meat -milk -cheese -cream -sugar - flour -banana -tomatoes
Tools, equipment and machinery vocabulary - Circuit: PCB drill, safety glasses, screwdriver, side cutters - Top layer: 2D Design, laser cutter - Base layer: Pine, template, marking out, drilling, pillar drill, clamp, coping saw, bench vice - Shade: Laser printer, scissors, glue	Tools, equipment and machinery vocabulary - Circuit: craft knife, screwdriver, spanner, wire strippers - Chassis assembly: side cutters, screwdriver, flat file - Wheels: Granulator, shredder, injection moulder, side cutters, wet and dry paper - Shell: former, vacuum former, profile cutter, sanding board, cordless drill, scissors, glue gun, vinyl cutter	Tools, equipment and machinery vocabulary -oven proof dish -wooden spoon -pallet knife - fridge -electric whisk -cooker -hob -blender
Health and Safety: Workshop safety refresher Specific machine safety (Hazard identification) Keywords: -Types of PPE -Hazard identification -Precautions -Specific machine safety		Health & Safety: Food hygiene -4 C;s (cooking, chilling, cleaning and cross contamination) -Hand washing -cleaning equipment -Avoiding the danger zone

Year 9 Design & Technology 2025 2026

Carousel 1 (Product Design)	Carousel 2 (Engineering)	Carousel 3 (Food and Nutrition)
Project: Design styles clock	Project: Pewter casting	Projects: Preparing nutritional meals including pizza bombs, chicken Stir-Fry, Swiss roll, sweet potato curry and spaghetti carbonara.
Project focus... -History of design: -Design timeline, movements and product examples	Project focus... -Metals and metal processes -Sources, categories and applications	Project focus... -The nutritional value of food -The health benefits of a balanced diet. -The role of nutrients in our bodies. -dairy alternatives -function of carbohydrates on our bodies
Additional topics... -Polymer processes	Additional topics... -Metal processes: Casting processes	Additional topics: -Finishing techniques -Food risks -Allergies -Consuming too much or not enough in diets. -kneading
General vocabulary -Design movement -Arts and crafts/Art Nouveau: Nature, organic -Art Deco: Egyptian art, symmetry, sunburst, stepped -Streamlining: transport, aerodynamic, streamlined -Modernism/Memphis: Abstract, aesthetic -CAD (Computer Aided Design) -CAM (Computer Aided Manufacture)	General vocabulary -Mining -Ferrous (Iron, steel) -Non-Ferrous (Aluminium, copper, gold, tin) -Alloys (Stainless steel, brass)	General vocabulary -Macro and micro nutrients -complex proteins -Pescatarians -vegetarians -vegans -saturated and unsaturated
Material, component and ingredient vocabulary Former: MDF (Medium Density Fibreboard), thick card Clock shell: HIPs (High Impact Polystyrene), vinyl, clock mechanism, washer, spacer, fixing nut	Material, component and ingredient vocabulary Product: Pewter, alloy Mould: MDF (Medium, Density Fibreboard)	Material, component and ingredient vocabulary -flour -potatoes -golden syrup -sugar -oats -dried fruits -chicken -noodles -peppers -soy sauce
Tools, equipment and machinery vocabulary Former production: 2D Design, laser cutting, marking out, cutting card, gluing Forming casing: Vacuum forming, profile cutting, sanding, drilling, cordless drill, vinyl cutter	Tools, equipment and machinery vocabulary Product moulding: 2D Design, laser cutting, casting, ladle, crucible, brazing hearth, machine vice Product finishing: Junior hacksaw, flat file, wet and dry paper, needle files, cordless drill, steel wool, metal polish, buffing wheel, key-ring	Tools, equipment and machinery vocabulary -Cooker -oven -hob -baking tray -greaseproof paper -wok -saucepan
Health and Safety: Planning for safe working Risk assessments		Health and safety: -Knowing the difference between cooking at home, in the food room and a catering industry. -cutting skills -Hazard identification
Keywords: -Risk assessment -Hazard identification -Likelihood -Severity -Control measure		