Design Technology

Curriculum & Rubric Map Overview
2025-2026
Year 7

The table below details the skills and knowledge students will be covering each rotation/project in Design Technology.

Time frames for when students will complete their Interim and Masters Assessments have also been given. Both assessments will aim to assess the knowledge and skills a student has covered up to that point in their education, this also includes the curriculum covered in the previous year/s.

	Textiles	Structures	Resistant Materials	Food
Knowledge and skills that will be covered during this rotation/project.	***Food Themed Novelty Torch (Electronics)*** **Design** • Explore the work of textile artist Lucy Sparrow, focusing on soft sculpture and visual storytelling. • Use ACCESSFM to evaluate existing novelty soft products (function, materials, aesthetics). • Develop creativity by designing within a theme (e.g. fruit, sweets, fast food). • Create moodboards to explore and generate ideas before sketching. • Write a simple design brief and product specification using key criteria (e.g. safety, user, function). • Communicate ideas using: – Annotated design sketches. – Pencil crayon rendering to show texture and materials. – Initial pattern making and material choices. **Make** • Identify and use basic hand sewing equipment correctly and safely. • Learn and apply the following construction and decoration techniques: – Appliqué (felt shapes and layering). – Embroidery stitches (e.g. running, backstitch, blanket stitch). – Simple pattern making for 2D to 3D construction. • Construct and integrate a circuit using a squeezing LED torch kit. **Technical Knowledge** • Introduction to fibres and fabrics (natural and synthetic fibres) • How fabrics are constructed (woven, knitted, bonded).	***Taught in RM*** **Design** • Investigate and analyse examples of real-world towers and bridges (e.g. suspension, beam, truss, arch). • Build technical knowledge through hand sketching and 3D modelling. • Introduce students to basic CAD software (Tinkercad) to digitally model their structural designs before making. • Understand how to design for function, stability, and efficiency. • Develop and communicate ideas through: – Annotated sketches. – CAD models showing dimensions and features. • Peer feedback and design iteration. **Make** • Use accessible modelling materials (paper, card, straws, wooden sticks, masking tape) • Apply construction techniques including: • Strengthening with folds, layers, and braces. • Triangulation to increase rigidity. • Collaborate in teams to build a freestanding structure (e.g. tower or bridge) based on their CAD model and design brief. **Technical Knowledge** • Understand the key forces acting on structures: – Compression – Tension – Bending – Shear – Torsion • Apply triangulation and load-distribution techniques. • Learn the principles of 3D modelling: • Advantages of CAD in design, testing, and prototyping. • Translating digital designs into physical outcomes. • Introduction to engineering concepts: – Centre of gravity. – Structural failure and reinforcement. – Materials behaviour under load.	***Key Tag (Polymers)*** **Design** • Explore existing key tag designs: function, form, personalisation, and user needs. • Develop a creative and functional key tag design based on geometrical shapes. • Create annotated sketches and card templates to communicate design ideas. • Consider how material properties influence design choices (e.g. colour, transparency, durability). **Make** • Complete workshop Health & Safety induction and demonstrate understanding of risk assessments and safe working practice. • Accurately measure and mark out onto acrylic using hand tools and templates. • Use tools and equipment safely and independently, including: – Hand tools: steel rule, coping saw, hand files. – Machine tools: pillar drill, buffing machine. – Finishing techniques: wet and dry paper, polishers, buffing wheels. **Technical Knowledge** • Introduction to polymers and plastics: – Difference between thermoplastics and thermosetting plastics. – Key properties of acrylic (PMMA): durable, rigid, transparent, machinable. – Material use in industry: signage, key fobs, decorative products. • Understand marking out techniques, datum points and tolerances. • Introduction to the design for manufacture concept (e.g. why materials are chosen based on form + function). • Environmental awareness: Impact of plastic waste and alternatives.	**Theory** • Explore healthy eating advice • Develop understanding of key food groups and nutrients. • Improve confidence in applying healthy eating guidelines to personal context. • Begin to explore where our food comes from. • Explore primary and secondary processing in a range of food groups outlined in the Eatwell Guide. • Enable students to understand the importance of cooking in a safe and hygienic environment. • Understand the basic storage, preparation and cooking of a range of foods. • Begin to understand the importance of exercise as part of a healthy lifestyle. • Begin to consider portion size and energy balance. **Making** • Develop resilience when demonstrating practical skills. To see any failure as part of a learning process and build upon this to get better. • Work safely with high risk food, equipment and with their peers. • Develop competence in a wide range of skills, techniques and methods. • Begin the process of working independently when reusing taught skills in a different context**.** • Cook mainly savoury dishes that are based on healthy eating guidelines. • Learn how to set up using the 4 Cs for food preparation. • Modelling will be used through spot demonstrations to prepare students for cooking.

	• Understanding batch production in manufacturing. • Batch Production, develop teamworking and problem-solving skills through collaborative tasks. • Understand what E-Textiles are and how they are used in industry **Evaluate** • Evaluate the success of the final product against the original brief and specification. Consider how well the outcome meets the intended purpose, target audience, and key design criteria. • Peer-assess the functionality, creativity, and effectiveness of others' outcomes. Provide constructive feedback and reflect on similarities and differences in approach. • Reflect throughout the project, not just at the end, by regularly evaluating progress. This includes: – Identifying what is working well. – Noticing any mismatches between your ideas and outcomes. – Adjusting your approach as needed. • Problem-solving is embedded in the process: – Tackle unexpected issues in design or making (e.g., material limitations, time constraints, or technical challenges). – Record how problems were identified and resolved, including alternative solutions considered. • Reflect on personal development, including: – Skills learned – Challenges overcome – Areas for improvement – Next steps in design and making	**Evaluate** • Evaluate the success of the final product against the original brief and specification. Consider how well the outcome meets the intended purpose, target audience, and key design criteria. • Peer-assess the functionality, creativity, and effectiveness of others' outcomes. Provide constructive feedback and reflect on similarities and differences in approach. • Reflect throughout the project, not just at the end, by regularly evaluating progress. This includes: – Identifying what is working well. – Noticing any mismatches between your ideas and outcomes. – Adjusting your approach as needed. • Problem-solving is embedded in the process: – Tackle unexpected issues in design or making (e.g., material limitations, time constraints, or technical challenges). – Record how problems were identified and resolved, including alternative solutions considered. • Reflect on personal development, including: – Skills learned – Challenges overcome – Areas for improvement – Next steps in design and making	Recycling codes and responsible use of plastics. **Evaluate** • Evaluate the success of the final product against the original brief and specification. Consider how well the outcome meets the intended purpose, target audience, and key design criteria. • Peer-assess the functionality, creativity, and effectiveness of others' outcomes. Provide constructive feedback and reflect on similarities and differences in approach. • Reflect throughout the project, not just at the end, by regularly evaluating progress. This includes: – Identifying what is working well. – Noticing any mismatches between your ideas and outcomes. – Adjusting your approach as needed. • Problem-solving is embedded in the process: – Tackle unexpected issues in design or making (e.g., material limitations, time constraints, or technical challenges). – Record how problems were identified and resolved, including alternative solutions considered. • Reflect on personal development, including: – Skills learned – Challenges overcome – Areas for improvement – Next steps in design and making	• Practical sessions will consist of: – potato salad, fruit crumble, breakfast muffins, pasta sauce, cheese straws.
Assessments	Final assessment of completed project. Iterative test at end of project.	Final assessment of completed project. Iterative test at end of project.	Final assessment of completed project. Iterative test at end of project.	Final Iterative test in making and theory.

Design Technology

Curriculum & Rubric Map Overview
2025-2026
Year 8

The table below details the skills and knowledge students will be covering each rotation/project in Design Technology.

Time frames for when students will complete their Interim and Masters Assessments have also been given. Both assessments will aim to assess the knowledge and skills a student has covered up to that point in their education, this also includes the curriculum covered in the previous year/s.

	Textiles	Resistant Materials	Food
Knowledge and skills that will be covered during this half term.	***Animal Themed Cushion*** **Design** • Analysing existing products with an emphasis on functionality and aesthetic appeal. • Exploring animal symbolism in different cultures to inform design decisions. • Developing moodboards around an animal theme (texture, pattern, colour). • Creating and refining design ideas using detailed annotated sketches. **Make** • Independent and safe operation of a sewing machine. • Independent and safe operation of a heat press. • Introduction to tie-dye techniques • Appliqué with Bondaweb to reduce fraying. • Hand embroidery for texture/detail. • Heat Transfer Vinyl. **Technical Knowledge** • What is a seam? Understanding seam allowance and how to pin/stitch accurately. • Sustainability in textiles: • Fast fashion and the impact of textiles on the environment. • How can we be sustainable (the 6 R's, upcycling fashion, de-influencing fashion trends) • Fabric origins and ethical sourcing.	***Desk tidy (Timbers)*** **Design** • Respond to a design brief: Create a functional and aesthetically pleasing desk tidy for a specific user (e.g. student, artist, gamer). • Use isometric drawing and rendering to visualise and develop ideas with clarity. • Produce accurate CAD drawings using 2D Design for the acrylic phone stand: • Understand 2D CAD drawing. • Apply dimensions, layers, and file formats for laser cutting. • Explore layout and ergonomics to plan stationary compartments, phone slot, and overall design. **Make** • Complete workshop Health & Safety refresher and demonstrate understanding of risk assessments and safe working practice. • Create a card model prototype to test size, fit, and user interaction before final manufacturing. • Measure, mark, cut, and join timber (pine, plywood) to form the desk tidy base. • Hand tools: tenon saw, bench hook, coping saw. • Machine tools: scroll saw, belt sander, pillar drill. • Manufacture the acrylic phone stand using the laser cutter. • Assemble components using wood glue and screws. **Technical Knowledge** • Properties and working characteristics of hardwoods, softwoods, and manufactured boards. • Properties of acrylic (PMMA) and its use in laser cutting and product design. • Understanding material selection based on: – Function – Aesthetic	**Theory** • Build upon knowledge from Year 7 and develop skills in adapting dishes to meet healthy eating guidelines. • Introduction to nutrition including source and function and identification of where certain nutrients can be found in the foods that they eat and cook. Students will be able to apply this to their own life stage (adolescence) • Awareness of where food comes from and the impact certain decisions have on economy, environment and health. • Continue to be reminded of the need for correct portion sizes for a wide range of groups. • Reminders of importance of cooking in a safe and hygienic environment. • To understand the basic storage, preparation and cooking of a range of foods. **Make** • Make predominately main meals using high risk foods. • Apply the information learned in food safety lessons to ensure the food is stored, prepared and cooked safely. • Students will be challenged in higher level skills including bread making, sauces, the setting of eggs, vegetable preparation and cooking methods. • Practical skills will consist of Bolognese/chilli, macaroni cheese with an all-in-one sauce, pizza making with a bread base, vegetable frittata and Dutch apple cakes. • Apply and practice skills with confidence whilst demonstrating hygiene and safety measures. • Discuss with confidence why the dishes meet healthy eating guidelines and nutrition and how they could be adapted further.

	Evaluate • Evaluate the success of the final product against the original brief and specification. Consider how well the outcome meets the intended purpose, target audience, and key design criteria. • Peer-assess the functionality, creativity, and effectiveness of others' outcomes. Provide constructive feedback and reflect on similarities and differences in approach. • Reflect throughout the project, not just at the end, by regularly evaluating progress. This includes: – Identifying what is working well. – Noticing any mismatches between your ideas and outcomes. – Adjusting your approach as needed. • Problem-solving is embedded in the process: – Tackle unexpected issues in design or making (e.g., material limitations, time constraints, or technical challenges). – Record how problems were identified and resolved, including alternative solutions considered. • Reflect on personal development, including: – Skills learned – Challenges overcome – Areas for improvement – Next steps in design and making	– Durability – Sustainability – Use of CAD/CAM: • Advantages in prototyping and production. • Understanding the role of design files and machine settings. • Ergonomics and anthropometrics in design. **Evaluate** • Evaluate the success of the final product against the original brief and specification. Consider how well the outcome meets the intended purpose, target audience, and key design criteria. • Peer-assess the functionality, creativity, and effectiveness of others' outcomes. Provide constructive feedback and reflect on similarities and differences in approach. • Reflect throughout the project, not just at the end, by regularly evaluating progress. This includes: – Identifying what is working well. – Noticing any mismatches between your ideas and outcomes. – Adjusting your approach as needed. • Problem-solving is embedded in the process: – Tackle unexpected issues in design or making (e.g., material limitations, time constraints, or technical challenges). – Record how problems were identified and resolved, including alternative solutions considered. • Reflect on personal development, including: – Skills learned – Challenges overcome – Areas for improvement – Next steps in design and making	
Assessments	Final assessment of completed project. Iterative test at end of project.	Final assessment of completed project. Iterative test at end of project.	Final assessment of completed project. Iterative test at end of project.

Design Technology

Curriculum & Rubric Map Overview
2025-2026
Year 9

The table below details the skills and knowledge students will be covering each rotation/project in Design Technology.

Time frames for when students will complete their Interim and Masters Assessments have also been given. Both assessments will aim to assess the knowledge and skills a student has covered up to that point in their education, this also includes the curriculum covered in the previous year/s.

	Textiles	Resistant Materials	Food
Knowledge and skills that will be covered during this half term.	***Fashion Design and Sampling - Youth Culture.*** **Design** • Exploration of subcultures Vivienne Westwood and Punk and their influence on fashion. • Designer focus: Vivienne Westwood, Katharine Hamnett (activist fashion) • Punk fashion collage (visual storytelling). • Fashion illustrations: figure templates, rendering textures, layering of garments and accessories. • Initial idea generation leading to a textile sample sketchbook and mini fashion collection plan. **Make** • A series of advanced textile samples using: – Stitch and slash technique (manipulation and deconstruction). – English quilting (texture and volume). – Photoreactive and thermochromic inks (smart materials exploration). – Casting techniques for accessories. – Batik dyeing (linked to cultural history). **Technical Knowledge** • Advanced sewing: understanding and sewing pleats, hems, stitch and slash and quilts. • Smart and modern materials: how they respond to environmental changes and their applications in industry. • Cultural context of Batik and how textiles convey stories.	***Anglepoise Lamp (Timber, Electronics and Mechanical Systems)*** **Design** • Explore the Bauhaus movement, focusing on: Form, function, simplicity, primary colours, geometric shapes. • Explore and analyse everyday mechanical products (lamps, toys, tools) to identify levers, linkages, cams, gears, and pulleys in action. • Analyse the form and functionality of classic Anglepoise and adjustable lamps. • Investigate how levers, linkages, and mechanical systems allow for movement and adjustment. • Develop ideas through: Annotated concept sketches showing creative thinking and functionality. • Design a lamp with: Functional movement and adjustable joints using mechanical systems. • A clear Bauhaus-inspired aesthetic: bold colours, clean lines, minimal decoration. • Consider user needs, proportion, stability, and ergonomics throughout the design process. **Make** • Complete workshop Health & Safety induction, demonstrating safe use of hand tools and understanding of risk assessments. • Construct the lamp frame using pine and incorporate mechanical systems into the arm and joints: • • Construct the lamp structure using: Marking out tools: try square, steel ruler, pencil. • Cutting tools: tenon saw, coping saw. • Shaping/finishing tools: rasps, sanding blocks. • Create adjustable joints using bolts, wing nuts, and washers for pivot points on the stem and lamp head. • Construct lamp head, decorated in acrylic Bauhaus colour schemes. • Safe handling and basic circuit assembly using soldering irons, assemble a simple electronics system, including PCB, resistor, LED, wires, switch, USB lead.	**Theory** • Apply knowledge of healthy eating and nutrition to understand the needs of different life stages such as pregnant women, the elderly and children. • Explore the importance of water in the diet including deficiency and excess. • Understand the meaning of food miles and the effect of this on environment impact and planning for the future. • Analyse food marketing strategies, looking at different tactics used. Students will apply their knowledge in creating a new product that would need effective marketing. • Explore food provenance and difference farming methods including primary and secondary processing. To understand the advantages and disadvantages of different methods used. • Explore and understand some scientific principles behind the effect of heat and mechanical action on starches and sugars and to apply this primarily to pastry making. **Make** • Make largely savoury products using starchy carbohydrates. • Explore different pastry making techniques such as short crust (maids of honour), rough puff (sausage rolls), spring rolls (filo), homemade pasta technical skill and bread making. • Key skills will be centred on gluten formation, fermentation of yeast, rolling, folding and shaping, the effect of gelatinisation, caramelisation and dextrinization of baked and cooked goods. • Greater independence in following recipes, planning and demonstrating skills. They will be expected to implement safe and hygienic storage, preparation and cooking of foods (some of which are high risk) which have already been taught in years 7 and 8. • Select and use the correct equipment independently.

	• Role of fashion in political/social commentary (slogan t-shirts, protest fashion). • Intro to fashion marketing: branding, target markets. **Evaluate** • Evaluate the success of the final product against the original brief and specification. Consider how well the outcome meets the intended purpose, target audience, and key design criteria. • Peer-assess the functionality, creativity, and effectiveness of others' outcomes. Provide constructive feedback and reflect on similarities and differences in approach. • Reflect throughout the project, not just at the end, by regularly evaluating progress. This includes: – Identifying what is working well. – Noticing any mismatches between your ideas and outcomes. – Adjusting your approach as needed. • Problem-solving is embedded in the process: – Tackle unexpected issues in design or making (e.g., material limitations, time constraints, or technical challenges). – Record how problems were identified and resolved, including alternative solutions considered. • Reflect on personal development, including: – Skills learned – Challenges overcome – Areas for improvement – Next steps in design and making	**Technical Knowledge** • Understand key Bauhaus design principles • Materials knowledge and electronic symbols. • Levers and Linkages: Classes of levers (1st, 2nd, 3rd) and how the lamp arm mimics these through pivot points. • Moments: Calculate how changing pivot positions affects effort and load (moment = force × distance). • Mechanical Advantage: How the lamp's structure enables reduced effort to hold its position. • Cams: Types and how they convert rotary motion to reciprocating motion. • Gear systems: Compound gears and gear trains. • Pulleys and belts: Fixed/compound pulleys for speed or force. • Material Knowledge: Properties and uses of pine for structure and acrylic for lightweight decorative elements. **Evaluate** • Evaluate the success of the final product against the original brief and specification. Consider how well the outcome meets the intended purpose, target audience, and key design criteria. • Peer-assess the functionality, creativity, and effectiveness of others' outcomes. Provide constructive feedback and reflect on similarities and differences in approach. • Reflect throughout the project, not just at the end, by regularly evaluating progress. This includes: – Identifying what is working well. – Noticing any mismatches between your ideas and outcomes. – Adjusting your approach as needed. • Problem-solving is embedded in the process: – Tackle unexpected issues in design or making (e.g., material limitations, time constraints, or technical challenges). – Record how problems were identified and resolved, including alternative solutions considered. • Reflect on personal development, including: – Skills learned – Challenges overcome – Areas for improvement – Next steps in design and making	
Assessments	Final assessment of completed project. Iterative test at end of project.	Final assessment of completed project. Iterative test at end of project.	Final assessment of completed project. Iterative test at end of project.

Food

Curriculum & Rubric Map Overview
2025-2026
Year 10

The table below details the skills and knowledge students will be covering each half term in Food.

Time frames for when students will complete their Interim and Masters Assessments have also been given. Both assessments will aim to assess the knowledge and skills a student has covered up to that point in their education, this also includes the curriculum covered in the previous year/s.

	Half Term 1	Half Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
Knowledge and skills that will be covered during this half term.	• Introduce students to food safety, temperature control and control of food poisoning • Buying and storage of food including meat, fish and vegetables. • General recap on healthy eating and the eatwell plate including how much we should eat and what to consider when planning balanced meals. • Special diets – what are special diet related to food? Difference between intolerance and allergy. • Costing of food. Costing database on Share Point. Look at products that are ready made with the price. Can they be made cheaper? **Practical** • Homemade pasta with sauces including lasagne and ravioli. • Curry with flatbreads • Gingerbread • Black Forest Gateaux • Yule Log	• Costing of food – . Costing database on Share Point. Look at products that are ready made with the price. Can they be made cheaper? • Nutrients – function, source, deficiency and excess. • Use of FFSSS to adapt dishes to make them fit healthy eating guidelines. Why should we increase fruit and veg and fibre and decrease saturated fat, sugar and salt? • Use of the nutritional analysis programme to compare the nutritional value of recipes. Apply knowledge with an unseen recipe and compare data to traffic light labelling. • Explore the reasons why is food cooked. **Practical** • Homemade butter and scones • Victoria sandwich cake with homemade jam • Quiche – blind baking • Lemon Meringue Pie • Meat Pie with lattice top • Jalousie	• What is the effect of dry and moist heat on carbohydrates? • What are the functions of ingredients used in pastry making? • What are the chemical and functional properties of fats in cooking? • Plasticity of fats and shortening. • What is enzymic browning and how can it be prevented? **Practical** • Fish Pie/shepherd's Pie • Cheesecake with biscuit base • Chicken Ballotine • Chicken sweet and sour • Chicken goujons	• What are the chemical and functional properties of protein? • Detailed exploration of eggs chemical and functional properties. Link to emulsification, denaturation and coagulation. • Fish cookery linked to dry and moist methods of cooking, sustainability and food security. • Meat processing and cooking. • Wheat – primary and secondary processing and gluten development. • Cheese, yogurt and milk production. **Practical** • Independent skills cookery • Cheesemaking • Choux pastry • Meringues • Vegetable Gratin	• Raising agents – Explore biological, chemical and mechanical raising agents – Explore the different types and how heat, liquids, time, pH and food affect the reaction. – Look at ideal conditions and chemical reactions. • Look at how heat is transferred in different materials such as metal, air, liquids and waves. – Explore the terms 'conductors' and 'insulators' and the role of both in cooking. – Explore ideal conditions for heat transfer. • Cooking methods – Students explore the differences between moist, dry and oil based cooking methods. – Look at the effects of heat on taste, texture appearance and nutritional value. • Introduce students to different methods of production such as intensive farming, organic, free range, GMO, locally sourced, seasonal. • Explore what measures can be put in place to ensure that food is not wasted. **Practical** • Bread making with enriched doughs • Soups • Chicken Katsu curry • Batters/pancakes • Cooking for Rotary Chef	• Practice NEA 2 – Afternoon Tea. – Skills needed such as use of the nutritional programme, effective methods of primary and secondary researching, evaluation writing. Use of sensory testing and fair testing. Food photography. **Practical** • Independent skills practicals
Assessments	Mini assessment on nutrition.	AP1 test – theory and practical assessments.	Scientific experiment testing – practice NEA1	Iterative AP2 test – theory and practical assessments	Iterative mid -term testing	Final master test- theory and practical

Food

Curriculum & Rubric Map Overview
2025-2026
Year 11

The table below details the skills and knowledge students will be covering each half term in Food.

Time frames for when students will complete their Interim and Masters Assessments have also been given. Both assessments will aim to assess the knowledge and skills a student has covered up to that point in their education, this also includes the curriculum covered in the previous year/s.

	Half Term 1	Half Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
Knowledge and skills that will be covered during this half term.	**Introduce NEA1.** Skills based lessons (Iterative in nature) to ensure students are prepared to start independent work on NEA1 (30% of total NEA work). Pupils complete independent written and practical investigations based on a brief set by AQA. Homework will be based on practice GCSE questions.	**Complete and hand in NEA1.** Skills based lessons (Iterative in nature) to ensure students are prepared to start independent work on NEA2 (70% of total NEA work). Pupils complete independent written and practical assessments based on a brief set by AQA. Homework will be based on practice GCSE questions.	Pupils complete independent written and practical assessments based on a brief set by AQA. Homework will be based on practice GCSE questions.	Pupils complete independent written and practical assessments based on a brief set by AQA including a 3-hour practical exam where students are required to independently make 3 dishes showcasing high level skills. **NEA 2 work is submitted by Easter.** Homework will be based on practice GCSE questions.	Iterative lessons focussing on revision for final GCSE exams. Homework will be based on practice GCSE questions.	Iterative lessons focussing on revision for final GCSE exams. Homework will be based on practice GCSE questions.
Assessments	**NEA1 submitted and assessed**		**Year 11 PPE exam**	**NEA2 Submitted and assessed**		