

D&T KS3	Term 1a	Term 1b	Term 2a	Term 2b	Term 3a	Term 3b
Y7 Discover Students discover the importance of: H&S in the workshop; typography and presentation in graphic projects; selecting materials based on their properties (papers & boards, polymers and timbers). They are introduced to: product analysis and specifications using ACCESS FM; current CAD software (Adobe Illustrator & Photoshop) & CAM processes (laser cutter; and working with a range of hand tools & equipment.	Paper & boards: Graphics – Typography - Business Card Design a business card focusing on typography and illustration Homework: Research Google Doodles	Paper & boards: Graphics - Pop-up Card/Calendar using paper engineering Design & make project focusing on graphics, mechanisms and assembly skill Homework: Research Pop-up card/calendar ideas/themes and reference images	Polymers: Acrylic earphone wrap/phone cable protector design Design & make project selecting and using card modelling & testing Homework: Create own Customer Profile (inspiration images of things they like) User-Centre Design to generate creative ideas and avoid stereotypical responses DATA DROP	Polymers: Acrylic earphone wrap artwork and blister packaging Introduction to Adobe Illustrator and laser cutting process (CAD/CAM), the purpose of packaging and vac forming process. Homework: Research common polymers (thermoforming and thermosetting)	Timbers: wooden Block Bot Design & make a 'Block Bot' wooden robot. Measuring, marking out and use hand tools. Introduction to working with close tolerances, quality control and H&S in a workshop. Homework: Research common types of timbers (hard/softwood)	Timbers: wooden Block Bot Complete Block Bot, evaluate against the orthographic drawing to check tolerances. Extension: personalise and design packaging using Adobe Illustrator Homework: Research common properties of pine & stock forms DATA DROP
Y8 Develop Students develop their understanding of the design process and the importance of being able to communicate their design ideas with a focus on freehand drawing and sketching skills using a range of 2D & 3D techniques, 3D modelling skills using physical materials (card) and virtual CAD (TinkerCAD). They learn about mechanisms and develop their knowledge of CAM (3D printing) and rapid prototyping.	2D & 3D Sketching Skills Lego themed drawing skills: 3D sketching, orthographic, isometric, perspective and exploded. Homework: Lego product inspiration. Isometric & perspective drawing practice	3D modelling (physical and virtual) Use of orthographic drawing to make physical card model in teams and introduction to 3D CAD software (TinkerCAD) to create own Lego themed promotional gift (USB/Key ring) to be 3D printed. Homework: How 3D printing benefits society DATA DROP	Mechanical systems - gear trains, pulleys and drive mechanisms Use of forms of movement: linear & rotary, gear trains, pulleys and drive mechanisms, levers, cams & followers to collaborate in designing and making card based automata. Homework: Revise for mechanisms assessment	Automata Applying knowledge of types of motion, cams and followers to design and make a moving toy/automata with at least 3 cams using foamcore & card modelling skills Homework: Knowledge Retrieval Booklet	Sketch2Sail Boat Building Design Challenge Learning about boat hull designs, the design process and developing orthographic drawing skills to design a boat for the Norfolk Coast in partnership with Neil Thompson Boats. Homework: Knowledge Retrieval Booklet DATA DROP	Sketch2Sail Boat Building Design Challenge Learning about renewable sources of energy to power a model boat. Boat building challenge using Balsa/Styrofoam to race in the school pool powered by Lego renewable energy kits. Homework: Knowledge Retrieval Booklet
Y9 Apply Students apply their knowledge of the design process and the importance of sustainability to design and make a recycled textiles product with a focus of gaining knowledge of types of textiles and their properties, e-textiles and production techniques. They then apply all the knowledge and skills they have developed during KS3 and apply them to an NEA style project in response to their own design brief and produce prototypes using a choice of materials, tools and processes.	E-Textiles: LED Ugly Doll/Monster toy using recycled materials Designing and making. Hand-stitching/machine sewing, identifying fabrics. Use of button/zip as a switch for LED Homework: Research ugly doll mood board ideas & 6Rs of sustainability DATA DROP	E-Textiles: LED Ugly Doll/Monster toy using recycled materials Designing and making. Hand-stitching/machine sewing, identifying fabrics. Use of zip as a switch for LED Homework: Research environmental issues in textile industry & Junker Jane designer	Mock NEA/Product in a Tin: Investigate context: Children's Learning & Play Context analysis, market research (primary & secondary) analyse existing products, site visit & customer profile Homework: Research Eco friendly, sustainable fair-trade toys	Product in a Tin: Design & Develop ideas Apply 2D & 3D drawing skills to communicate design ideas. Write a design specification and create orthographic and isometric drawing of final product idea. Homework: Research Eco friendly toy manufacturers DATA DROP	Product in a Tin: Realise ideas Make 3D physical and virtual models, test ideas, write a manufacturing plan, parts list and making diary to record making process Evaluate and design packaging Test final product, evaluate against design specification and suggest modifications. Investigate production costs, methods of mass production and environmental impact of their product. Extension: Design & make packaging Homework: Knowledge Retrieval Booklet	ERGONOMICS/ANTHROPOMETRICS PROJECT: TO DESIGN & MAKE PROTOTYPE PIZZA CUTTER /TABLE TENNIS BAT HANDLE Biomimicry to generate creative ideas and avoid stereotypical responses Homework: Knowledge Retrieval Booklet

AO1 –DESIGNER SKILLS	AO2 - MAKING	AO3 - DESIGNING	AO4 – RESEARCH & APPRAISING
Demonstrate skills required to become a successful designer	Make prototypes that are fit for purpose to address needs and wants	Draw and communicate creative design solutions to meet a design brief	Identify, investigate and evaluate designs, materials and processes and make critical judgements about design decisions

D&T KS4	Term 1a	Term 1b	Term 2a	Term 2b	Term 3a	Term 3b
Assessment Focus	AO1 AO4	AO2 AO4	AO1 AO4	AO2 AO4	AO1 AO2	AO3 AO4
Y10 AQA GCSE EXAM THEORY Covering theory for exam (50%) through a range of practical tasks in each materials area	Sustainability & the environment (Unit 1); Energy, electrical systems & devices (Unit 2); Recycled lighting project (e.g. design and make Jellyfish Lamp) Electronics & soldering Homework: Knowledge Retrieval Booklet	Materials and their working properties: Papers & Boards (unit 3 & 5 Specialist area): Drawing skills using various papers, silk screen printing & book binding to create paper samples book Bookbinding skills DATA DROP Homework: Knowledge Retrieval Booklet	Materials and their working properties: Polymers & Textiles (unit 3) Polymers: 3D printing laser cutting, line bending to create acrylic novelty glasses Textiles: experiment with weaving, knitting and free machine embroidery Homework: Knowledge Retrieval Booklet	Materials and their working properties: Timbers (unit 3); Making Principles (Unit 7): Make a Sweet Dispenser using an orthographic technical drawing with a focus on quality control and working to close tolerances Woodworking Skills DATA DROP Homework: Knowledge Retrieval Booklet	Materials and their working properties: Metals (unit 3); Design principles and the work of others (Unit 6): Design & make a pewter keyring/pendant based on work of others: Alberto Alessi Mould making Homework: Knowledge Retrieval Booklet	New and emerging technologies and developments in new materials (Unit 1); Common specialist technical principles (Unit 4): Experiment with smart materials (e.g. polymorph and thermochromic inks) Make ergonomic pencil grip using polymorph Mock Exam & Work experience DATA DROP Homework: Knowledge Retrieval Booklet
Assessment Focus	AO1 AO3	AO2 AO3	AO2 AO3	AO3 AO4	AO4	
Y11 AQA GCSE COURSEWORK Complete NEA project (50%) based on AQA contextual challenge	AO1 Section A (10 marks): Identifying & investigating design possibilities; AO1 Section B (10 marks): producing a design brief & specification Research and analyse contextual challenge, identify target market, existing product analysis, write own design brief and specification. Homework: research products DATA DROP	AO2: Section C (20 marks): Generate initial design ideas; AO2: Section D (20 marks): Developing design ideas: Communicate initial ideas using a variety of 2D & 3D methods, develop and test ideas using models, draw final idea and write manufacturing specification. Wave 1: Mock Exam DATA DROP Homework: revise topics for mock exam	AO2: Section E (20 marks): Realising design ideas (making) Make prototypes, test, evaluate and modify. Make final product based on modifications Homework: revise topics for exam using Seneca Learning & GCSE Pod	AO3: Section F (20 marks): Analysing & evaluating Wave 2: Mock Exam DATA DROP NEA Submission May 5th Exam preparation: Recap theory and set exam questions and revision for homework. Homework: revise topics for exam using Seneca Learning & GCSE Pod	Exam preparation: Recap theory and set exam questions and revision for homework. Exam 22nd May Homework: revise topics for exam using Seneca Learning & GCSE Pod	Study Leave

AO1	AO2	AO3	AO4
Identify, investigate and outline design possibilities to address needs and wants	Design and make prototypes that are fit for purpose	Analyse and evaluate: design decisions and outcomes, including for prototypes made by themselves and others; wider issues in design and technology	Demonstrate and apply knowledge and understanding of: technical principles; designing and making principles