

Key Stage 3 Curriculum Journey:									
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 range of contexts, considering their own and others' needs, wants and values. D&T will develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world. Learners will build and apply their knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users. They will critique, evaluate and test their ideas and products and the work of others.									
		D&T KS3 C	URRICULUM JOURNEY						
	YEAR 7 (six month rotation)	YEAR 8 (six month 1st rotation)	YEAR 8 (six month 2nd rotation)	YEAR 9 (ten week rotation)	YEAR 9 (ten week rotation)				
Topic and learning focus	This project introduces learners to metals. Pupils learn to design and make a metal bug using hand tools and pillar drill. Pupils are introduced to the design cycle and they research the Arts & Crafts movement, before producing oblique views of their designs.	This unit is in place for those groups which did not do it in Year 7 due to the rotation. This project introduces metals. Pupils design and make a metal bug using hand tools and pillar drill. Pupils are introduced to the design cycle and research Arts & Crafts movement, before producing oblique views of their designs.	This project builds on learners' design skills by focusing on decorative surface pattern textiles and microelectronics using a switch and LED. It also builds upon learners' practical workshop skills using MDF and dowels.	This project deepens learning in D&T by being a problem solving unit. It also introduces learners to more complex mechanisms such as the use of cams and an oscillating follower. Pupils plan a full scale and model their ideas before making a MDF model	This unit extends learners' communication-drawing skills by using more sophisticated technical drawing skills and equipment.				
	Metal Bugs	Metal Bugs	Retro Lamp	Mechanical Toy	Design Communication				
Foundational Knowledge Prior learning needed	 Know about the theory of metals, stoke forms and properties use technical drawing to communicate in 3D use a pencil, and ruler for measuring, right angles and straight lines understand how to make basic judgements about their own productions 		 understand 2D lay plan design and communication annotate sketches including sentence structures and justification use tools to cut, saw and file materials 	 understand the iterative design process, the need to reflect, evaluate and change where necessary use of hand tools, pillar drill, belt facer and vices Plan workshop time effectively 	 apply pencil and ruler skills to measure and draw accurately understand scale, proportion and ratios use technical drawing to communicate in 3D isometric make judgements about the effectiveness of their work 				



Core Knowledge and skills	 (For many student this is the first time they will have handled any tools - students will work in mild steel as it is a harder material and more forgiving or small errors) know how to cut straight lines with a rigid saw and file straight lines with flat files or half round as needed produce oblique drawings to accurately communicate intention know how to make simple evaluations in response to their own work so that production work can be improved know about the Arts and Crafts movement 	 understand the iterative design process, the need to reflect, evaluate and change where necessary understand that design is ever evolving and be able to give clear examples make straightforward evaluations in response to their own work so that production work can be improved 	 (Most students will come across mechanical advantage for the first time and need to understand its applications) understand how and when to use mechanical advantage tools create finishes using mechanical advantage tools make considered evaluations of own work in order to practice and improve 	 apply sketching and drawing skills to communicate their design ideas know how to accurately lay out drawings of work in different styles evaluate the different stages of the design communication process
Developmental Knowledge and Skills	 make external curves, either cut with a hacksaw or using the nibbler and filed appropriately research conventions of the Arts and Crafts movement know how to make considered evaluations of production pieces and the work of others 	 understand the importance of planning in design when there are many processes going on at once create own USB LED light by soldering components to a circuit identify problems when testing make detailed evaluations in response to their own work so that production work can be improved 	 develop skills in the workshop and are demonstrate this by working successfully with soft material which is easy to mark (MDF) evaluate the function of the product and its safety 	 apply skills to present technical drawings using drawing boards and an isometric style - this is a common style used worldwide make detailed evaluations about the effectiveness and quality of their work
Complex Knowledge	 add internal curves, either cut with a hacksaw or using the nibbler and filed appropriately research influences of the Arts and Crafts movement and understand how these have become conventional evaluate how own production pieces have been affected by the contextual influence of drawing on art, artists and art styles 	 apply knowledge of materials and processes to evaluate manufacturing process and design choices apply their knowledge in exam style questions 	 cut complex curves and compound angles with a fine and flexible blade know how to square across the edges and apply a finish appropriately make detailed and thoughtful evaluations of their production work 	 construct graphically complex curves construct an exploded view showing connected centre lines and correct technical standards - ie dot dash for centre lines make considered and insightful evaluations about the effectiveness and quality of their work
Links with the National Curriculum	 Develop design specifications develop and communicate design ideas using annotated sketches and 3D modelling analyse the work of the past annotated sketches understand properties of material variety of approaches to creating ideas, (mix and match) use specialist tools, techniques and processes use materials with consideration to properties use a variety of approaches to generate creative ideas develop the creative, technical and practical expertise 	 Develop design specifications use a variety of approaches to generate ideas annotated sketches specialist tools and materials range of materials understand properties of material work of past and present evaluate against specification understand electrical systems 	 Identify and solve design problems develop ideas through 3D modelling annotated sketches analyse the work of the past specialist tools and materials range of materials use specialist tools, techniques and processes mechanical systems used in movement 	 develop and communicate design ideas using annotated sketches and 3D modelling use specialist tools, techniques and processes use materials with consideration to properties annotated sketches, detailed plans and 3D views, digital presentation and CAD tools range of materials



	 build and apply a repertoire of knowledge, understanding and skills use research and exploration, such as the study of different cultures, to identify and understand user needs test, evaluate and refine their ideas 	 apply computing and use electronics to embed intelligence in products that respond to inputs use specialist tools, techniques and processes develop the creative, technical and practical expertise build and apply a repertoire of knowledge, understanding and skills critique, evaluate and test their ideas and products and the work of others use research and exploration, such as the study of different cultures, to identify and understand user needs test, evaluate and refine their ideas 	 use a variety of approaches to generate creative ideas build and apply a repertoire of knowledge, understanding and skills critique, evaluate and test their ideas and products and the work of others test, evaluate and refine their ideas 	 identify and solve their own design problems investigate new and emerging technologies use a variety of approaches to generate creative ideas develop the creative, technical and practical expertise use specialist tools, techniques and processes
Literacy (including reading)	 Become familiar with and use subject-specific vocabulary such as ductile, malleable, toughness, hardness, Arts and Crafts Movement, steel, aluminium, brass, copper, tempered, ferrous, non-ferrous, alloy, hacksaw, vice, pillar drill, vile, abrasive, heat treatment, burr, drill bit, isometric write sentences fluently explaining their design ideas and justifying their choices read about the Arts and Crafts Movement as part of their research 	 Become familiar with and use topic-specific vocabulary such as iterative, evaluate, modelling, prototype, bonded, knitted, woven, nesting, netts, joints, dowel, tolerance, block printing, surface pattern, stencilling, vectorise, accuracy, layers, embroidery, applique, popular culture, feminism, design fixation, negative space, positive space, components, resistor, ohm's law, LED, PCB (printed circuit board), soldering, circuit, volcano, mass production, batch production, bespoke, planning Use longer and more detailed sentences which explain, describe and examine 	 Become familiar with and use topic-specific vocabulary such as leaver, cams, mechanical advantage, coping saw, belt facer, goggles, flow chart, Gantt Chart, pivot, fulcrum, isometric, control, constrain, change, motion, linear, rotary, reciprocal, oscillating, exploded, scale, ratio, diameter, radius and dimension Use longer and more detailed sentences which analysing and evaluating their own production work Read about different mechanical toys 	 Become familiar with and use topic-specific vocabulary such as drawing board, set square, axonometric, isometric, exploded, scale, ratio, diameter, radius, dimension, ellipses, parallel, CAD, extruded, rotation, revolve, cut, plane, sketch, equation, mate and joint Write detailed and extended sentences when evaluating their own design work
Cultural Capital	 Recognise the cultural value and influence of traditional craft skills appreciate the Arts and Crafts Movement as a reaction to mass production recognise the importance of D&T to the local economy 	 Appreciate the influence of feminism Recognise and appreciate the importance of youth culture on 	 Understand the influence of climate change and population displacement caused by climate and war, and how this has 	 Recognise how this topic represents a universal standard for communication in D&T



Social, Moral, Spiritual and Cultural Development	 Appreciate how D&T is often used to support local business D&T and reducing carbon footprint become more confident in using hand tools recognise the importance of and develop own creativity 	 popular culture and how this has been reflected in design Recognise and appreciate British made products recognise the impact of fast fashion on the environment, importance of recycling, up cycling, reusing Understand the rise of youth and popular culture in the 1960s and how this has affected design 	 affected design and production ideas and skills Explore how design can be targeted for a younger audience Understand the social, moral and ecological implications of climate change and war, and how this has influenced design 	 Explore how design can be targeted for a younger audience Recognise the social, moral and ecological implications of using papers and boards
Fundamental British Values	 The Rule of Law particularly in terms of workshop safety, legislation and PPE Respect for equipment, design ideas and other people's working space 	 The Rule of Law: understand health safety as a legal requirement Liberty: examine the influence of women's rights and the influence of youth culture on design and fashion 	 Respect and tolerance of people in different circumstances The Rule of Law: legislation around safety and product regulation Appreciate the importance of freedom and democracy and how this applies to political refugees 	 Rule of law: understand the influence of British Standards used in communication drawings Respect and tolerance for different cultures and religions
Assessment	Assessment Details Metals theory - self assessment Design work- initial and developed ideas - teacher assessed - rubric Final product teacher assessed rubric End of unit test- theory and processes - peer marked and recorded on department mark-sheets	Assessment Details Work is formatively assessed during the lessons by the member of staff and verbal feedback given during tasks to support individual student progress. KEY PIECES OF ASSESSMENT Lesson 3 - Mary Quant research Lesson 4 - Textiles core - Google Forms assessment Lesson 9 – Initial design ideas Lesson 18 - Testing Soldering EYE Assessment	Assessment Details Levers theory - Green pen exercise in class Exploded Drawing - final design - Mark scheme - rubric Levers and Cams assessment - Google Form - auto mark Evaluation questions - Mark scheme - Rubric End of Key stage 3 summative test	Assessment Details Exploded Drawing - final design - Mark scheme - rubric End of Key stage 3 summative test



The curric	Key Stage 4 Curriculum Journey: The curriculum in KS4 Design and Technology will develop students' ability to identify investigate and design possibilities which address the needs and wants of others. Learners will								
demonstrate	demonstrate and apply knowledge and understanding of designing, making and technical principles through the production of prototypes which are fit for purpose. They will analyse and evaluate the wider issues of design and technology as well as evaluate their own work and the work of others.								
			THE YEAR 10 CURR						
	Year 10 Topic 1	Year 10 Topic 2	Year 10 Topic 3	Year 10 Topic 4	Year 10 Topic 5	Year 10 Topic 6			
Горіс and earning focus	This mainly theory based topic builds upon the knowledge of materials gained in KS3. The topic covers all the material areas used in KS4 including the processes used to convert from raw material to stock form and the working properties of each material.	This unit looks at the opportunities to develop a business from home and to make a product that can be made at home and delivered by post for the customer to assemble. The unit introduces 2D Design and laser cutting, knock down joints using slots and tabs.	This unit introduces decorative surface pattern textiles and microelectronics using a switch and LED. It also builds upon their practical workshop skills using MDF and dowels.	This unit focuses on the application of finishes to enhance, change the appearance or properties of a material.	This project builds upon metal work skills learned at KS3. Pupils design a vase inspired by the designer Eileen Grey. Pupils will learn to scroll and bend metal and join metal using brazing technique. Students will practise working to a Design Specification and evaluating against a Specification following completion of a prototype. There is a focus on gaining independence in the workshop	This unit continues with developing skills and brings the whole design process together in a mock NEA style project. This will focus on sections B, C and D of the NEA which reflects the learning areas which students typically find the most complex and challenging.			
	Stock Forms	Flat Pack	Ketro Lamp	Rocking Spacesnip	v ase	Organic Jewellery			
Foundational Knowledge	 know about a range of timbers such as hardwoods, softwoods and manufactured boards know about a range of metals including ferrous, non-ferrous and alloys 	 know about scale of production, tessellation, and the application of materials know about the functions of 	 know how to lay out a plan of manufacture understand that there are different types of fabrics and manufactured boards 	 know about 2D design CAD package learned in Flat Pack understand heat processes; know their names and explain how they can be used to create permanent joints 	 application of skills from Bugs in Year 7 including marking out, cutting, filing, shaping and bending drawing skills from Design communication section of 	 Synthesis of skills from the previous four units; application of both making and drawing skills 			



	 know about a range of textiles including natural fibres, synthetic fibres, blended and mixed fibres, non-woven fibres and knitted textiles 	mechanical devices to produce linear, rotary, reciprocating and oscillating movements	 understand how circuits work and how resistance is calculated by the use of ohm's law (link to the science curriculum) 	 know about a range of timbers such as hardwoods, softwoods and manufactured boards know about a range of metals including ferrous, non-ferrous and alloys 	 mechanical toy - isometric drawings and exploded views know about a range of timbers such as hardwoods, softwoods and manufactured boards know about a range of metals including ferrous, non-ferrous and alloys know about a range of polymers including thermoplastic and thermosets 	
Core Knowledge and skills	 know and understand physical properties such as absorbency, density, fusibility and electrical and thermal conductivity recognise developments made through the invention of new or improved processes e.g. graphene, metal foams and titanium know about alterations to perform a particular function e.g. coated metals, liquid crystal displays (LCDs) and nanomaterials 	 develop skills in problem-solving using scale, tessellation and the applications of different materials understand technical principles such as forces and stresses: tension, compression, bending, torsion and shear know how materials can be reinforced, stiffened or made more flexible know about the sources and origins of materials 	 Understand the differences between scales of production or production types explain advantages and disadvantages of each present design work as a lay plan with detailed annotations to communicated their design ideas understand why materials used have been selected understand their sources and origins and stock forms understand and be able to select appropriate specialist tools, such as pillar drill, belt facer and printing methods 	 understand why a finish is applied to different materials for different uses understand how finishes and treatments can impact the working properties of materials understand that most material groups can have an applied finish and that polymers is an exception apply their prior CAD/CAM knowledge to create CAM drawings for parts as needed understand that some materials can change their working properties when heated understand and be able to apply knowledge of heat processes to create permanent joints understand how focus cab interact with an object and utilise them to create a balancing element 	 understand jigs, formers and templates and their applications know how to create their own jigs and templates to speed up manufacture and ensure repeatability understand how and be able to structure and use a flow chart and Gantt charts to plan their work flow continue to practise presenting designs in a range of methods including isometric and oblique projections application of prior materials knowledge as there are less design constraints in place leading to greater independence for students 	 creating a design specification generate design ideas use skills and techniques previously taught on new materials develop new drawing skills - 2 point perspective, and colour wash backgrounds manage own workflow

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Development al Knowledge and Skills	•	extend knowledge further and be able to apply their knowledge to understand the properties and uses of polymers and why they have become so desirable know about thermoforming and thermosetting understand the physical properties of materials related to use and knowledge applied when designing and making	•	develop their material knowledge further and be able to apply their knowledge to a practical problem evaluate their own work against the design criteria understand and be able to apply use of CAD/CAM as needed understand how to create a CAD drawing that will allow for CAM manufacture methods	•	develop and apply knowledge of electronics using inputs, outputs and processes. Apply knowledge to simple PCB boards make selections of work from other designers past and present to inform their own design work develop and present a prototype to own design with less constraints in multiple materials	•	apply knowledge of jigs/formers and templates from the Vase project which is taught concurrently understand how to apply a finish to achieve a high quality product (needed for NEA section E) present design ideas in isometric format and communicate clearly using a mixture of sketches and annotation understand and be able to name the stock forms for metals	•	use different metals in different forms depending on their working properties select metals based on their working properties and stock forms for specific manufacturing processes build on knowledge of permanent jointing methods from their soldering work on the Retro Lamp project apply knowledge of workflow management to meet interim deadlines for practical work understand industrial processes and how they are replicated in the workshop when possible develop verbal communication skills	•	know about the working characteristics of materials work to their own specification and amending as needed continuing to develop a design and make changes based on ongoing research know how to document research in a clear and informative way extend drawing skills orthographic projection
Complex Knowledge	•	evaluate complex problems like the on-going issue with disposing of plastic waste understand that composite materials are produced by combining two or more different materials to create an enhanced material e.g. glass reinforced plastic (GRP) and carbon-fibre reinforced plastic (CRP)	•	problem solve and troubleshoot own design work leading to greater levels of self- reflection (NEA practice)	•	use and apply knowledge of permanent joints used with a range of base materials - electronics, timber, metals and textiles evaluate a variety of manufacturing processes used in industry and their relevant hand craft equivalents	•	use and apply knowledge of materials and processes to evaluate manufacturing process and design choices apply maths skills to real life problems in order to calculate materials used and efficient use of sheet materials as well as overall material costs	•	use and apply knowledge of materials and processes to evaluate manufacturing process and design choices apply knowledge in exam style questions	•	analyse and evaluate own products and developments deepen skills in self-evaluation and self-reflection when applied to their design and production work
Links with the National Curriculum AQA Syllabus	•	Developments in new materials Material categories; Metals, Timbers, Polymers, Papers, Textiles Material properties Ecological and social footprint Sources and origins Stock Forms and sizes Material Management	•	Material categories; Metals, Timbers, Material properties Selection of materials Using and working with materials Specialist techniques and processes Primary and secondary data	•	Systems approach to designing Materials, Textiles Material properties Sources and origins Using and working with materials The work of others Design Strategies Communication of design ideas Prototype development	•	Material categories; Metals Material properties Selecting materials and components Using and working with materials Stock Forms, types and sizes Scales of production Specialist techniques and processes	• • • •	Material categories; Metals, Timbers, Polymers, Papers, Textiles Material properties Selecting materials Using and working with materials Communicate design ideas prototype development Selection of materials and components Tolerances	•	Material categories; Metals, Timbers, Polymers, Papers, Textiles Material properties Using and working with materials Primary and secondary data Environmental, social and economic challenge The work of others Design strategies Communicate design ideas



		 Environmental, social and economic challenge Communicate design ideas prototype development Selection of materials and components Tolerances Materials Management Specialist tools and equipment 	 Specialist tools and equipment Specialist techniques and processes 	 Specialist tools and equipment Specialist techniques and processes Tolerances Materials Management Specialist tools and equipment 	 Specialist tools and equipment Specialist techniques and processes Surface treatment and finishes 	 prototype development Selection of materials and components Specialist tools and equipment Specialist techniques and processes Surface treatment and finishes
Literacy (including reading)	 malleable, ductile, plastic, hardness, toughness, conductive, thermal, electrical, density, fusibility, absorbency, thermos-chromic, photochromic, stimulus, external, internal, strength, fabric, fibre, timber, metal, alloy, solution, smart, modern, sustainable 	 Computer Aided Design, Computer Aided Manufacturing, 2D Design, Temporary joints, slots, tabs, pegs, Medium Density Fibreboard, Plywood, Laminate, chipboard, Vectorise, laser cutter, dimensions, nesting, tessellation, Just In Time, crowdfunding, virtual marketplaces, stock forms, flat pack, Fret, rigid, scale, templates 	 Iterative, evaluate, modelling, prototype, bonded, knitted, woven, nesting, netts, joints, dowel, tolerance, block printing, surface pattern, stencilling, vectorise, accuracy, layers, embroidery, applique, popular culture, feminism, design fixation, negative space, positive space, components, resistor, ohm's law, LED, PCB (printed circuit board), soldering, circuit, volcano, mass production, batch production, bespoke, plannine. 	 tap and die, shaping, forming, finishes, aesthetic, functional, properties, hardness, thread, drunken thread, brittle, mild, malleable ductile, toughness, solution, sustainable, mitre, braze, deformation, cutting, tolerance, accuracy, wastage, additive, wax, dip-coating, grain, protection, balance, counter, weight, depth, power and speed 	 malleable, ductile, plastic, hardness, toughness, conductive, thermal, electrical, density, metal, alloy, solution, sustainable, mitre, braze, commercial, turning, lathe, milling, pressing, spinning, deformations, jig, template, former, capillary, filler, reactivity series, catalyst, electrolysis, ion, wastage, additive, 	 deformation, biomimicry, organic, reading writing application of technical vocabulary from all 5 previous units structuring written work for clarity
Cultural Capital	 understand the of value of global resources, particularly the impact of fossil fuels on the environment 	appreciate the significance of CAD skills and CAM skills on design	 start of popular culture and the current popular cultures recognise the contribution of mass production of fashion in the 1960s. 	 recognise the science links, where science is used to demonstrate forces and balance 	appreciate the change in design post WW1 - from 1800s to early 1900s	 recognise the importance of organic forms appreciate the influence of nature and artists and designers whose work is inspired by organic forms such as fabeque

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Social, Moral, Spiritual and Cultural Development Fundamental	 the impact of polymers and single use products on the environment and the moral choices we all have to improve our environmental impact LAW - workshop safety, 	 deeper understanding of designing for others and taking into account the needs and wants of other people Tolerance - values, 	 recognise the value of the Art movement, Pop Art - Mary Quant impact of fast fashion on the environment, importance of recycling, up cycling, reusing the changes in popular culture in the 1990 - 2020 Art - Graffiti - Fashion and collaborative design RESPECT - respect of 	 understand the importance of working in a team as they prepare their materials in small groups LAW - Workshop safety, 	 understand the impacts of mining and the responsibility of the designer to use recycled materials understand how large global events can change the aesthetics of design and the principles design is based on in response RESPECT - respect of 	 understand the impacts of mining and the responsibility of the designer to use recycled or sustainable materials Tolerance - values, ideas,
British Values	legislation and PPE	ideas, challenging stereotyping	equipment and other peoples space	legislation and PPE	equipment and other peoples space	challenging stereotyping
Assessment	Assessment Details design assessment on the plastics problem (Rubric- based on NEA section C), 2 x 6 mark exam style question on paper straws - 1 scaffolded in class and 1 independent as HWK	Assessment Details; Timbers core (multiple choice) CAD task using 2D Design Processes - How is MDF made? Exam style (6 marks) independent as HWK	Assessment Details; Work is formatively assessed during the lessons by the member of staff and verbal feedback given during tasks to support individual student progress. KEY PIECES OF ASSESSMENT Lesson 3 - Popular culture research (Section A NEA/Section C Exam) Lesson 4 - Scales and types of production (Google Forms) Lesson 9 – Initial design ideas Lesson 18 - Testing Soldering EYE Assessment	Assessment Details; CAD/CAM - Rubric Screenshot of sketch and the final 2D image. Student is able to explain the process QC - Tick list and WWW/EBI stages - Tap and die - Checking the brazing is square - - Checking the countersink and bar are straight Finishes theory (Google forms) Written assessment will be Section A style with some longer answer questions. HW/Self marking Functionality/Testing This will be in the form of a checklist to do a visual and functional test, self-assessment and peer checked.	Assessment Details; Theory 1 paper - Section A style with some longer answer questions Brazing Assessment - Rubric Evaluation - Rubric based on NEA section F mark scheme Theory Assessment 2 - materials and their working properties - Section B style longer answer questions.	Assessment Details; FORMAL ASSESSMENT POINTS Section B C & D using NEA mark scheme Deformation processes Theory Assessment



The curriculun	Key Stage 4 Curriculum n in KS4 Design and Technology will develop students' ability to identify, investigate	Journey: and design possibilities which address the needs and wants of others. Learners will
demonstrate a	nd apply knowledge and understanding of designing, making and technical principle and evaluate the wider issues of design and technology as well a	es through the production of prototypes which are fit for purpose. They will analyse is evaluate their own work and the work of others.
	THE YEAR 11 CURRICULUM JOURNEY	
	DESIGN THINKING	SIC QUANTUME FRIDE VALUE AND
Topic and	Pupils identify a context and a need to solve in their design and make NEA	
learning focus	NEA	Theory
Foundational Knowledge Prior learning needed	 Use a range of communication skills to convey ideas 2D, 3D, modelling and CAD CAM know how to undertake primary and secondary research 	 Understand material categories - metals, timbers, polymers, papers, textiles recognise material properties know how to use and work with a range of materials know about the difference between primary and secondary data recognise environmental, social and economic challenges recognise the influence from the work of others know about different design strategies apply skills in communicating design ideas know how to design and make a prototype development select materials and components appropriate to the context of the design apply the use of specialist techniques and processes appropriate to the context of the design apply the use of specialist techniques and processes appropriate to the context of the design
Core Knowledge and skills	 identify and investigate design possibilities know how to produce a design brief and specification apply knowledge in how to generate design ideas demonstrate how to developing design ideas synthesising knowledge in order to demonstrate the realising of design ideas manage own workflow in the workshops to be time efficient 	 identify a range of industrial and commercial processes and be able to identify the key stages and their applications identify and naming the 6 Rs identify key designers and their most iconic works name and discuss two famous design brands name two or more design strategies identify and complete drawings in isometric, 2 pints perspective and orthographic projections understand and apply the terms anthropometric, ergonomic, specification analyse the suitability of a product for a specific user group or target audience

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Development	 know about and apply understanding of the different working characteristics of materials assemble different types of products and materials 	 implement 3 or more design strategies solve a range of maths problems using ratios, tessellations, area and volume calculations
al Knowledge	 develop a design and make changes based on ongoing research 	identify command words in exam questions and tailor response to suit
and Skills	 apply the skill of documenting research in a clear and informative way 	
Complex	 analysing and evaluate own work in order to make improvements 	 evaluate material choices based on their relative properties
Knowledge	 use and apply knowledge of materials and processes to evaluate manufacturing process and 	create a design for other users based on identified user needs including inclusive design elements
	design choices	extrapolate data from tables
Links with the	Material categories	
National	Material properties	
Curriculum	Surface treatment and finishes	
	Specialist techniques and processes	
AQA Syllabus	Primary and secondary data Environmental social and economic shallonge	
	Environmental, social and economic chanenge The work of others	
	Design strategies	
	Communicate design ideas	
	prototype development	
	 Selection of materials and components 	
	Tolerances	
	Materials Management	
	Specialist tools and equipment	
	Specialist techniques and processes	
	Surface treatment and finishes	
Literacy	Reading research material and case studies	
(including	 Develop writing skills in explaining ideas and evaluating products and processes 	
(including)	Use of technical vocabulary from Year 10	
reading/	Create a range of questionnaires and undertake surveys	
Cultural	Recognise and appreciate the influence of the work of others, past and present, and how these	 recognise the value of inclusive decign and designing for others
	have shaped the design and production process	appreciate the importance of sustainability as a cultural value
Capital	 Recognise the importance of product life cycle and how this shapes our cultural attitudes and 	• understand the impact of increased technological gains and how this contributes to our culture
	behaviours	through design and commodity
Social, Moral,	 appreciate changes in fashion and trends in relation to new and emergent technologies 	 inclusive design/designing for others - understanding he difference between equality and equity in
Spiritual and	 respect for people of different faiths and beliefs, and how these are reflected in design and 	design
Cultural	production	 sustainability, the role of the designer and the consumer in influencing sustainable choices and
	 consider design for those who are disabled, the elderly and for a range of different religious 	practises
Development	groups with specific needs	• impact of increased technological gains on the work force and work place - how will increased
	 appreciate the impact that new products have on the environment 	robotics impact the job market - is this the moral choice
	 recognise that the design cycle reflects the value of continuous improvement, efficient working, pollution and global worming. 	
Eundomontol	LAW - Workshop safety, legislation and PPF	RESPECT - respect for other peoples ideas and contributions: respect for intellectual property
	RESPECT - respect of equipment and other peoples space	Tolerance - values, ideas and challenging stereotyping
British Values		



		Law - legislation in the workplace Democracy - equality - the role of the designer in making products accessible to all and in promoting equality
Assessment	Assessment criteria: Identifying and investigating design possibilities Producing a design brief and specification Generating design ideas Developing design ideas Realising design ideas Analysing and evaluating design ideas Each piece is assessed individually and then added together to create one mark for the whole unit, worth 50% of the final grade	Assessment criteria: Mini tests at end of topic Exam style questions - taken from past papers where possible Nov mock exam Feb mock Exam