

CURRICULUM OVERVIEW

SUBJECT: Design & Technology

	AUTUMN 1		AUTUMN 2		SPRING 1		SPRING 2		SUMMER 1		SUMMER 2	
	CONTENT	SKILLS	CONTENT	SKILLS	CONTENT	SKILLS	CONTENT	SKILLS	CONTENT	SKILLS	CONTENT	SKILLS
YEAR 11	NEA ITERATIVE DESIGN CHALLENGE (3 lessons /5 per 2 weeks)	Explore Create – Design thinking Design Communication	NEA ITERATIVE DESIGN CHALLENGE (3 lessons /5 per 2 weeks)	Create – Design communication Create – Final prototype	NEA ITERATIVE DESIGN CHALLENGE (3 lessons /5 per 2 weeks)	Create – Final prototype Evaluate	EXAM PREPARATION (3 Lessons / 5 per 2 weeks)	Revision Exam technique Dependant on mock results	EXAM PREPARATION (3 Lessons / 5 per 2 weeks)	Revision Exam technique Dependant on mock results		
	<i>Technical principles</i> (2 lessons / 5 per 2 weeks)	Introducing controlled movement to products: Motion Forces Using mechanical devices to change the direction of motion – cams, gears. Explaining the effect of forces of movement: <i>Load</i> <i>Effort</i> <i>Fulcrum</i> Providing functionality to products with: Sensors Switches LED,s Programmable components	<i>Technical principles</i> (2 lessons / 5 per 2 weeks) MOCK EXAMINATION SECTION A - CORE SECTION B – IN DEPTH	Consider how the cost and availability of materials can affect the viability of a design. Calculate the quantities, cost and sizes of materials required to design a product.	(2 Lessons / 5 per 2 weeks)	CORE CONTENT (SECTION A) (2 Lessons / 5 per 2 weeks) IN DEPTH KNOWLEDGE (SECTION B) MOCK EXAMINATION SECTION A - CORE SECTION B – IN DEPTH	CORE CONTENT (SECTION A) (2 Lessons / 5 per 2 weeks) IN DEPTH KNOWLEDGE					

YEAR 10	CREATE Design Thinking & Communication	Freehand sketching 3D sketching – Isometric drawing; Orthographic drawing Exploded drawings Mathematical Modelling Flow charts Annotation Rendering <i>Individual chocolate box</i> MSA	EXPLORE Identifying requirements	Exploring contexts Identifying primary users and wider stakeholder requirements Identify opportunities and constraints that influence design (SCME) Analysing anthropometric data Ergonomic considerations <i>Phone holder</i>	EXPLORE & EVALUATE Learning from existing products and practice	Critiquing existing designs & products Disassembly Analysing trends and styles Life cycle assessment Investing the impact of the environment <i>Acrylic Clock in the style of a design era.</i> MSA	EXPLORE Implications of wider issues	Exploring the wider impacts of new and emerging technologies when developing design solutions. Analysing and selecting appropriate sources of renewable and no renewable sources of energy. <i>Textile product???</i> MOCK EXAMINATION SECTION A TECHNICAL PRINCIPLES	TECHNICAL PRINCIPLES Material considerations	Recognising and understanding that products are made from multiple materials: Papers & boards Timbers Metals Polymers Textiles & fabrics Key / Bag Charms MSA		
YEAR 9	CREATE Design Thinking & Communication	Freehand sketching 3D sketching – Isometric drawing; Orthographic drawing Exploded drawings	EXPLORE Identifying requirements	Exploring contexts Identifying primary users and wider stakeholder requirements Identify opportunities and constraints	EXPLORE & EVALUATE Learning from existing products and practice	Critiquing existing designs & products Disassembly Analysing trends and styles Life cycle assessment	EXPLORE Implications of wider issues	Exploring the wider impacts of new and emerging technologies when developing design solutions.	TECHNICAL PRINCIPLES Material considerations	Recognising and understanding that products are made from multiple materials: Papers & boards Timbers Metals	TECHNICAL PRINCIPLES Material considerations SUMMER EXAM SECTION A	Awareness of developments in: Modern & smart materials Composite materials Technical textiles

		Mathematical Modelling Flow charts Annotation Rendering		that influence design (SCME) Analysing anthropometric data Ergonomic considerations		Investing the impact of the environment		Analysing and selecting appropriate sources of renewable and no renewable sources of energy.		Polymers Textiles & fabrics	CORE / TECHNICAL PRINCIPLES	
		Individual <i>chocolate box</i>		Phone Holder		Acrylic Clock <i>in the style of a design era.</i>		Textile <i>product???</i>		Key / Bag Charms		Pocket rocket key ring torch
		MSA		MSA		MSA		MSA		MSA		MSA
YEAR 8	EXPLORE & EVALUATE <i>Pop up card</i>	Freehand sketching 3D sketching – Isometric drawing; Orthographic drawing Annotation Rendering	CREATE Final Prototype <i>Money, money, money</i>	Safety & risk assessment in the workshop. Use of hand tools. <i>woodworking vice, tenon saw, coping saw, hegner saw, files, abrasive paper, measuring and marking out (pencil, steel rule, engineers square, compass Finishing techniques</i>	EXPLORE & EVALUATE DESIGN THINKING & COMMUNICATIO N CREATE Final Prototype <i>Times Gone By</i>	Orthographic drawings Manufacturing specifications Using 2D design to develop ideas Preparing the laser cutter	Diet & Health	Food skills and health & safety	Diet & Health	Food and nutrition	Diet & Health	Food and nutrition

YEAR 7	<div>CREATE</div> <div>Design Thinking & Communication</div> <div>Pop Up Card</div>	Freehand sketching 3D sketching – Isometric drawing; Orthographic drawing Annotation Rendering	<div>CREATE</div> <div>Design Thinking</div> <div>Final Prototype</div> <div>Fruity Fobs</div>	Use of CAD tools to develop and model ideas CAM – preparing files for laser cutting	<div>EXPLORE & CREATE</div> <div>Eco – Design</div> <div>Ugly Dolls</div>	Upcycling The six ‘R’s (recycle, reuse, rethink, repair, reduce and refuse), designing, planning, selecting and using tools, equipment, processes, safe working, presentation. Hand stitching Embellishing	Food & Cooking	understanding of ingredients	Food & Cooking	food skills and health and safety	Food & Cooking	healthy eating
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