

	Autumn 1								Autumn 2							Spring 1						Spring 2						Summer 1						Summer 2					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
11	NEA – Substantial Design and Make Task. 1) Identifying and investigating design possibilities. 2) Producing a design brief and specification. 3) Generating design ideas.								NEA – Substantial Design and Make Task. 1) Generating design ideas. 2) Developing design ideas.							NEA – Substantial Design and Make Task. 1) Realising design ideas. (UPDATED: Students will not carry out practical tasks, but shall instead document in their folio how they would have gone about realising a final product.)						NEA – Substantial Design and Make Task. EXAM PREPARATION 1) Realising design ideas. 2) Analysing and evaluating.						EXAM PREPARATION											
10	THEORY - Timber based materials - Metal based materials - Polymers PRACTICAL - Focussed practical task – four • (AO4) Demonstrate and apply knowledge and understanding of: - Working with timber based materials - Working with metal based materials and fixings - Working with polymer based materials and fixings - Sources, origins and properties. - Commercial manufacturing, surface treatments and finishes Skills covered (Assessment Objectives) - Identifying, investigating and outlining design possibilities to address needs and wants (AO1) - Designing and making prototypes that are fit for purpose (AO2) - Analysing and evaluating design decisions and outcomes. (AO3)								THEORY - Polymers - Textile based materials - Electronic systems PRACTICAL - Focussed practical task – five • (AO4) Demonstrate and apply knowledge and understanding of: - Working with polymer based materials and fixings - Sources, origins and properties. - Commercial manufacturing, surface treatments and finishes - Working with electronic components - Selection of materials and components - Commercial manufacturing and quality control. - Personal response to design task Skills covered (Assessment Objectives) - Identifying, investigating and outlining design possibilities to address needs and wants (AO1) - Designing and making prototypes that are fit for purpose (AO2) - Analysing and evaluating design decisions and outcomes. (AO3)							THEORY - Designing principles - Making Principles PRACTICAL - Focussed practical task – six • (AO4) Demonstrate and apply knowledge and understanding of: - Investigation, primary and secondary data. - The work of others - Design Strategies - Communication of design ideas and prototype development - Selection of materials / components - Material management / marking out - Specialist tools, equipment - Surface treatments and finishes - Personal response to design task Skills covered (Assessment Objectives) - Identifying, investigating and outlining design possibilities to address needs and wants (AO1) - Designing and making prototypes that are fit for purpose (AO2) - Analysing and evaluating design decisions and outcomes. (AO3)																							
9	THEORY - New and emerging technologies - Energy, materials, systems and devices PRACTICAL - Focussed practical task – one • (AO4) Demonstrate and apply knowledge and understanding of: - Industry and enterprise. - Sustainability and the environment. - Production techniques and systems. - Informing design decisions.								THEORY - Energy, materials, systems and devices - Materials and their working properties PRACTICAL - Focussed practical task – two • (AO4) Demonstrate and apply knowledge and understanding of: - Energy generation and storage. - Modern and smart materials - Composite materials.							THEORY - Common specialist technical principles - Papers and boards PRACTICAL - Focussed practical task – three • (AO4) Demonstrate and apply knowledge and understanding of: - Forces and stresses on materials. - Improving functionality. - Ecological and social footprint.																							



	<ul style="list-style-type: none"> - Energy generation and storage. - Modern and smart materials - Composite materials. - Electronic systems. - Mechanical devices <p>Skills covered (Assessment Objectives)</p> <ul style="list-style-type: none"> - Identifying, investigating and outlining design possibilities to address needs and wants (AO1) - Designing and making prototypes that are fit for purpose (AO2) - Analysing and evaluating design decisions and outcomes. (AO3) 	<ul style="list-style-type: none"> - Electronic systems. - Mechanical devices - Papers and boards. - Natural and manufactured timbers - Metals and alloys - Polymers Skills covered (Assessment Objectives) - Identifying, investigating and outlining design possibilities to address needs and wants (AO1) - Designing and making prototypes that are fit for purpose (AO2) - Analysing and evaluating design decisions and outcomes. (AO3) 	<ul style="list-style-type: none"> - The six R's - Scale of production. - Working with papers and boards - Sources and origins - Commercial manufacturing, surface treatments and finishes. <p>Skills covered (Assessment Objectives)</p> <ul style="list-style-type: none"> - Identifying, investigating and outlining design possibilities to address needs and wants (AO1) - Designing and making prototypes that are fit for purpose (AO2) - Analysing and evaluating design decisions and outcomes (AO3) 	
LOWER SCHOOL – 19 WEEK ROTATION				
8	<p>PRACTICAL - ACRYLIC KEYFOB</p> <ul style="list-style-type: none"> • Product analysis • Writing a specification • Generating design ideas • Evaluating against design specification • Marking out • Cutting and shaping Acrylic • Surface finishing Acrylic • Evaluating outcome • 	<p>PRACTICAL - PLASTIC MEMORY KEYFOB</p> <ul style="list-style-type: none"> • Exploring thermo and thermosetting plastics • Positive relief in Acrylic theory • Positive relief in Acrylic practical 	<p>PRACTICAL - RECYCLING PLASTICS - KEYFOB FROM BOTTLE TOPS</p> <ul style="list-style-type: none"> • Exploring issues surrounding plastic pollution • The 6 R's of sustainability • Moulding plastics - injection moulding, rotational moulding, etc • Heat press plastic recycling 	<p>PRACTICAL - FORMING PLASTICS</p> <ul style="list-style-type: none"> • Exploring products that have been vacuum formed. (Reverse engineering a yoghurt pot). • Strength in structures - differences between frame and shell structures. • Exploring the vacuum forming process - theory and practical. Students manufacture an item using the vacuum forming machine / vacuum forming trimming machine.
7	<p>PRACTICAL - ACRYLIC KEYFOB</p> <ul style="list-style-type: none"> • Product analysis • Writing a specification • Generating design ideas • Evaluating against design specification • Marking out • Cutting and shaping Acrylic • Surface finishing Acrylic • Evaluating outcome 	<p>PRACTICAL - PLASTIC MEMORY KEYFOB</p> <ul style="list-style-type: none"> • Exploring thermo and thermosetting plastics • Positive relief in Acrylic theory • Positive relief in Acrylic practical 	<p>PRACTICAL - RECYCLING PLASTICS - KEYFOB FROM BOTTLE TOPS</p> <ul style="list-style-type: none"> • Exploring issues surrounding plastic pollution • The 6 R's of sustainability • Moulding plastics - injection moulding, rotational moulding, etc • Heat press plastic recycling 	<p>PRACTICAL - FORMING PLASTICS</p> <ul style="list-style-type: none"> • Exploring products that have been vacuum formed. (Reverse engineering a yoghurt pot). • Strength in structures - differences between frame and shell structures. • Exploring the vacuum forming process - theory and practical. Students manufacture an item using the vacuum forming machine / vacuum forming trimming machine.