

Design and Technology 3 Year Curriculum Plan

Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 7	Materials and their working properties Papers & Boards (2) Natural & Manufactured Timbers (4) Practical – Desk Tidy (0)	Materials and their working properties Polymers (3) Practical – Desk Tidy (4)	Materials and their working properties Metals & Alloys (4) Practical – Desk Tidy (3)	Designing principles Communication of Design Ideas and Prototype Development (7) Practical – Desk Tidy (0)	CAD Solidworks (7)	CAD 2D Design (3) Practical – Acrylic keyrings (4)
Year 8	Energy, materials, systems and devices. Modern Materials (8) Practical – LED Lamp (0)	Energy, materials, systems and devices. Smart Materials (3) Practical – LED Lamp (4)	Energy, materials, systems and devices. Smart Materials (4) Practical – LED Lamp (3)	Energy, materials, systems and devices. Electronic Systems processing (3) CAD 2D Design (2)	Energy, materials, systems and devices. Electronic Systems processing (4) Practical –	CAD Solidworks (4) Practical –
Year 9/ engineering / DT	Specialist technical principles Forces & Stresses on Materials & Objects (1) Six R's (6) - Now 3 Timber based materials Sources, Origins & Properties (3) Commercial manufacturing, Surface Treatments and Finishes (4)	Timber based materials Working with Timber Based Materials (11) Practical –	Metals based materials Metal Based Materials - Sources, Origins & Properties (2) Working with metal based materials and fixings (5) Practical –	Metals based materials Working with metal based materials and fixings (3) Commercial manufacturing, Surface Treatments and Finishes (5) Practical –	Polymers Polymers - Sources, Origins & Properties (5) Working with Polymer based Materials and Fixings (10)	Polymers Commercial manufacturing & Quality Control (5) Practical –?? (3)
Year 10 DT	Core Technical Principles Industry & Expertise (2) Sustainability & the Environment (6) People, culture, and Society (3)	Core Technical Principles Informing Design Decisions (5) Energy Generation (4) Energy Storage (3) Making principles	Core Technical Principles Composite materials & Technical Textiles (7) Systems Approach to Designing (4) Making principles	Core Technical Principles Mechanical Devices (6) Making principles Material Management and marking out (5)	Designing principles Investigation, Primary and Secondary Data (3) The work of others (2) Design Strategies (4) Practical – ?? (5)	NEA A01 Identify, Investigate & Outline Design Possibilities 20 Marks"

	Production Techniques & Systems (3)	Selection of Materials and Components (1) Tolerances and Allowances (1)	Specialist tools, equipment. Techniques and processes. (1) Surface treatments and finishes. (3)	Practical – ?? (3)		A: Identify, Investigate & Outline Design Possibilities (10 Marks)
Year 10 Btec Engineering						
Year 11	NEA A01 Identify, Investigate & Outline Design Possibilities 20 Marks B: Producing a Design Brief & Specification (10 Marks)	NEA A02 Design and Make Prototypes that are fit for purpose. 60 Marks C: Generating Design Ideas (20 Marks)	NEA A02 Design and Make Prototypes that are fit for purpose. 60 Marks D: Developing Design Ideas (20 Marks)	NEA A02 Design and Make Prototypes that are fit for purpose. 60 Marks E: Realising Design Ideas (20 Marks)	NEA A03 Analysing & Evaluating 20 Marks F: Analysing & Evaluating (20 Marks) MAY 7th Deadline Materials and their working properties Textiles (5) Specialist technical principles Improving Functionality (2) Ecological & Social Footprint (2) Scales of Production(2)	Exam Season – Revision of key Topics
Year 11	Btec	Btec	Btec			

Suggested reading for teachers of Design & Technology

AQA GCSE (9-1) Design & Technology 8552 - M J Ross – 2017
AQA GCSE (9-1) Design and Technology: All Material Categories and Systems - Ian Fawcett and Debbie Tranter - 2018
AQA GCSE (9-1) Design and Technology: Paper and Boards - Bryan Williams et al – 2017
AQA GCSE (9-1) Design and Technology: Timber, Metal-Based Materials and Polymers Bryan Williams et al – 2017

Skills that should be taught within and throughout the 3-year plan as appropriate/required for each topic:

During practical lessons pupils will be taught the skills to ensure that they are prepared for KS4 practical assessment. Students will work with a range of appropriate materials/components to produce prototypes that are accurate and within close tolerances. This will involve using specialist tools and equipment, which may include hand tools, machines or CAM/CNC. The prototypes will be constructed through a range of techniques, which may involve shaping, construction and assembly. The prototypes will have suitable finish with functional and aesthetic qualities, where appropriate.

Students will be assessed on:

	Autumn 1	Autumn 2
Year 7	Materials and their working properties	Materials and their working properties
	All students will know	All students will know
	Papers & Boards (2) <ul style="list-style-type: none"> Know the primary sources of materials for producing papers and boards Be able to recognise and characterise different types of papers and boards Understand how the physical and working properties of a range of paper and board products affect their performance. Natural & Manufactured Timbers (4) <ul style="list-style-type: none"> Pupils will know the primary sources of materials for producing Natural & Manufactured Timbers Be able to recognise and characterise different types of Natural & Manufactured Timbers Understand how the physical and working properties of a range of Natural & Manufactured Timbers affect their performance. 	Polymers (3) <ul style="list-style-type: none"> Know the primary sources of materials for producing polymers Be able to recognise and characterise different types of polymers Understand how the physical and working properties of a range of polymers affect their performance. Practical – key ring/ storage holder <ul style="list-style-type: none"> Be aware of school-based cutting, forming and processing techniques, tools and equipment. How materials are cut, shaped and formed to a tolerance About the preparation and application of treatments and finishes to enhance functional and aesthetic properties Be aware of school-based cutting, drilling, forming, printing
	Spring 1	Spring 2
Year 7	Materials and their working properties	Materials and their working properties
	All students will know	All students will know
	Metals & Alloys (4) <ul style="list-style-type: none"> Know the primary sources of materials for producing metals and alloys Be able to recognise and characterise different types of metals and alloys Understand how the physical and working properties of a range of metals and alloys affect their performance. Practical – Desk Tidy (3) <ul style="list-style-type: none"> Be aware of school based cutting, forming and processing techniques, tools and equipment. How materials are cut, shaped and formed to a tolerance About the preparation and application of treatments and finishes to enhance functional and aesthetic properties 	Communication of Design Ideas and Prototype Development (7) <ul style="list-style-type: none"> Understand how to develop, communicate, record and justify design ideas Be aware of the range of techniques to support clear communication of design ideas Know how to design and develop prototypes in response to client wants and needs Be able to critically evaluate prototypes and suggest modifications
	Summer 1	Summer 2
Year 7	CAD	CAD
	All students will know	All students will know
	Solidworks (7) <ul style="list-style-type: none"> All the fundamental features of SOLIDWORKS are covered including: 2D sketching, part-modelling, assembly modelling including “bottom-up design” and “dynamic motion”, detail drawing creation for parts and assemblies and associative design changes. 	2D Design <ul style="list-style-type: none"> Be able to use the comprehensive text facilities, Be able to complete Bitmap to vector conversion. Be able to use Automatic or manual dimensioning. Work to pre-set or user-defined scales. Be able to Import/Export BMP, DXF, EMF, HPGL, TIFF, JPEG, PNG, WMF, plus legacy Acorn formats. Practical – <ul style="list-style-type: none"> Know and understand the commercial stock forms, types and sizes of materials to calculate quantities Be aware of school based cutting, drilling, casting, deforming, printing and welding techniques

	Autumn 1	Autumn 2
Year 8	Energy, materials, systems and devices.	Energy, materials, systems and devices.
	All students will know	All students will know
	Modern Materials (8) <ul style="list-style-type: none"> • Be able to recognise a range of modern materials • Describe developments made through the invention of new or improved processes involving modern materials • Explain how modern materials can be used to alter functionality 	Smart Materials (3) <ul style="list-style-type: none"> • Be able to recognise a range of smart materials • Understand how the functional properties of a range of smart materials can be changed by external stimuli Practical –light/ textiles <ul style="list-style-type: none"> • Know and understand the commercial stock forms, types and sizes of timber based materials and components in order to calculate quantities • Be aware of school based cutting, forming and processing techniques, tools and equipment. • How materials are cut, shaped and formed to a tolerance • About the preparation and application of treatments and finishes to enhance functional and aesthetic properties
	Spring 1	Spring 2
Year 8	Energy, materials, systems and devices.	Energy, materials, systems and devices.
	All students will know	All students will know
	Smart Materials (4) <ul style="list-style-type: none"> • Be able to recognise a range of smart materials • Understand how the functional properties of a range of smart materials can be changed by external stimuli Practical – light /textiles <ul style="list-style-type: none"> • Know and understand the commercial stock forms, types and sizes of timber based materials and components in order to calculate quantities • Be aware of school based cutting, forming and processing techniques, tools and equipment. • How materials are cut, shaped and formed to a tolerance • About the preparation and application of treatments and finishes to enhance functional and aesthetic properties 	Electronic Systems processing (3) <ul style="list-style-type: none"> • Understand the difference between analogue and digital signals • Understand how microcontrollers are programmed as counters, timers and for decision making to provide functionality to products and processes. • Understand the use of buzzers, speakers and lamps to provide functionality to products and processes CAD 2D Design (2) <ul style="list-style-type: none"> • Be able to use the Clip path tools, essential for creating professional high end graphic images. • Be able to use the comprehensive transformation tools including move, mirror, size, array and distort. • Contour feature to off-set lines. Invaluable for creating cutter-compensated tool paths or tracing.
	Summer 1	Summer 2
Year 8	Energy, materials, systems and devices.	CAD
	All students will know	All students will know
	Electronic Systems processing (4) <ul style="list-style-type: none"> • Understand the difference between analogue and digital signals • Understand how microcontrollers are programmed as counters, timers and for decision making to provide functionality to products and processes. • Understand the use of buzzers, speakers and lamps to provide functionality to products and processes Practical – <ul style="list-style-type: none"> • Understand that materials and components are available in standard forms and sizes • Be aware of school and commercial based cutting, forming and processing techniques, tools and equipment • Know and understand how metals are selected and processed for commercial products • Explain how aids are used to judge quality and accuracy during processing • Understand how surface treatments and finishes affect the functional and aesthetic properties of metal based products 	Solidworks (4) <ul style="list-style-type: none"> • All the fundamental features of SOLIDWORKS are covered including: 2D sketching, part-modelling, assembly modelling including “bottom-up design” and “dynamic motion”, detail drawing creation for parts and assemblies and associative design changes. • Pupils will be able to create engineering drawings from parts and fully dimension to allow a third party to manufacture. Practical – <ul style="list-style-type: none"> • Understand that materials and components are available in standard forms and sizes • Be aware of school and commercial based cutting, forming and processing techniques, tools and equipment • Know and understand how metals are selected and processed for commercial products • Explain how aids are used to judge quality and accuracy during processing • Understand how surface treatments and finishes affect the functional and aesthetic properties of metal based products

		Autumn 1	Autumn 2
Year 9DT		Specialist technical principles & Timber based materials	Timber based materials
		All students will know	All students will know
		<p>Forces & Stresses on Materials & Objects (1)</p> <ul style="list-style-type: none"> Be able to recognise and characterise tension, compression, bending, torsion and shear forces and stresses Understand the impact of different forces and stresses on materials <p>Six R's (6)</p> <ul style="list-style-type: none"> Be aware of the role that consumers play in reducing waste and the demand on finite resources Understand the hierarchy of options in responsible and sustainable design <p>Timber based materials</p> <p>Sources, Origins & Properties (3)</p> <ul style="list-style-type: none"> Understand the main processes involved in producing workable forms of timber including: conversion, seasoning and the creation of manufactured timbers Be aware of sustainability and ethical factors in timber production and use Understand the advantages and disadvantages of manufactured board compared with natural wood <p>Commercial manufacturing, Surface Treatments and Finishes (4)</p> <ul style="list-style-type: none"> Know and understand how timbers and boards are selected and processed for commercial products How materials are cut, shaped and formed to a tolerance About the preparation and application of treatments and finishes to enhance functional and aesthetic properties 	<p>Working with Timber Based Materials (11)</p> <ul style="list-style-type: none"> Know and understand the commercial stock forms, types and sizes of timber based materials and components in order to calculate quantities Be aware of school based cutting, forming and processing techniques, tools and equipment. <p>Practical – speaker (3)</p> <ul style="list-style-type: none"> Know and understand the commercial stock forms, types and sizes of timber based materials and components in order to calculate quantities Be aware of school based cutting, forming and processing techniques, tools and equipment. How materials are cut, shaped and formed to a tolerance About the preparation and application of treatments and finishes to enhance functional and aesthetic properties
		Spring 1	Spring 2
Year 9DT		Metals based materials	Metals based materials
		All students will know	All students will know
		<p>Metal Based Materials - Sources, Origins & Properties (2)</p> <ul style="list-style-type: none"> Know how metals are mined and extracted from raw materials Understand the processes involved in extraction and refining to produce workable forms of metal Be aware of sustainability and ethical issues in metal production, in use and end of life <p>Working with metal based materials and fixings (5)</p> <ul style="list-style-type: none"> Understand that materials and components are available in standard forms and sizes Be aware of school and commercial based cutting, forming and processing techniques, tools and equipment <p>Practical – Box Project (7)</p> <ul style="list-style-type: none"> Know and understand the commercial stock forms, types and sizes of timber based materials and components in order to calculate quantities Be aware of school based cutting, forming and processing techniques, tools and equipment. How materials are cut, shaped and formed to a tolerance About the preparation and application of treatments and finishes to enhance functional and aesthetic properties 	<p>Working with metal based materials and fixings (3)</p> <ul style="list-style-type: none"> Understand that materials and components are available in standard forms and sizes Be aware of school and commercial based cutting, forming and processing techniques, tools and equipment <p>Commercial manufacturing, Surface Treatments and Finishes (5)</p> <ul style="list-style-type: none"> Know and understand how metals are selected and processed for commercial products Explain how aids are used to judge quality and accuracy during processing Understand how surface treatments and finishes affect the functional and aesthetic properties of metal based products <p>Practical – Box Project (3)</p> <ul style="list-style-type: none"> Know and understand the commercial stock forms, types and sizes of timber based materials and components in order to calculate quantities Be aware of school based cutting, forming and processing techniques, tools and equipment. How materials are cut, shaped and formed to a tolerance About the preparation and application of treatments and finishes to enhance functional and aesthetic properties
		Summer 1	Summer 2
Year 9DT		Polymers	Polymers
		All students will know	All students will know
		<p>Polymers - Sources, Origins & Properties (5)</p> <ul style="list-style-type: none"> Know the primary source of polymers Understand the processes involved in refining, fractional distillation and cracking to produce workable forms of polymers Understand how plastics can be modified to enhance their properties Be aware of sustainability and ethical issues in plastics production, in use and end of life 	<p>Commercial manufacturing & Quality Control (5)</p> <ul style="list-style-type: none"> Understand how the properties of different polymers influence use and affect performance Be aware of commercial processing techniques for plastics Understand the application and use of quality control during manufacture Understand how preparation and the application of surface treatments and finishes affect the functional and aesthetic properties of polymer based products.

Working with Polymer based Materials and Fixings (10) <ul style="list-style-type: none"> • Know and understand the commercial stock forms, types and sizes of materials to calculate quantities • Be aware of school based cutting, drilling, casting, deforming, printing and welding techniques 	Practical –To be decided (3)
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Autumn 1		Autumn 2	
Year 10 DT	Core Technical Principles	Year 10 DT	Core Technical Principles
	All students will know		All students will know
	Industry & Expertise (2) <ul style="list-style-type: none"> • Understand how new and emerging technologies have changed the way we live and how they continue to shape the modern world • Be aware of how computers and automation have impacted upon the design and organisation of the workplace through the use of robotics • Understand how innovation can drive product development Sustainability & the Environment (6) <ul style="list-style-type: none"> • Understand that new technologies need to be developed and produced in a sustainable way • Be aware of the impact that resource consumption has on the planet • Understand how the environment can be protected by responsible design and manufacturing • Understand how waste can be disposed of with the least impact on the planet • Understand the positive and negative impacts new products have on the environment People, culture, and Society (3) <ul style="list-style-type: none"> • Understand how technology push and market pull affect the consumer choice and employment • Understand changes in job roles due to the emergence of new ways of working • Be aware of changes in fashion and trends and how they affect designers and manufacturers • Understand how new products can have both positive and negative impact on society Production Techniques & Systems (3) <ul style="list-style-type: none"> • Understand contemporary and potential future use of automation, Computer Aided Design(CAD) and Computer Aided Manufacture (CAM) • Be able to recognise and characterise the use of Flexible Manufacturing Systems (FMS) • Understand how Just In Time (JIT) and lean manufacturing contribute to manufacturing efficiencies 		Informing Design Decisions (5) <ul style="list-style-type: none"> • Be able to evaluate the advantages and disadvantages of planned obsolescence from different perspectives • Understand how products can be designed to be repaired and recycled • Be aware of ethical and environmental concerns when designing with new technologies Energy Generation (4) <ul style="list-style-type: none"> • Understand how power is generated from fossil fuels and nuclear power • Understand how power is generated from renewable energy sources such as wind, solar, tidal, hydroelectric and biomass • Be aware of the arguments for and against the selection of fossil fuels, renewable energy and nuclear power Energy Storage (3) <ul style="list-style-type: none"> • Be able to identify mechanical power and understand how it is stored • Understand pneumatics and hydraulics as examples of kinetic pumped storage systems • Understand the functional properties of alkaline and rechargeable batteries Making principles Selection of Materials and Components (1) <ul style="list-style-type: none"> • Be able to select and use materials and components appropriate to a specific task • Understand how functionality, availability and cost affect the selection of materials and components Tolerances and Allowances (1) <ul style="list-style-type: none"> • Understand the use of tolerances to ensure accuracy is considered when making a product • Understand how a range of materials are formed to designated tolerances • Understand why tolerances are applied during making activities • Understand how additional material may be required or removed by a cutting method, seam allowance or joint overlap.
Spring 1		Spring 2	
Year 10 DT	Core Technical Principles	Year 10 DT	Core Technical Principles
	All students will know		All students will know
	Composite materials & Technical Textiles (7) <ul style="list-style-type: none"> • Understand how material properties can be enhanced by combining two or more materials • Recognise a range of composite materials and technical textiles • Understand how fibres can be manipulated to create technical textiles. Systems Approach to Designing (4) <ul style="list-style-type: none"> • Understand the principles of electronic systems • Use systems diagrams and flowcharts to analyse and solve a given problem • Understand the use of open and closed loop systems and subsystems • Recognise and understand common electronic input and output components Making principles Specialist tools, equipment. Techniques and processes. <ul style="list-style-type: none"> • Understand how to select and use specialist tools, equipment, techniques and processes 		Core Technical Principles Mechanical Devices (6) <ul style="list-style-type: none"> • Be able to recognise and identify a range of movements • Understand the functions of mechanical devices to produce linear, rotary, reciprocating and oscillating movements • Understand how mechanisms can be used to change magnitude and direction of force. Including levers, linkages and rotary systems. Making principles Material Management and marking out (5) <ul style="list-style-type: none"> • Understand how effective design and planning can minimise waste • Be aware of how design adaptations and use of tessellation can save time and materials • Understand how to calculate the surface area and quantity of required materials.

	<ul style="list-style-type: none"> Be aware of relevant health and safety issues <p>Surface treatments and finishes. (3)</p> <ul style="list-style-type: none"> Know and understand that surface treatments and finishes are applied for functional and aesthetic purposes Know how to prepare different surfaces for treatments or finishes Understand how to select and apply appropriate surface treatments and finishes to a range of surfaces 	<ul style="list-style-type: none"> Understand the value of using measurement and marking out to create an accurate and quality prototype. Understand the use of datum points and coordinates Be able to recognise and characterise the appropriate tools and methods to mark out a range of materials to create prototypes. <p>Practical – To be decided (3)</p>
	Summer 1	Summer 2
Year 10 DT	Designing principles	NEA - A01 Identify, Investigate & Outline Design Possibilities 20 Marks
	All students will know	All students will know
	<p>Designing principles</p> <p>Investigation, Primary and Secondary Data (3)</p> <ul style="list-style-type: none"> Understand how primary and secondary data can be collected to assist the understanding of client and user needs Know how to write a design brief and produce a manufacturing specification Understand how the environment, and social and economic challenges influence designing and making <p>The work of others (2)</p> <ul style="list-style-type: none"> Know how to investigate, analyse and evaluate the work of others Understand how investigating the work of other designers and design companies can inform designing. <p>Design Strategies (4)</p> <ul style="list-style-type: none"> Be able to use a range of design strategies to help produce imaginative and creative design ideas Understand how to explore and develop design ideas <p>Practical – To be decided (5)</p>	<p>A: Identify, Investigate & Outline Design Possibilities (10 Marks)</p> <ul style="list-style-type: none"> By analysing the contextual challenge students will identify design possibilities, investigate client needs and wants and factors including economic and social challenges. Students should also use the work of others (past and/or present) to help them form ideas. Research should be concise and relate to their contextual challenge. Students are also advised to use a range of research techniques (primary/secondary) in order to draw accurate conclusions. Students should be encouraged to investigate throughout their project to help inform decisions.

	Autumn 1	Autumn 2
Year 11	NEA - A01 Identify, Investigate & Outline Design Possibilities - 20 Marks	NEA - A02 Design and Make Prototypes that are fit for purpose. 60 Marks
	All students will know	All students will know
	<p>B: Producing a Design Brief & Specification (10 Marks)</p> <ul style="list-style-type: none"> Based on conclusions from their investigations students will outline design possibilities by producing a design brief and design specification. Students should review both throughout the project. 	<p>C: Generating Design Ideas (20 Marks)</p> <ul style="list-style-type: none"> Students should explore a range of possible ideas linking to the contextual challenge selected. These design ideas should demonstrate flair and originality and students are encouraged to take risks with their designs. Students may wish to use a variety of techniques to communicate. Students will not be awarded for the quantity of design ideas but how well their ideas address the contextual challenge selected. Students are encouraged to be imaginative in their approach by experimenting with different ideas and possibilities that avoid design fixation. In the highest band students are expected to show some innovation by generating ideas that are different to the work of the majority of their peers or demonstrate new ways of improving existing solutions.
	Spring 1	Spring 2
Year 11DT	NEA - A02 Design and Make Prototypes that are fit for purpose. 60 Marks	NEA - A02 Design and Make Prototypes that are fit for purpose. 60 Marks
	All students will know	All students will know
	<p>D: Developing Design Ideas (20 Marks)</p> <ul style="list-style-type: none"> Students will develop and refine design ideas. This may include, formal and informal 2D/3D drawing including CAD, systems and schematic diagrams, models and schedules. Students will develop at least one model, however marks will be awarded for the suitability of the model(s) and not the quantity produced. Students will also select suitable materials and components communicating their decisions throughout the development process. Students are encouraged to reflect on their developed ideas by looking at their requirements; including how their designs meet the design specification. Part of this work will then feed into the development of a manufacturing specification providing sufficient accurate information for third party manufacture, using a range of appropriate methods, such as measured drawings, control programs, circuit diagrams, patterns, cutting or parts lists. 	<p>E: Realising Design Ideas (20 Marks)</p> <ul style="list-style-type: none"> Students will work with a range of appropriate materials/components to produce prototypes that are accurate and within close tolerances. This will involve using specialist tools and equipment, which may include hand tools, machines or CAM/CNC. The prototypes will be constructed through a range of techniques, which may involve shaping, fabrication, construction and assembly. The prototypes will have suitable finish with functional and aesthetic qualities, where appropriate. Students will be awarded marks for the quality of their prototype(s) and how it addresses the design brief and design specification based on a contextual challenge.
	Summer 1	Summer 2
Year 11DT	NEA - A03 Analysing & Evaluating - 20 Marks	Exam Season – Revision of key Topics
	All students will know	All students will know
	<p>F: Analysing & Evaluating (20 Marks)</p> <ul style="list-style-type: none"> Within this iterative design process students are expected to continuously analyse and evaluate their work, using their decisions to improve outcomes. This should include defining requirements, analysing the design brief and specifications along with the testing and evaluating of ideas produced during the generation and development stages. Their final prototype(s) will also undergo a range of tests on which the final evaluation will be formulated. This should include market testing and a detailed analysis of the prototype(s). <p>MAY 7th 2019 Deadline</p> <p>Materials and their working properties Textiles (5)</p> <ul style="list-style-type: none"> Know the primary sources of materials for producing textiles. Be able to recognise and characterise different types of textiles. Understand how the physical and working properties of a range of textiles affect their performance. <p>Specialist technical principles Improving Functionality (2)</p> <ul style="list-style-type: none"> Understand how materials may be enhanced to resist and work with forces and stresses to improve functionality. <p>Ecological & Social Footprint (2)</p> <ul style="list-style-type: none"> Understand that greenhouse gasses and carbon are produced during the manufacture of products 	<p>Exam Season – Revision of key Topics</p>

- Understand the impact that a consumer society has on natural resources and the environment including deforestation, mining, drilling, farming and product miles
- Be aware of the need for social and governmental responsibility to address safe working conditions and pollution.

Scales of Production(2)

- Understand how products are produced in different volumes
- Explain when any why different manufacturing methods are used for different production volumes
- Be able to link the use of relevant specialist processes to the appropriate level of production