



YEAR 11 TERM 2

'An ambitious curriculum that meets the needs of all'

Medium Term Planning - Topic: New and Emerging Technologies

Curriculum Intent	<p>In addition to working further on objectives from Year 9 , pupils will be taught, following National Curriculum guidelines, the following this term:</p> <p>Industry and enterprise</p> <ul style="list-style-type: none">• Understand the impact of new and emerging technologies on the design and organisation of the workplace and tools and equipment• Be aware of how computers and automation have changed manufacturing through the use of robotics• Understand how innovation can drive product development and enterprise including the use of crowd funding and virtual marketing• Understand co-operative and fair trade organisation <p>Sustainability and the environment</p> <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 excessive use of certain materials has on the environment• 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
Skills/Assessment Objective Links	<p>People, culture and society</p> <ul style="list-style-type: none">• Understand how technology push and market pull affect 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 a positive and negative impact on society <p>Production techniques and systems</p> <ul style="list-style-type: none">• Understand contemporary and potential future use of automation, Computer Aided Design (CAD) and Computer Aided Manufacturing (CAM)• Be able to recognise and characterise the use of Flexible Manufacturing Systems (FMS) <p>Understand how Just in Time (JIT) and Lean Manufacturing contribute to manufacturing efficiencies</p> <p>Informing design decisions</p> <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
Spiritual, moral, social, and cultural development	<p>SMSC: Sustainability linking to materials and reduction in CO2 emissions</p> <p>PSHE/British Values: Crowd funding, Links to British car industry</p> <p>Skills Builder: Linking product with the type of material and the reasons why the material is used.</p>
Numeracy	
Literacy	<p>Vocabulary Tier 2: See highlighted above</p> <p>Vocabulary Tier 3: See highlighted above</p> <p>Reading: exam style question, text book terminology</p> <p>Writing: use of technical tier 3 vocabulary within an exam question and annotation</p> <p>Oracy: when questioned pupils are able to use technical subject specific language</p>



Becoming future ready	Careers/Employability: Environmental industry, various industrial links as examples
Adaptation	Throughout this topic, quality first teaching will provide differentiation:
QFT/SEND Provision	By product: By resource: PG Online booklets, teacher let focus, PG Online books By Intervention: by providing different levels of supervision and support By Progressive Questioning: exploring pupils' understanding through interactive dialogue. By Grouping: according to prior attainment, gender, social preference, preferred learning style. By Task: Pupils should be involved in the identification of targets which are meaningful to them and in the selection of an appropriate task from the given range. By Offering Optional Activities: In class or as homework, to extend learning. This QFT/SEND provision will be explicit within the lesson-by-lesson schemes of work.
Implementation Curriculum Delivery	<ul style="list-style-type: none">• See Above <p>Red denotes interleaving; aspects of knowledge covered previously.</p>
Learning Outcomes (Knowledge)	
Current learning to be developed in the future within:	
Assessment	End of Unit test on material areas – using PG Online resources and text book and linking to PLCs in Doodle
Impact	Pupils to have knowledge and understanding of new and emerging technologies covered in the D&T specification