



YEAR 11 2023-2024 TERM 2

'An ambitious curriculum that meets the needs of all'



Medium Term Planning - Topic: R040 TA1 - Design, evaluation and modelling

Curriculum Intent	In addition to working further on objectives from Year 10 , pupils will be taught, following National Curriculum guidelines, the following this term:
Skills/Assessment Objective Links	<p>To be able to:</p> <ul style="list-style-type: none"> • produce a virtual 3D CAD model • produce a testing simulation of the CAD model • produce a physical model • test the model against the specification • suggest improvements to the model
Spiritual, moral, social, and cultural development	<p>SMSC: designing and making products which won't offend certain groups</p> <p>PSHE/British Values:</p> <p>Skills Builder: designing and modelling skills</p>
Numeracy	
Literacy	<p>Vocabulary Tier 2: See highlighted above</p> <p>Vocabulary Tier 3: See highlighted above</p> <p>Reading: To be able to understand the assignment requirements</p> <p>Writing: use of technical tier 3 vocabulary within annotation and design specification</p> <p>Oracy: when questioned pupils are able to use technical subject specific language</p>
Becoming future ready	Careers/Employability: manufacturing industry, Product Designer, Engineering sector
Adaptation	Throughout this topic, quality first teaching will provide differentiation:
QFT/SEND Provision	<p>By product: use of 3D printer software</p> <p>By resource: Use of exemplar materials from OCR</p> <p>By Intervention: by providing different levels of supervision and support</p> <p>By Progressive Questioning: exploring pupils' understanding through interactive dialogue.</p> <p>By Grouping: according to prior attainment, gender, social preference, preferred learning style.</p> <p>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.</p> <p>By Offering Optional Activities: In class or as homework, to extend learning.</p> <p>This QFT/SEND provision will be explicit within the lesson-by-lesson schemes of work.</p>
Implementation Curriculum Delivery	Red denotes interleaving; aspects of knowledge covered previously in Yr10.
Learning Outcomes (Knowledge)	<ul style="list-style-type: none"> • produce a virtual 3D CAD model • produce a physical model • test the model against the specification • suggest improvements to the model
Current learning to be developed in the future within:	Skills to be developed – Use of the 3D printer and slicing software. Testing simulation on Solidworks
Assessment	<p>Formative – how well pupils are using Solidworks and Ultimaker</p> <p>Summative – Final outcome of the CAD model, testing and physical model</p>
Impact	Pupils to have knowledge and understanding of how to design, test, model and suggest improvements so that they are able to complete R040 independently.