



## YEAR 11 TERM 2

'An ambitious curriculum that meets the needs of all'



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

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