



Curriculum Map Year 9

Engineering

The ADT curriculum is delivered through a carousel with each student engaged in one subject per term.

Curriculum Intent:

		Engineering		Food Technology		Art	
		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Unit of work	<p><b>Project: MP3 Speaker</b></p> <p>Y9 learners will be introduced to the engineering industry, looking at the different sectors and pathways available to enter engineering based careers. Learners will work in a variety of roles, as part of a team, in order to batch produce an electrical product that meets a developed design specification and engineering brief. Learners will work together to review the design and manufacturing process, acting on advice and feedback in order to ensure the production of a high quality product. Learners will focus on the development of technical drawings using both traditional and CAD methods before safely manufacturing the final product using a range of processes. An evaluation of the product will then take place where learners will be able to review the design and manufacturing process and offer modifications to the product.</p>						
Core Skills	<ul style="list-style-type: none"> <li>Analysis</li> <li>Numerical Skills- Use of ohm's law, calculation of total resistance in series and parallel circuits</li> <li>2D, 3D and circuit CAD design skills</li> </ul>						
Core Knowledge	<ul style="list-style-type: none"> <li>The engineering industry.</li> <li>Engineering careers, pathways and opportunities.</li> <li>Modern electronic manufacturing techniques.</li> <li>Basic electronic component function.</li> <li>Calculating total resistance within a parallel and series circuit.</li> </ul>						
Assessment & Feedback	<p>Assessment 1-</p> <p>Students undertake an initial formal assessment in which their knowledge of engineering sectors, products and businesses is assessed. Feedback is provided in a following DIRT session in which students are able to assess their understanding of the topic and seek to improve with the use of teacher feedback.</p>	<p>Assessment 2-</p> <p>Students undertake an interim assessment in which their understanding of mathematical problems relating to their product are assessed.</p> <p>Summative assessment (3)</p> <p>Students undertake a final summative assessment which encompasses all learning which has taken place as well as a practical element.</p>					
Link to prior learning	<ul style="list-style-type: none"> <li>Working within the iterative design process</li> <li>Progression of CAD skills from 2D to 3D product and circuit design.</li> <li>Development of health and safety understanding: H&amp;S legislation</li> <li>Graphical communication skills- Free hand sketching and annotation, Isometric projection, Orthographic drawings</li> </ul>						
Outside learning/trips							