

GCE Design and Technology Resistant Materials (A2)

Exemplar Commentary 1

Title: Pen

Unit: 6RM01

Product investigation	Pen
A	<p>The student has written a comprehensive specification for then product under investigation using headings recommended in the subject specification. Statements are appropriate and written from the point of view of a designer setting out to design the product.</p> <p>The specification for the similar product is not conducted in the same way as the original and is a comparison based on an existing product, but differences are identified and described using the same specification headings.</p> <p>(Mark Range 4-6)</p>
B	<p>Materials used in the product are identified and justified for their use. Properties are listed, but not evaluated in terms of advantages and disadvantages.</p> <p>Environmental impact is considered in terms of extraction and processing of raw materials, but this is done generally. The paragraph on production processes is irrelevant to this section but can be credited in the next.</p> <p>(Mark Range 7-9)</p>
C	<p>Appropriate manufacturing processes are identified and justified for their use in the product. Advantages are identified, but no disadvantages are considered. An alternative process is identified on page 7 and is appropriate.</p> <p>Environmental impacts are considered for processes.</p> <p>(Mark Range 7-10)</p>
D	<p>Appropriate quality control tests are described in detail. Specific standards are identified and explained to say a company must fulfil certain criteria, but no indication is given of what the criteria might be. Quality assurance is explained, but a system is not shown.</p> <p>(Mark Range 4-6)</p>
Design & development	
E	<p>A range of ideas is presented which are well annotated with technical information. Initial ideas are evaluated to determine which is to be taken forward for development.</p> <p>A comprehensive development section uses high quality CAD skills and continuing design input to move the design on to a final refined proposal.</p> <p>Modelling using resistant materials and 3D CAD is used validly to test aspects of the design</p> <p>The final proposal is evaluated, but this is superficial and does not relate to the criteria used for initial ideas.</p> <p>(Mark Range 13-18)</p>
F	<p>Communication skills are high and match the criteria for full marks in this section.</p> <p>(Mark Range 9-12)</p>
Product manufacture	
G	<p>A comprehensive plan for production includes a sequence of making events in the correct order, quality control, time and health and safety considerations, matching the requirements for full credit.</p> <p>(Mark Range 4-6)</p>
H	<p>Photographs in the diary of making show high level skills, challenging tasks and a high quality outcome to product manufacture. The student has explained and</p>

	justified reasons for the choice of materials and processes used in the manufacture of the product; P5 in this section. (Mark Range 13-18)
I	Testing is carried out against criteria shown on page 9 of this section, but the criteria is weak and lacking in measurable points which should have been set and declared at the beginning of the manufacturing task. Testing should be set against the performance and quality of the product and not against the rather trivial criteria seen here. Third party testing is better and elicits useful feedback. (Mark Range 1-3)