

Stage 2 Design and Technology
Material Products (2MMA20 or 2MMB20)
Assessment Type 3 (30%) - Folio

Product Design and Product Evaluation (2000 words)

A student aiming for a high grade level will demonstrate:

- I1:** Clear, comprehensive, and well-considered identification of a need, problem, or challenge.
- I2:** Thorough and insightful creation and validation of initial design brief based on needs analysis and task identification.
- I3:** Purposeful investigation and critical analysis of the characteristics of a broad variety of existing products, processes, systems, and/or production techniques.
- I4:** In-depth investigation into product material options and focused and thorough critical analysis for product use.
- I5:** Focused and perceptive investigation into the impact of products or systems on individuals, society, and/or the environment.
- PI1:** In-depth analysis of information to develop imaginative, innovative, and enterprising solutions to an identified design brief.
- PI2:** Accomplished communication of a variety of refined product design ideas, consistently using relevant technical language.
- PI3:** Purposeful testing and refined modification and validation of ideas or procedures.
- E1:** Insightful and well-considered evaluation of product success against design brief requirements.
- E2:** Insightful and detailed evaluation of the effectiveness of the product or system realisation process.
- E3:** Refined and well-considered reflection on materials, ideas, and procedures, with sophisticated recommendations.
- E4:** Resourceful and well-informed analysis of the impact of the product or system on individuals, society, and/or the environment.

Part 1: Product Design (1200 words plus diagrams and drawings).

This part should be done before you actually make the product. Document the **product design** for the major and minor products by using the following headings as a guide:

- 1. Need Identification:** Identifying the need, problem to be solved or challenge that you are seeking to undertake (50 words).
- 2. Design Brief:** Create a design brief so that it includes a Statement of Intent, Functional Outcomes, Aesthetic Considerations, and Constraints. Each section of the design brief can be presented in dot point form (100 words).
- 3. Analysis:** Document your investigation and critical analysis of the characteristics of a broad variety of existing products, processes, systems, and/or production techniques (300 words).
- 4. Material Options:** Briefly mention your material options that were identified in your skills and application tasks (50 words).
- 5. Impacts:** This is an extended written investigation describing how the production of your product and the technological practices used to make it will impact on individuals, society, and/or the environment (700 words).

Document a review of your **planning** by including

- 6. Design Brief Reaction:** This is a reaction to the investigation and the design brief. It is a description of how you intend to go about developing the product, including the design ideas you have created, using relevant technical language to communicate your ideas (150 words).

7. Refinement of Ideas: This is a brief description of how you have refined your ideas and what changes in your thinking and planning have occurred to get you to the final stages leading to the actual production or making of your product. (150 words).

Make the product and begin documentation for AT2: Product-Major Product and Minor Product

Part 2: Product Evaluation (500 words)

Once you have completed making the product, write a product evaluation which documents an evaluation of your producing skills and an evaluation of the final product against what you intended in the Product Design and Planning section. You must attach a copy of the **Final Product** (the final section in AT2) as an appendix to this as evidence to support your evaluation. The appendix is not part of the word count, but is used to support the evidence for the external assessment of the Folio.

Your evaluation should include:

- Product Success:** This is a critical comparison: a critical comparison of the realised product with the requirements of the design brief, and an explanation of and justification for any changes made (~120 words).
- Effectiveness:** This is your review of criteria, standards, reliability, safety, quality, and cost-effectiveness (~100 words).
- Modification:** This is your reflection on outcomes, with recommendations for possible improvement or redevelopment of designs or procedures (~80 words).
- Analysis:** This is an analysis of the impact of the product on individuals, society, and/or the environment (if not part of product design documentation). Also include a self-evaluation about your own skills development (~150 words).

Further evidence that could be included in your appendix could include photographic or electronic or digitally generated materials, sketches, diagrams, or annotations.

Submission

The total word count for both **Part 1 Product Design** and **Part 2 Product Evaluation** should be a maximum of 2000 words. This does not include diagrams, sketches, tables or appendix items.

The due date of submission is __/__/____. Please provide a printed and stapled copy of your final document and a digital copy using the following file naming format:

i.e. ***fullstudentname-saceid#-Atype3-folio.doc***

The following headings template can be used as a guide for your documentation.

Assessment Type 3 (30%)

Folio

SACE ID#:

Product Name:

Word Count:

Part 1: Product Design

1. Need Identification: (50 words)

2. Design Brief: (100 words plus images, diagrams and drawings)

3. Analysis: (300 words plus images, diagrams, drawings)

4. Material Options: (50 words plus images, diagrams and drawings)

5. Impacts: (700 words plus images, diagrams, drawings)

6. Design Brief Reaction: (150 words)

7. Refinement of Ideas: (150 words)

Part 2: Product Evaluation (~500 words)

Product Success: (120 words)

Effectiveness: (100 words)

Modification: (80 words)

Analysis: (150 words)

Performance Standards for Stage 2 Design and Technology

	Investigating	Planning	Evaluating
A	<p>Clear, comprehensive, and well-considered identification of a need, problem, or challenge.</p> <p>Thorough and insightful creation and validation of initial design brief based on needs analysis and task identification.</p> <p>Purposeful investigation and critical analysis of the characteristics of a broad variety of existing products, processes, systems, and/or production techniques.</p> <p>Focused and perceptive investigation into the impact of products or systems on individuals, society, and/or the environment.</p>	<p>In-depth analysis of information to develop imaginative, innovative, and enterprising solutions to an identified design brief.</p> <p>Accomplished communication of a variety of refined product design ideas, consistently using relevant technical language.</p> <p>Purposeful testing and refined modification and validation of ideas or procedures.</p>	<p>Insightful and well-considered evaluation of product success against design brief requirements.</p> <p>Insightful and detailed evaluation of the effectiveness of the product or system realisation process.</p> <p>Refined and well-considered reflection on materials, ideas, and procedures, with sophisticated recommendations.</p> <p>Resourceful and well-informed analysis of the impact of the product or system on individuals, society, and/or the environment.</p>
B	<p>Well-considered identification of a need, problem, or challenge.</p> <p>Well-considered creation and validation of an initial design brief based on needs analysis and task identification.</p> <p>Thoughtful investigation and analysis of the characteristics of a variety of existing products, processes, systems, and/or production techniques.</p> <p>Detailed investigation into product material options and thorough analysis for product use.</p> <p>Some depth of investigation into the impact of products or systems on individuals, society, and/or the environment.</p>	<p>Thoughtful analysis of information to develop enterprising solutions to an identified design brief.</p> <p>Capable communication of different quality product design ideas using relevant technical language.</p> <p>Thoughtful testing, modification, and validation of ideas or procedures.</p>	<p>Well-considered evaluation of product success against design brief requirements.</p> <p>Well-considered and detailed evaluation of the effectiveness of the product or system realisation process.</p> <p>Well-considered reflection on materials, ideas, and procedures, with thoughtful recommendations.</p> <p>Well-informed analysis of the impact of the product or system on individuals, society, and/or the environment.</p>
C	<p>Considered identification of a need, problem, or challenge.</p> <p>Considered creation and validation of an initial design brief based on needs analysis and task identification.</p> <p>Competent investigation of the characteristics of some existing products, processes, systems, and/or production techniques.</p> <p>Competent investigation into product material options and analysis for product use.</p> <p>Generally thoughtful investigation into the impact of products or systems on individuals, society, and/or the environment.</p>	<p>Analysis of information to develop appropriate solutions to an identified design brief.</p> <p>Competent communication of product design ideas using appropriate technical language.</p> <p>Competent testing, modification, and validation of ideas or procedures.</p>	<p>Considered evaluation of product success against design brief requirements.</p> <p>Considered evaluation of the effectiveness of the product or system realisation process.</p> <p>Considered reflection on materials, ideas, and procedures, with appropriate recommendations.</p> <p>Informed analysis of the impact of the product or system on individuals, society, and/or the environment.</p>
D	<p>Identification of a basic need, problem, or challenge.</p> <p>Creation of a basic initial design brief with some consideration of a needs analysis.</p> <p>Identification of the characteristics of some existing products, processes, systems, or production techniques.</p> <p>Some basic description of material options.</p> <p>Some description of the impact of products or systems on individuals, society, or the environment.</p>	<p>Some identification of information to attempt basic solutions to an identified design brief.</p> <p>Basic communication of some product design ideas with some use of appropriate technical language.</p> <p>Partial testing and some modification of ideas or procedures.</p>	<p>Description of product progress, with elements of basic testing against design brief requirements.</p> <p>Some description of the effectiveness of the product or system realisation process.</p> <p>Superficial reflection on or description of materials, ideas, or procedures, with basic recommendations.</p> <p>Some consideration of the impact of the product on individuals, society, or the environment.</p>
E	<p>Limited identification of a need, problem, or challenge.</p> <p>Creation of a very basic initial design brief, with support.</p> <p>Statement of one or more characteristics of an existing product, process, system, or production technique.</p> <p>Limited description of one or more product material options.</p> <p>Identification of one impact of a product or system on individuals, society, or the environment.</p>	<p>Attempted identification of some information to develop limited solutions to an identified design brief.</p> <p>Limited communication of one or more product design ideas.</p> <p>Some attempt at testing and limited modification of an idea or procedure.</p>	<p>Identification of some product progress, with limited testing.</p> <p>Identification of some aspects of the effectiveness of the product or system realisation process.</p> <p>Identification rather than description of materials, ideas, or procedures, with one or more recommendations.</p> <p>Emerging recognition of one or more of the impacts of the product on individuals, society, or the environment.</p>

Note: This is only one possible format. It may be that for a particular product or focus area, different specific features require more emphasis than others.

It may be considered desirable to combine different specific features for a more extended piece. For example I5 and E4 can be combined for one piece of writing.

<u>Design Cycle Stage</u> (aligned with Assessment Design Criteria)	Approximate Word count	
	20 credit	10 credit
<u>Investigation</u>		
	Up to:	
1. Identify need/problem	50	50
2. Design brief	100	100
3. Analysis writing products/systems	300	100
4. Material options (Ref AT1(MA))	50	50
5. Impacts	700	300
Total	1200	600
<u>Planning</u>		
1. Reaction to investigation /design brief	150	75
2. Communication	Over whole document	
3. Refinement of ideas	150	100
Total	300	200
<u>Evaluation</u>		
1. Product success – design brief	120	100
2. Effectiveness of making product	100	50
3. Modification - reflections	80	50
4. Analysis of product impact (may be included with I5)	150	100
Total	500 400	300
Maximum	2000 words	1000 words