

GCSE Design and Technology – NEA Guide

1.2 Product Specification (AO1 8 marks)

Exemplars of 1.2 Specification

Use [this live link](#) to view the latest exemplar materials for this assessment grid.

Stage	What students need to do:
1.2 Product specification	1.2a Production of a design brief, that addresses all needs previously identified.
	1.2b Production of a product specification that includes statements that are technical, measurable and justified, and include consideration of: <ul style="list-style-type: none">a formb functionc user requirementsd performance requirementse material and component requirementsf scale of productiong costh sustainability.
	1.2c Identification of criteria, which will be used to evaluate the success of the prototype.

What the NEA content requires students to do:

1.2a Production of a design brief, that addresses all needs previously identified

Students are required to write a clear and concise design brief. It needs to refer to the needs and wants of the identified user/client or user group that appears in the evidence for grid 1.1 Investigation. The brief must be identifiable to the chosen contextual challenge, and sufficiently open that it does not define a detailed solution to the identified problem.

1.2b Production of a product specification that includes statements that are technical, measurable and justified, and include a number of recommended considerations.

Students are required to write a list of specification criteria that are realistic in their expectation and justified by connecting to the investigation work the student completed for 1.1. Criteria should use D&T subject language where appropriate and ensure a suitable number of the criteria are measurable. Measurable criteria will help to validate the final prototype when the student creates tests for those criteria. There must be criteria that propose what the performance requirements of the final prototype should be.

The list of specification criteria evidence will typically be one page of the portfolio. It is a very important piece of work, because of the ongoing touch points that students will make back to these criteria throughout the project. This includes the following points, that students should be aware of:

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1. Form and Function criteria will be used to generate the design ideas and development of design ideas. Functionality criteria will also link to the testing that will take place in evidence for 4.1.
2. Material and sustainability criteria (at this very early-stage of consideration) will begin to shape decisions relating to design ideas and the development of design ideas and may influence specific material choices made for 3.1a. Sustainability criteria could be appropriate to refer back to during the LCA requirement of grid 4.1.
3. Measurable/testable/technical criteria are expected to be must/should statements, against which a test can be conducted for grid 4.1 evidence.
4. Materials, components, scales of production and cost related criteria are expected to be “could” statements which are not specific. Students will be able to show subject knowledge in these criteria in the specification but will become more specific about these as they move closer to a final design, which may appear in annotation.
5. Manufacturing criteria such as those relating to materials or components, are not required to appear in a separate “Manufacturing Specification” which was a legacy requirement.

Second Specifications

If after additional and credit worthy research is evidenced in 2.3 development work, students may want to include a revised list of specification criteria as a slide, and would benefit from seeking teacher guidance on this. If a revised specification appears in the portfolio, teachers should credit this evidence against 1.2, and signposted it in the CAB.

Advice for scaled outcome projects

If the student has committed to a scaled outcome (e.g. architecture), and carried out research related to scaled outcomes for 1.1, it is expected (in this instance) that the list of specification criteria will be written for a scaled outcome, not a full size version. i.e. the specification should be a continuation of the research the student has carried out.

1.2c Identification of criteria, which will be used to evaluate the success of the prototype

As stated in section 1.2b above, criteria which will be used to test the final prototype should be:

- a) Measurable or technical.
- b) Written as must/should statements.
- c) Be realistic and authentic.
- d) Be justified by investigation evidence in 1.1.

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Level	Mark	1.2 Specification (AO1 8 marks)
	0	No rewardable material.
Level 1	1–3	<ul style="list-style-type: none"> • Basic design brief that demonstrates a simplistic response to the contextual challenge, addressing some of the investigated needs and wants of the user. • Limited range of specification points that are basic and partially measurable, based on a superficial investigation of research in relation to the contextual challenge. • Basic justification of the performance requirements for the product in relation to the contextual challenge.
Level 2	4–6	<ul style="list-style-type: none"> • Generally sound design brief that demonstrates a coherent response to the contextual challenge, addressing many of the investigated needs and wants of the user. • Mostly developed range of specification points that are realistic and mostly measurable, based on a mostly relevant investigation of research in relation to the contextual challenge. • Generally sound justification of the performance requirements for the product in relation to the contextual challenge.
Level 3	7–8	<ul style="list-style-type: none"> • Fully sound design brief that demonstrates a realistic response to the contextual challenge, addressing most of the investigated needs and wants of the user. • Fully developed range of specification points that are realistic, technical and measurable, based on a fully relevant investigation of research in relation to the contextual challenge. • Fully sound justification of the performance requirements for the product in relation to the contextual challenge.

How this assessment grid differentiates student evidence of specifications:

Specification evidence is differentiated based upon the following factors, which should be accounted for in how students approach this evidence:

1. Whether the specific (must, should) criteria can be identified by evidence in 1.1 investigation (i.e. can and has the student justified the criteria).
2. Whether the nonspecific (could, may) criteria are suitable for the creation of a range of different design ideas (i.e. not an already identifiable solution, or very narrow opportunity to design a range of different ideas).
3. Whether criteria that will become a test in 4.1 evidence are realistic, measurable, and authentic. (i.e. can the student test their final prototype and validate its success using these criteria as hypothetical requirements).
4. Whether the design brief is written in a way that offers opportunity for divergent solutions, or does it lead to a narrow/specific solution only. (i.e. it is already clear from the brief what the solution will be)?