

GCSE Design and Technology – NEA Guide

3.2 Quality and Accuracy (AO2 12 marks)

Exemplars of 3.2 Manufacture – quality and accuracy

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

Stage	What students need to do:
3.2 Quality and accuracy	3.2a Measuring the degree to which the prototype performs as intended.
	3.2b The prototype is accurately assembled and finished to a high quality.

What the NEA content requires students to do:

3.2a Measuring the degree to which the prototype performs as intended

Students are required to include photographic and/or video evidence sufficient to show that the prototype they have made:

1. Functions as intended (or does not).
2. Meets the needs of the user/client (or does not).
3. Solves the identified problem (or does not).
4. Meets the full list of specification criteria (or attempted to).

Students will do this effectively through their choice of media and the range of evidence they submit to showcase the final finished prototype in use. Prototypes which fail to “prove” their functionality will struggle to gain high credit.

3.2b The prototype is accurately assembled and finished to a high quality.

Students are required to include photographic and/or video evidence sufficient to build a judgement relating to accuracy, including:

1. The relationship between separate parts (how close they fit together, any gaps).
2. The finish of surfaces and edges of parts (how much the surfaces or edges are improved).
3. The measurements of parts against intended measurements (how accurate parts are in relation to tolerance).
4. The relationship between off the shelf parts and made parts (how well parts that are professionally made and bought in fit with those being made by the student).

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Level	Mark	3.2 Quality and accuracy (AO2 12 marks)
	0	No rewardable material.
Level 1	1–3	<ul style="list-style-type: none"> • Produce a simplistic prototype that partially meets the end user needs in relation to a basic design problem. • Produce a prototype that meets limited aspects of the design specification. • Show a basic understanding of the need for accuracy.
Level 2	4–6	<ul style="list-style-type: none"> • Produce a generally functioning prototype that adequately meets the end user needs in relation to a partially demanding design problem. • Produce a prototype that meets some aspects of the design specification. • Show a partially sound understanding of the need for accuracy.
Level 3	7–9	<ul style="list-style-type: none"> • Produce a mostly functioning prototype that mostly meets the end user needs in relation to a generally demanding design problem. • Produce a prototype that mostly meets the design specification. • Show a generally sound understanding of the need for accuracy.
Level 4	10–12	<ul style="list-style-type: none"> • Produce a fully functioning prototype that fully meets the end user needs in relation to a demanding design problem. • Produce a prototype that fully meets the design specification. • Show a fully sound understanding of the need for accuracy.

How this assessment grid differentiates student evidence of quality and accuracy.

Quality and accuracy evidence will be found entirely from the photographic evidence of the chosen design being made into the final prototype. Students must provide sufficient evidence of the final prototype, which includes:

- views of all sides
- the prototype functioning using video where necessary (i.e. to capture movement or functions that cannot be captured through still images alone).

Prototypes will be judged on their appropriate level of demand for GCSE, which is a national standard set by all awarding organisations for the subject of D&T. Prototypes that sit above this national standard will not receive any extra credit due to higher than required levels of complexity, demand, quality, and accuracy. Similarly, prototypes which sit below this national standard will struggle to justify access to all quality and accuracy marks, if the made outcome is largely simplistic, undemanding, and not sufficiently challenging.

The quality of materials and availability of higher quality materials will not favour the judgement, to ensure that comparability between centres is acknowledged.

The use of Computer Aided Manufacture (CAM) will not favour the judgement for quality and accuracy, where it is unclear whether the student did or did not carry out the use of CAM independently. Students wishing to gain credit for CAM work will need to ensure the skilled use of CAM is documented in their evidence, through the photographic evidence and written annotation of these processes being student led.

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Any evidence of quality and accuracy in the design and development of design evidence (2.1 and 2.3), will not gain credit within grid 3.2. This will avoid double crediting work which has already gained credit in 2.1 and 2.3.

Advice for scaled outcome projects.

It is required that scale models retain a focus on quality and accuracy, to avoid the made outcome being comparable to a model that would be suitable to appear in 2.3 development evidence.

Students can choose to make part of the chosen design to full scale, to prove a concept or test functionality of a specific part of the solution. Entirely scaled outcomes should:

1. Achieve a level of function.
2. Be made to a high standard with accurate measurements and tolerances of fit in assembly.
3. Use appropriate manufacturing techniques.

The use of craft type “model making” materials will potentially impact the judgement of quality and accuracy (e.g. using lolly pop sticks or similar materials that are not used for professional scaled outcomes).