



Common questions about National 3 and National 4 Science

General questions

What exemplification material is available for Science National Qualifications?

We have published Understanding Standards packs for Science on our secure website: www.sqa.org.uk/sqasecure.

These packs provide teachers, lecturers, and assessors with specific examples of candidate evidence and a detailed commentary to explain why they have or have not met the national standard for units.

Contact your SQA co-ordinator for access to our secure website.

Units and assessment standards

Are unit passes transferrable between levels?

The National 3 and National 4 Science units are in a hierarchy to support smooth progression through the levels. If a candidate passes the complete unit(s) at National 4, they have already overtaken the learning in the National 3 unit(s) and you should not present them for the National 3 unit(s).

Outcome 1 — National 3 and National 4

How should I assess outcome 1?

Candidates are not required to show full mastery of all the assessment standards to achieve outcome 1. Instead, they must achieve:

- ◆ National 3: four out of the five assessment standards
- ◆ National 4: five out of the six assessment standards

We introduced these thresholds to reduce the volume of re-assessment, where it is required. You must still give candidates the opportunity to meet all assessment standards.

Can I assess assessment standards 1.1 to 1.6 over several experiments or practical investigations rather than having a one-off set investigation?

Yes. You can gather evidence for outcome 1 from a series of experiments or practical investigations from individual units or across the course. Candidates can achieve the assessment standards through several pieces of evidence covering work they have completed on different occasions.

At National 4, there are five separate evidence requirements for assessment standard 1.1:

- ◆ an aim
- ◆ a variable to be kept constant
- ◆ measurements or observations to be made
- ◆ the resources
- ◆ the method, including safety considerations

To achieve assessment standard 1.1, candidates must describe all five of these evidence requirements in one experimental or investigation plan.

Can I give my candidates a protocol to follow for assessment standard 1.1?

Assessment standard 1.1 at National 4 asks candidates to plan an experiment or practical investigation. To meet assessment standard 1.1, you should ensure candidates choose contexts for their investigations that allow them to demonstrate active planning.

Assessment standard 1.1 at National 3 asks candidates to follow given procedures safely.

If you use a protocol for a method as a starting point, for example to demonstrate an unfamiliar method, candidates could go on to produce different aims and alter variables while using the same method and similar materials. This would allow them to be actively involved in planning the experiment or practical investigation and meet assessment standard 1.1.

If you provide all candidates from a class with both the protocol and materials to carry out an experiment or practical investigation and there is no evidence to suggest that they have individually been involved in planning the investigation, then they cannot meet assessment standard 1.1.

In a situation where all candidates carry out the same experiment or practical investigation and pool the results, you could use the evidence generated to meet assessment standards 1.2 to 1.5. You would need to use an additional investigation, where each candidate is involved in planning, to meet assessment standard 1.1. Candidates could plan an investigation simply to generate evidence for assessment standard 1.1. They do not have to carry out the investigation.

What level of guidance can I give candidates before and during the write-ups of outcome 1?

You can clarify with candidates how to produce evidence for their write-up. You can advise candidates how to approach an activity or assessment and guide them in producing their response. You may also prompt candidates, where appropriate, to clarify that they have met the requirements of the assessment; however, you must not direct them to any specific response. For example, you should not provide specific advice on how to improve responses or provide model answers. Candidates, or groups of candidates, must work with minimal support from you.

Are candidates allowed to re-draft their outcome 1 report?

You should give candidates the opportunity to re-draft their report to meet the assessment standard(s) that they have not achieved. You can find guidance on re-assessment in the unit assessment support packs.

Are replicates a requirement in the write-up?

Replicates are not a requirement, but they are good practice and, where possible, you should encourage candidates to carry out replicates.

Do candidates have to write about how they control variables in assessment standards 1.1 to 1.6?

Yes. Review the Course and Unit Support Notes as they contain exemplification of standards.

Can I give candidates a rough method that they plan around?

Yes, this is appropriate support to give them; however, at National 3, candidates should follow given procedures.

Outcome 2 — National 3 and 4

Outcome 2 has the following assessment standards:

- ♦ 2.1 Making accurate statements
- ♦ 2.2 Solving problems

Candidates no longer need to produce a short report(s).

How can I assess candidates for outcome 2?

You have two options for assessing outcome 2.

Option 1

You can assess candidates using a single test with marks and a cut-off score.

A suitable unit assessment covers all the key areas **and** assesses each of the problem-solving skills. If a candidate achieves 50% or more of the total marks available in a single unit assessment, they will pass outcome 2 for that unit.

Option 2

You can assess assessment standards 2.1 and 2.2 separately using the existing unit assessment support packs.

Using this approach, candidates must achieve 50% of the available marks for assessment standard 2.1 in each unit and 50% of the total marks available for assessment standard 2.2 across the units.

You can break down the assessment tasks for assessment standard 2.1 into questions on each key area. You should not break down the assessment tasks any further.

If I adapt the questions and/or answers in a unit assessment support pack, or produce my own assessment material, do I need to have them prior verified?

The questions in the unit assessment support packs are a sample set of questions and you can use them unaltered or adapt them to suit your centre's individual needs. You can also replace them with suitable alternatives of a similar standard.

The answers provided in unit assessment support packs are for marking guidance and you can adapt them as long as you maintain the standard. If you make small changes to the questions or the marking guidance, you must note this on any material you send to us for verification purposes. If you make large changes or produce your own assessment material, you should have these prior verified by us before you use them with candidates.

National 4 added value unit

Have you changed the added value unit?

We introduced marks and a cut-off score the Science Assignment (National 4) added value unit. You should apply a cut-off score of 50%. Candidates must achieve 7 marks or more to pass.

Can we develop our own assessments for the added value unit?

Yes, you can develop your own assessments for the National 4 added value unit.

Are candidates allowed to re-draft their report after I have marked it?

Yes, candidates are allowed to re-draft their report, but this counts as a re-assessment opportunity.

What can candidates access during the write-up?

During Stage 2: the communication stage, candidates should have access to the material that they generated in Stage 1: the research stage. During Stage 2, candidates select, process and present the information or data from Stage 1. They must not use prepared drafts.

Can candidates choose any topic to research for the added value unit if it is relevant to the National 4 course?

Candidates should select and investigate a topical issue from a unit of the National 4 Science course.

The resource packs in the National 4 Science Course and Unit Support Notes exemplify material that you could give candidates as a starting point for their research.

You will find general questions and answers about National Qualifications on our website at www.sqa.org.uk/faq.