



Common questions about National 3 and National 4 Science

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General questions

What are the implications as a result of the Subject Review Reports that were published in May 2016?

- ◆ [Science Subject Review Report](#)

Guidance notes explaining the impact on assessment for candidates being presented in session 2016-17 have been published on SQA's website.

To access the Guidance notes click on the links below:

- ◆ [National 3 Science](#)
- ◆ [National 4 Science](#)

What exemplification material has been produced for the Science National Qualifications?

Presentations and materials used to deliver the Understanding Standards events for internal assessment in the Science National Qualifications have been published.

Training materials used for workshops and presentations from the Nominee events for National 3 and National 4 have been published on the Understanding Standards Events Materials page on SQA's website: <https://www.sqa.org.uk/sqa/71902.html>

These materials may be useful for Nominees to help them cascade information to colleagues in their centre, local authority or sector. Equally, anyone delivering the National Qualifications may find the materials helpful in developing their understanding of the standards required.

Understanding Standards packs have been published on SQA's secure website for Science: www.sqa.org.uk/sqasecure. These packs are intended to provide teachers, lecturers and assessors with a clear understanding of why specific examples of candidate evidence have or have not met the national standard for a named unit(s). Contact your SQA Co-ordinator for access to SQA's secure website.

Will SQA continue to produce exemplification material for the National Qualifications?

SQA will continue to produce exemplification material for the National Qualifications as appropriate and when possible.

Units and Assessment Standards

Are unit passes transferrable between levels?

The National 3 and 4 Science Units are in a hierarchy; for example if a candidate passes the **complete** unit(s) at National 4 there would be no requirement for them to be presented for the same unit(s) at National 3.

Are Assessment Standards transferrable between levels?

Candidates do not require to be assessed on Assessment Standards at National 3 if they have achieved one or more of the Assessment Standards at National 4.

Outcome 1 — National 3 and 4

What changes have been made this session to Outcome 1?

Candidates are no longer required to show full mastery of the Assessment Standards to achieve Outcome 1. Instead the following must be met to achieve a pass:

- ◆ National 3: 4 out of the 5 Assessment Standards
- ◆ National 4: 5 out of the 6 Assessment Standards

There is still the requirement for candidates to be given the opportunity to meet all Assessment Standards. The above thresholds have been put in place to reduce the volume of re-assessment where that is required.

Please refer to the Guidance notes for further information.

Can we assess Assessment Standards 1.1 to 1.6 over a number of experiments/practical investigations rather than having a one-off set investigation?

Yes. Evidence for Outcome 1 may be gathered from a series of experiments/practical investigations from individual units or across the course. The Assessment Standards can be achieved via a number of pieces of evidence covering work done 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/observations to be made
- ◆ the resources
- ◆ the method, including safety considerations

In order to achieve Assessment Standard 1.1, all five of these Evidence Requirements should be described in one experimental/investigation plan.

Can candidates achieve Assessment Standard 1.1 by following a protocol provided by their assessor?

Centres are expected to ensure that contexts that allow active planning by all candidates are chosen for investigations as this is clearly the spirit of what is intended by 1.1 Planning an experiment/practical investigation. The exception is at National 3 where Assessment Standard 1.1 is 'following given procedures safely'.

If a protocol for a method is used 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 the planning of the experiment/practical investigation and meet this Assessment Standard. Where a report suggests that all candidates from a class have been provided with both the protocol and materials to carry out an experiment/practical investigation and there is no

evidence to suggest that they have individually been involved in the planning of the investigation then they cannot meet Assessment Standard 1.1.

In a situation where all candidates carry out the same experiment/practical investigation and pool the results, the evidence generated could be used to meet Assessment Standards 1.2–1.5. An additional investigation, where each candidate is involved in the planning, would be required to meet Assessment Standard 1.1. It may be that the investigation they plan is simply for the purpose of generating evidence for this Assessment Standard and is not actually carried out.

What level of guidance can candidates get before and during the write ups of Outcome 1?

Assessors can clarify with candidates how to produce evidence for their write up. They can advise candidates how to approach an activity or assessment and guide them in producing their response. Assessors may also prompt candidates, where appropriate, to clarify that they have met the requirements of the assessment; however they should not direct them to any specific response. For example, assessors should not provide specific advice on how to improve responses or provide model answers. Candidates, or groups of candidates, are expected to work with minimal teacher support other than in selecting and gathering of evidence.

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

Candidates should be given the opportunity to re-draft their report in order to meet the Assessment Standard(s) that they have not achieved. Guidance on re-assessment arrangements is provided in the unit assessment support packs.

Can you confirm that replicates are not a requirement in the write up?

Replicates are not a requirement but they are good practice and where possible should be encouraged. Observations/measurements taken should be appropriate.

Can you confirm that in Assessment Standards 1.1 to 1.6 we need to write how variables are controlled?

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

Is it acceptable to give candidates a rough method, which 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
- ◆ 2.4 Solving problems

Assessment Standards 2.2 and 2.3 have been **removed**. Candidates are therefore no longer required to produce a short report(s) covering these Assessment Standards.

Can you clarify how we can assess candidates for Outcome 2 in session 2016–17?

During session 2016–17, centres have two possible options when assessing Outcome 2.

Assessment Standards for knowledge and understanding and problem solving are no longer required to be passed independently; they can now be assessed by means of a single assessment for each unit.

Option 1

Candidates can be assessed by means of a single test that contains marks and a cut-off score. A suitable unit assessment will cover all of the key areas **and** assess each of the problem solving skills. Where a candidate achieves 50% or more of the total marks available in a single unit assessment they will pass Outcome 2 for that unit. Existing unit assessment support packs can be used during session 2016–17. Guidance on the use of each pack is noted in the guidance notes.

- ◆ [National 3 Science](#)
- ◆ [National 4 Science](#)

Option 2

Centres can continue to use the unit assessment support packs from SQA's secure site or their own centre devised assessments in the same way as before.

If this option is chosen, 50% or more of the KU statements made by candidates must be correct in the unit assessment and at least one correct response for each problem solving skill is required to pass Outcome 2. However, if a candidate is given more than one opportunity in a unit assessment to provide a response for a problem solving skill, then they must answer 50% or more correctly.

If we have adapted the questions and/or answers in a Unit assessment support pack, or produced our own assessment materials, do we need to have them prior verified?

Centres should note that the questions provided in the unit assessment support packs are a sample set of questions and centres may use these unaltered or adapt them to suit their individual needs. Centres may also replace them with suitable alternatives of a similar standard. The answers provided are there for marking guidance and can also be adapted as long as the standard is maintained. If small changes are made to either the questions or the marking guidance these should be noted and provided with any materials sent in for verification purposes. If large changes are made or new assessment materials produced, centres are advised to have these prior verified by SQA before use.

National 4 Added Value Unit

What changes have been made to the Added Value Unit?

Marks and a cut-off score have been introduced to the Science Assignment (National 4) Added Value Unit. Centres must use the criteria exemplified in the [Guidance notes](#) during session 2016–17. A cut-off score of 50% should be applied. Candidates must achieve 7 marks or more to pass.

Can we develop our own assessments for the National 4 Added Value Unit?

Yes, centres can develop their own assessments for the National 4 Added Value Unit or use the SQA-developed assignment on SQA's secure site to assess the National 4 Added Value Unit.

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

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

What can candidates have access to during the write up?

During Stage 2: the communication stage, candidates should have access to the material that they have generated in Stage 1: the research stage. During this stage the candidate selects, processes and presents their information/data which is generated in Stage 1: the research stage. Prepared drafts should not be used.

Can candidates choose any topic to research for the Added Value Unit as long as it is relevant to the National 4 Course?

Candidates will select and investigate a topical issue from a unit of the National 4 Science Course.

The resource packs in the *Course and Unit Support Notes* for National 4 are only intended to exemplify material that might be given to candidates as a starting point for their research. It is not mandatory to use any of the topical issues, for example Transport Safety; centres are free to select other appropriate investigations.