



Qualification Verification Summary Report

NQ Verification 2018–19

01

Section 1: Verification group information

Verification group name:	Physics
Verification event/visiting information	Event/visiting
Date published:	June 2019

National Courses/Units verified:

H256 73	National 3	Electricity and Energy
H258 73	National 3	Dynamics and Space
H256 74	National 4	Electricity and Energy
H258 74	National 4	Dynamics and Space
H25A 74	National 4	Waves and Radiation
H25C 74	National 4	Physics Assignment — added value unit
H256 75	SCQF level 5	Electricity and Energy
H258 75	SCQF level 5	Dynamics and Space
H25A 75	SCQF level 5	Waves and Radiation
H4KX 76	SCQF level 6	Electricity
H4KY 76	SCQF level 6	Our Dynamic Universe
H4L0 76	SCQF level 6	Particles and Waves
H7XD 77	Advanced Higher	Rotational Motion and Astrophysics
H7XE 77	Advanced Higher	Quanta and Waves
H7XF 77	Advanced Higher	Electromagnetism
H7XG 77	Advanced Higher	Investigating Physics

02

Section 2: Comments on assessment

Assessment approaches

All centres verified used the unit assessment support packs (UASPs) produced by SQA for the initial assessment of candidates, with a few using centre-devised assessment instruments for candidates who required re-assessment. All centres verified were using the unit-by-unit approach to assess candidates. The majority of centres submitted evidence for outcome 2 only.

All centres assessed candidates at SCQF levels 5 or 6 for outcome 2 with a limited number of the centres including evidence for outcome 1. In many cases, the centres had intimated that the unit assessment was complete, without supplying evidence to confirm outcome 1. Evidence for the assessment of outcome 1 must be included where unit assessment is complete and an overall decision supplied.

A number of centres are not using the most recent unit assessment support packs. The most recent unit assessment support packs should be used and are available from SQA's secure site. When using the most recent unit assessment support packs the marking guidance for assessing assessment standards 2.1 and 2.2 has been revised from previous versions. Centres should therefore refer only to the marking guidance in the most recent unit assessment support packs.

Some centres have adapted the marking approach for outcome 2 in the UASPs to a holistic approach, where candidates require to gain 50% or more over in the test to achieve outcome 2. This approach is only valid where a centre adapts the original assessment instrument by allocating 3 marks to processing questions and including additional processing questions of the type known as 'the standard three marker'. Centres may also choose to replace some of the accurate statement questions with additional processing questions, provided key areas are still assessed adequately.

Advice on adapting UASPs can be found in the unit specifications on the [Freestanding Physics units](#) web page.

Some centres had taken the approach of allocating 1 mark for each response, including processing questions and then applying a cut-off score of 50%. Some centres had allocated 3 marks to calculations but had not added additional calculations to better reflect the balance of knowledge and skills. Neither of these approaches is valid.

Centres are reminded that holistic tests to use for assessing outcome 2 holistically were published for some levels of Physics (not SCQF level 5) and are available on SQA's secure website. These tests have marks allocated appropriately and a cut-off score. Centres are also reminded that these tests are for use as a single assessment and must not be split.

A number of centres have adopted the original assessment structure where assessment standard 2.1 and each of the assessment standard 2.2 types are assessed independently requiring the candidates to gain a minimum of 50% correct for each area. This is still a valid method of assessment and can be used without any adaptation of the published assessment instrument.

It was also noted that some centres, although assessing assessment standards 2.1 and 2.2 independently, had adopted an invalid approach to assessing assessment standard 2.2 by assessing the problem-solving skills holistically and applying a 50% cut-off in a similar way to how they were assessing assessment standard 2.1. Where assessment standards 2.1 and 2.2 are being assessed

independently, each problem-solving skill must be evidenced for the assessment standard to be achieved.

When a centre accepts responses other than those in the marking guidance they should annotate the marking guidance to reflect the additional correct responses. Some centres had made annotations to the marking guidance which was helpful. However, in a few cases the additional responses recorded on the marking guidance were incorrect. Centres should therefore ensure that any additional responses added to the marking guidance are appropriate and correct.

For the assessment of Investigating Physics at Advanced Higher level, centres are again reminded that, unless they have a large uptake (more than 10) at Advanced Higher level, there is no reason for multiple candidates from the same centre to be investigating the same topic. Where centres have more than 10 candidates they must minimise the number investigating the same topic.

Assessment judgements

A large number of centres annotated candidate evidence clearly to show where the assessment standards had been achieved. The majority of assessment judgements were accurate and reliable. Most centres submitted candidate record sheets showing the assessment decisions, which aided the external verification process.

Outcome 1

When a centre has stated that a unit is complete for candidates at SCQF level 5 then an outcome 1 report must be included for external verification purposes.

For SCQF level 6, where candidates are entered for the Researching Physics unit, the evidence for candidates passing this unit can be transferred as evidence for outcome 1. However, where candidates are entered for SCQF level 6 units but not the Researching Physics unit, an outcome 1 report must be submitted for verification purposes.

Assessment judgements for outcome 1 were found to be less reliable than those for outcome 2.

Centres are reminded that in assessing outcome 1, it is vital that the judging evidence tables contained in the unit assessment support packs are used to ensure that all aspects of a particular assessment standard have been achieved. When selecting an experiment to carry out and assess outcome 1, centres should ensure that the experiment draws on knowledge and understanding from a key area of the unit or course at that particular level.

For assessment standard 1.3, candidates must include raw data, presented in a table, with appropriate headings and units. This was not always evident in the candidate evidence with the headings not covering all columns of the table.

When assessing assessment standard 1.4, candidates require to process the raw data by either the inclusion of another column of calculations in the table or/and the drawing of a graph. In most cases a graph would be the appropriate means of providing evidence for assessment standard 1.4. Where a graph is used, candidates should be encouraged to select an appropriate scale that allows the plotting and checking of the points to be easily carried out.

Outcome 2

When centres are making assessment decisions they should refer to [Physics: general marking principles](#).

Where a particular question requires units to be included in the answer, the units must be correct. When the units are given in the question, a correct response would still require units. The exception to this is where a candidate is completing a table by entering a value and the units are already included in the column headings.

When a 'show' type question is used, it is important that a correct relationship is used as the first line in the candidate's response. If this is not present then zero marks should be awarded for that question (general marking principle 20).

Rigorous, accurate and consistent application of a marking guidance is essential in assessing outcome 2. This can be facilitated by having effective internal verification procedures within a centre.

It is also important that assessors record clearly on the candidate evidence where they decide that an assessment standard has been achieved. This would aid the internal verification of the candidate assessment and also the external verification process. It is also important that the centre applies the internal verification procedures and clearly demonstrates what the final decision is after any disagreement with the original assessor and should clearly demonstrate the agreed final decision by the centre.

03

Section 3: General comments

This session in round 1, centres were either selected for verification in Physics for units at National 3, 4 and Advanced Higher. The vast majority of centres were found to be using a valid approach and made reliable assessment decisions.

In round 2, centres were either selected for verification in Physics for the added value unit at National 4 and units at both SCQF levels 5 and 6. Visiting verification also took place for the Advanced Higher Investigating Physics unit.

Some centres submitted candidate evidence for more than one unit at a particular level. Centres are only required to submit candidate evidence for one unit with the addition of another unit evidence where an assessment standard has been achieved over the two units. A centre is free to choose which unit to submit

candidate evidence for at each level. It must choose the same unit for all candidates at any one level, but it can choose different units for different levels.

Some centres have applied a 50% cut-off score for either the whole outcome 2 or for both assessment standards 2.1 and 2.2 while using a single mark for each of the candidate's responses. This is not a valid method and should not be applied.

Almost all centres submitted candidate evidence which had been internally verified. For external verification purposes, evidence should be supplied to demonstrate the internal verification process, not only in the provision of a centre/department policy but on the effective use of the policy on the candidates' work.

It is important that centres record clear assessment decisions both on the candidate scripts and on an appropriate recording sheet to allow both internal and external verification to be carried out effectively. During the internal verification process, it is vital that the verifier's markings are clearly visible and any final decision, especially where there was a difference of opinion, is made clear. For some evidence submitted, it was not clear what the final decision was.