



NQ verification 2023–24 round 1

Qualification verification summary report

Section 1: verification group information

Verification group name:	Physics
Verification activity:	Mixed (event and visiting)
Date published:	June 2024

National Units verified

Unit code	Unit level	Unit title
H258 73	National 3	Physics: Dynamics and Space
H25A 73	National 3	Physics: Waves and Radiation
H256 74	National 4	Physics: Electricity and Energy
H258 74	National 4	Physics: Dynamics and Space
H25A 74	National 4	Physics: Waves and Radiation
J20D 76	SCQF level 6	Researching Physics
J2B9 77	SCQF level 7	Investigating Physics

Section 2: comments on assessment

Assessment approaches

All centres selected for this verification round used SQA's unit assessment support (UAS) packs. These are available from SQA's secure site.

Almost all centres utilised the holistic pack, Outcome 2: Assessment Activity 2 — test 1, to make clear assessment judgements on the candidates' attainment.

Centres that submitted evidence for outcome 1, used the Package 1: Unit-by-Unit approach UAS pack, and applied the requirements of the judging evidence table appropriately.

For the verification visits covering J20D 76 Researching Physics (SCQF level 6) and J2B9 77 Investigating Physics (SCQF level 7), the centres selected applied the requirements found in the appropriate UAS packs, unit-by-unit approach.

A very small number of centres used the original UAS pack approach to assess the knowledge and understanding (assessment standard 2.1) and each of the problem-solving skills individually (assessment standard 2.2). A small proportion of these centres used an invalid approach to assess the candidates, as they had allocated 1 mark to each question in the assessment and then applied a 50% cut-off score to judge a pass. The advice in the UAS pack makes it clear that when adapting these assessments, the processing questions should be allocated 3 marks, with the requirement to add, or substitute additional processing questions to better reflect the importance of calculations in physics.

For verification of National 3 and National 4, centres that utilised the holistic assessment approach contained in the Outcome 2: Assessment Activity 2 tests, had far fewer issues than those that attempted to adapt the original Package 1: Unit-By-Unit approach.

All centres selected for visiting verification used the UAS packs available from SQA's secure site for both the SCQF level 6 and SCQF level 7 candidates. These packs were applied consistently across the centres.

Assessment judgements

All centres that used Outcome 2: Assessment Activity 2 – test 1 to holistically assess the candidates made accurate and reliable assessment judgements.

The small number of centres who used the original assessment approach of assessing assessment standard 2.1 and each of the problem-solving skills for assessment standard 2.2 individually made accurate and reliable judgements.

Where centres had attempted to adapt this UAS pack to use with marks and a cut-off score, they received a 'not accepted' decision as they had not followed the instructions about how to adapt the assessment correctly. This resulted in an invalid approach, meaning the assessment judgements were neither reliable nor accurate.

Some centres stated that the evidence they had submitted for verification was complete. However, they did not include evidence covering the outcome 1 experimental report. These centres received a 'not accepted' decision as complete evidence must include evidence for both outcome 1 and outcome 2.

All centres displayed evidence of some form of internal verification. However, in a small number of centres, the internal verification processes were ineffective, as they had failed to identify issues that were then identified at the verification event. In a small number of cases, the internal verifier had changed a correct assessment judgement by the original assessor to be incorrect.

During the visiting verification events, the supporting evidence for centre decisions was readily available and the ability to discuss this with the centre staff made it possible to action any issues identified.

Section 3: general comments

Some centres do not understand the difference between complete evidence and interim evidence. This is despite the subject-specific instructions issued to centres selected for verification stating: 'Where evidence is indicated as being complete, candidate evidence for both outcome 1 and outcome 2 must be provided.'

Where a selected centre has evidence for one outcome only at the point that the sample is being submitted, it must be labelled interim, and the centre must make a pass or fail decision for that outcome only. For example, if a centre only has evidence for outcome 2 at that point, and the candidate has passed outcome 2, the decision should be pass. Some centres had indicated 'fail' because the candidate had still to be assessed on outcome 1.

For interim evidence, the pass or fail decision indicated by the centre is not the final decision for the unit. The final decision for the unit would be made when all outcomes had been assessed and after any necessary re-assessment.

Where centres are not using the holistic assessment approach for assessment standards 2.1 and 2.2, we strongly advise that they switch to such an approach and use the two Outcome 2 Activity 2 – tests available on SQA's secure site. These are more straightforward to administer, mark, and track compared to the atomistic approach in the original UAS packs. As there are two holistic tests available for each unit, centres should no longer attempt to adapt the original Package 1: Unit-By-Unit approach assessments.

All assessment outcomes must be assessed before a completed unit result can be recorded with SQA — both outcome 1 and outcome 2 are required.

Centres must use the most up-to-date marking guidance for any unit, which is available on SQA's secure site. Revisions to unit assessments are communicated to centres via [SQA News](#).

When marking assessments, centres must apply the national standard, including applying the [Physics: general marking principles National 3 — Advanced Higher](#) when using the holistic Outcome 2 Activity 2 tests.

Assessors must not adopt an approach of 'I know what they meant' when marking, as this approach leads to lenient marking and decisions that are not in line with the national standard. It must be clear what the candidate response is so that the assessor does not need to interpolate the given answer to fit the correct one.

Centres should also only ask for verbal clarification from a candidate when the candidate's response is unclear or unreadable. It is not appropriate to ask candidates to revisit incorrect answers to questions or to ask them to change incorrect answers.

Feedback from centres that were selected for visiting verification was that they found this process to be supportive, as they could seek clarification if they faced an issue with their interpretation of the SQA documentation.



NQ verification 2023–24 round 2

Qualification verification summary report

Section 1: verification group information

Verification group name:	Physics
Verification activity:	Event
Date published:	June 2024

National Units verified

Unit code	Unit level	Unit title
H25C 74	National 4	Physics Assignment: Added Value Unit
J2CK 75	SCQF 5	Physics: Dynamics and Space
J2CL 75	SCQF 5	Physics: Electricity and Energy
J20B 76	SCQF 6	Physics: Our Dynamic Universe
J20C 76	SCQF 6	Physics: Particles and Waves

Section 2: comments on assessment

Assessment approaches

Round 2 verification included evidence for the National 4 Added Value Unit from a selection of centres.

All centres used SQA's published Added Value Unit assessment support pack and made use of the holistic assessment process. This meant that all the Added Value assessments were marked out of a total of 14 marks, with a pass mark of 7.

Some centres had attempted to use a copy of a National 5 assignment as evidence for the National 4 Added Value Unit for some of their candidates. However, this often caused difficulties as the topic chosen by the candidate was not a topical issue in physics and it meant that many of the marks were not available to the candidate. In some cases, centres had indicated that a candidate had passed, but when applying the National 4 judging evidence criteria the candidate had insufficient marks for a pass.

For the National 4 Added Value Unit it is important that candidates are reminded that the issue to be investigated must be topical.

For candidates undertaking the National 4 Added Value Unit, it is recommended that they undertake the appropriate assessment rather than using a National 5 assignment report, as the marking criteria are different.

The centres selected for SCQF level 5 to SCQF level 7 freestanding units used SQA's published unit assessment support (UAS) packs available from SQA's secure site.

All centres verified were using the unit-by-unit approach to assess candidates at SCQF level 5 and SCQF level 6, with only a small number of centres submitting evidence covering outcome 2 only.

For outcome 1, centres used the judging evidence table in the original unit-by-unit approach UAS packages.

For outcome 2, almost all centres used the holistic tests, with marks and a cut-off score, to assess the outcome appropriately.

A small number of centres who assessed the candidates using the original UAS packages had attempted to adapt it to a holistic approach, where candidates were required to achieve 50% or more in the test to achieve the outcome. A very small number had done so successfully, by allocating marks to questions appropriately and including additional questions testing processing (standard 3-mark calculations).

However, some centres had attempted to assess knowledge and problem solving separately but used an invalid approach where they required candidates to answer half or more of the 'making accurate statements' correctly to pass assessment standard 2.1 and half or more of the problem-solving questions correctly to pass assessment standard 2.2. When using the original 'atomistic' assessment approach, to pass assessment standard 2.2, candidates must pass each problem-solving skill separately.

Centres are reminded that the original UAS packs have advice on the adaptations required to assess successfully. Although, given that there are separate outcome 2 holistic tests with marks and a cut-off score available for every level, centres should not need to adapt the original UAS packages.

As almost all centres have now switched to using the outcome 2 holistic tests, it is strongly recommended that all centres do so.

Some centres had submitted evidence for both outcome 1 and outcome 2 but had identified it as interim because the candidate had failed an outcome. Where evidence for both outcome 1 and outcome 2 are submitted, it must be marked as complete. Candidates may still be reassessed on any outcomes they have not passed.

Evidence must only be identified as interim if there is no evidence at that point for a particular outcome.

Assessment judgements

Centres are reminded that they must refer to SQA's assessment support materials and judging evidence tables for support, to ensure that their assessment decisions are in line with national standards.

For the National 4 Added Value unit, a large number of centres annotated the candidate evidence clearly, to show where the evidence met the standard for each of the assessment standards. Where centres had undertaken a dedicated National 4 Added Value unit with their candidates, all centre assessment decisions were accepted.

Where centres had attempted to use a National 5 assignment as evidence for a National 4 Added Value unit, there were some issues with overall judgements where marks had been awarded inappropriately. In some cases, this resulted in a pass changing to a fail.

For assessment standard 1.1, a small number of centres awarded 2 marks inappropriately when the candidate had not investigated a relevant topical issue in physics or given a statement to explain why the issue was relevant to society or the environment. This was particularly the case where centres tried to use a National 5 assignment as evidence.

For assessment standard 1.4, a small number of centres awarded 2 or 3 marks even though the candidate had not 'explained/described the underlying physics as it relates to the issue' and/or 'explained/described at least one impact of the issue on the environment and/or society, using some knowledge of the underlying physics'.

For the SCQF level 5 and 6 units that were verified, almost all centres were using the outcome 2 holistic tests. These centres tended to apply the [Physics: general marking principles— National 3 to Advanced Higher](#) on SQA's website accurately and consistently.

Where centres submitted Outcome 1 reports, they mostly applied the judging evidence criteria accurately and consistently. There was some evidence of lenient marking, especially for assessment standard 1.4 (Presenting results in an appropriate format), where assessors had allowed incorrectly plotted points and/or best fit lines on graphs. However, this tended not to change the overall decision for candidates, as they had still achieved five out of the six assessment standards.

Effective internal verification processes were clearly visible with most of the centres verified in round 2. A small number of centres had ineffective internal verification procedures, where errors in marking or making assessment judgements were not picked up by the internal verifier or correct assessment judgements by the assessor were changed to incorrect judgements by the internal verifier.

Section 3: general comments

For the National 4 Added Value unit, it is recommended that centres undertake a dedicated National 4 assignment rather than attempting to mark a National 5 assignment against the National 4 Added Value unit criteria, since National 5 assignments are unlikely to be able to access some of the marks since they do not investigate a topical issue.

Centres are also reminded that an Outcome 1 from the 'content-based' units cannot be marked as a National 4 Added Value unit, since Outcome 1 in the 'content-based' units requires candidates to plan and carry out an experiment or practical investigation and the National 4 Added Value unit does not have to include an experiment or, if it does, the candidate is given the method.

Centres are also reminded that a National 5 or Higher assignment report cannot be used as evidence for Outcome 1 in the SCQF level 5 or SCQF level 6 units, for the same reason.

For Outcome 2, centres are reminded that there are two holistic tests available, with marks and a cut-off score. Centres should not adapt the original 'atomistic' unit assessment support packs to use with marks and a cut-off score. If following the 'atomistic' approach, assessment standards 2.1 and 2.2 are assessed separately, and for assessment standard 2.2 each problem-solving skill must be passed separately. Allocating individual marks to the problem-solving questions for assessment standard 2.2 and applying a 50% cut-off to the total for the questions is not a valid approach and must not be applied.

It is important that centres record the assessment decisions for each candidate clearly on the candidate's scripts and the candidate sample form to allow the external verification process to make clear decisions based on the centre's decisions.

Where there is a difference of opinion between the assessor and internal verifier, it is important that centres make the final assessment decision clear. Centres should include notes of any discussion to explain how the final decisions are determined.