



**National Qualifications 2016
Internal Assessment Report
Skills for Work: Laboratory
Science**

The purpose of this report is to provide feedback to centres on verification in National Qualifications in this subject.

National courses

National 5 Skills for Work: Laboratory Science

F86K 75	Careers using Laboratory Science
F86L 75	Working in a Laboratory
F86M 75	Practical Skills
F86N 75	Practical Investigation

General comments

The course has been delivered by centres since session 2010–11.

All centres visited in session 2015–16 had a very good understanding of the requirements of the course/units and had made contact with other centres prior to undertaking the course to share resources and good practice.

The approval visits prior to the delivery of the course have been particularly useful for both centres and verifiers. These provided opportunities to discuss any issues related to the course which required clarification, including appropriate internal verification procedures and appropriate course assessment procedures, as well as what to expect in an external verification visit.

Course arrangements, unit specifications, instruments of assessment and exemplification materials

Assessors and internal verifiers in all centres were very familiar with the course as a whole, as well as the course and unit specifications. SQA assessment materials were used by all centres with appropriate changes to enhance the candidate experience. SQA support materials were also used, again with appropriate changes and additions to support learning and individual centre assessment strategies.

Evidence requirements

The evidence submitted by centres during external verification showed a clear understanding of the requirements by all centres.

At the time of external verification some centres were still completing the Practical Investigation unit. These centres had good plans to ensure the delivery of this unit.

Administration of assessments

All centres assessed the units of the course to an appropriate standard and were able to justify both positive and negative outcomes of candidates' assessments for each outcome or unit.

Appropriate internal verification was evident in all centres. All centres also had internal verification plans and documented evidence to show discussion of

internal verification issues arising during the course, as well as documented decisions regarding these issues. Internal verification had taken place in a formal, documented manner in all centres.

Most centres were in the process of completing the Practical Investigation unit at the time of external verification; however, all could show that good plans were in place to complete the teaching and assessment of the unit.

Areas of good practice

All centres visited presented the candidate evidence appropriately for external verification. The materials were well organised and easily accessible by external verifiers. All centres had used the materials provided by SQA for recording evidence and tracking of candidate progress, or had suitably adapted the recording materials to meet their own needs and the requirements for external verification.

Most centres opted to deliver the Careers using Laboratory Science unit throughout the course. This is good practice as it allows candidates time to reflect with regard to their self-evaluations.

Many centres had used their science technicians to enhance the course in areas such as career paths and qualification discussions and internal verification of practical work.

Many centres gave candidates a choice of topic for the Practical Investigation unit to suit their own needs.

Some centres had produced excellent materials for all areas of the course and had ensured that these materials did not deviate from the requirements for external verification. Examples included the four types of calculation required for the Working in a Laboratory unit for which evidence can be spread across any unit of the course, as well as combining outcomes in the Careers using Laboratory Science unit to avoid unnecessary repetition for candidates and loss of motivation.

In some centres STEM ambassadors were utilised to give talks to candidates and to organise a trip to a scientific-based industry or centre.

In some centres very clear and useful links had been made with internal and external agencies for input to the course in terms of interview skills and completion of applications for employment.

Specific areas for improvement

Centres should ensure that internal verification takes place as soon as possible after completion of the outcomes and that internal verification is dated to show this.

Centres should ensure that calculations requirements for external verification have appropriate units and significant figures for final answers. The number of significant figures is dictated by the apparatus used in the activity. Centres can also use the significant figures rules used in National 5 courses which are externally examined.

Where evidence for the four types of calculation required are taken from other units in the course, then for the purposes of external verification, centres should make it clear where the evidence for the calculations can be found.

Centres should ensure that candidates show initial and final volumes with appropriate units for the titration practical in the Practical Skills unit.

Centres should ensure that centre-devised class records closely match the exemplar records produced by SQA.