Route map through assessment

Course: Mathematics Level: National 4

This document is intended to assist teachers in planning and delivering the overall vision for Curriculum for Excellence.

The vision for the new national qualifications is to create assessment opportunities that follow and support learning and teaching. This follows the principles laid out in *Building the Curriculum 5* and makes assessment a natural part of learning and teaching.

This route map aims to signpost all of the relevant material that is available to support your subject. Your professional judgement is vital and the documents listed below are intended to support you in deciding the most appropriate ways to generate evidence and assess candidates.

Education Scotland has produced a professional focus paper for mathematics, and this is a good starting point as it provides support to help develop learning and teaching approaches that take forward the purposes and principles of Curriculum for Excellence through Mathematics National 4.
http://www.educationscotland.gov.uk/resources/ng/m/nqresource_tcm4745477.asp?strReferringChannel=nationalqualifications&strReferringPageID=tcm:4-740884-64&class=l1+d158233

Mathematics National 4 course content

The main SQA mathematics page is found at http://www.sqa.org.uk/sqa/45750.html, with pages specifically related to National 4 at http://www.sqa.org.uk/sqa/47417.html. Staff should also regularly check the updates and announcements section of this page.

The course specification can be found at
http://www.sqa.org.uk/files_ccc/CfE_CourseSpec_N4_Mathematics_Mathematics.pdf.

There are four units: Expressions and Formulae, Relationships, Numeracy and the Added Value Unit.

More detail on course coverage can be found in the course support notes.
http://www.sqa.org.uk/files_ccc/CfE_CourseUnitSupportNotes_N4_Mathematics_Mathematics.pdf

A course comparison from National 4 to National 5 is also available.
http://www.sqa.org.uk/files_ccc/Maths_Course_comparison.pdf

Course assessment – Added Value Unit

At National 4 the Added Value Unit assesses the course and comprises two question papers.
http://www.sqa.org.uk/files_ccc/CfE_Unit_N4_Mathematics_AddedValueUnit.pdf

Question papers
Paper 1: This is a non-calculator question paper that lasts for 20 minutes. It will be carried out under exam conditions and is set and marked by staff.
Paper 2: This paper lasts for 40 minutes and consists of short and extended response questions. The use of a calculator is allowed. It will be carried out under exam conditions and is set and marked by staff.

In the course assessment, added value focuses on breadth and challenge, and draws on and applies skills learned across the three other units. Numerical skills underpin all aspects of the course.

Unit assessment

Units are mandatory when taken as part of the Mathematics National 4 course but they can be taken independently. Unit support notes follow on from the course support notes.
http://www.sqa.org.uk/files_ccc/CfE_CourseUnitSupportNotes_N4_Mathematics_Mathematics.pdf

Each individual unit also has a National 4 unit specification.

Each unit specification gives details of the outcomes and assessment standards. There are **two** outcomes per unit: one based on operation skills and one based on reasoning skills.

Mathematics: Expressions and Formulae
http://www.sqa.org.uk/files_ccc/CfE_Unit_N4_Mathematics_ExpressionsandFormulae.pdf

Mathematics: Relationships
http://www.sqa.org.uk/files_ccc/CfE_Unit_N4_Mathematics_Relationships.pdf

Numeracy
http://www.sqa.org.uk/sqa/files_ccc/CfE_Unit_N4_Numeracy.pdf

Learners must meet all the outcomes and assessment standards, and staff should read the documentation carefully. Evidence should be generated through learning and teaching. Assessment evidence can be drawn from a variety of activities and presented in a variety of formats. All of the evidence does not have to be generated from one activity but can be from several tasks and assessments carried out throughout the course. Learners should have access to resources to complete the assessment task and no time restrictions should be imposed. Staff should use their professional judgment when looking at the assessment evidence and ensure that minimum competency is met. They should undertake quality assurance regularly.

Three different ways of gathering evidence have been suggested by SQA. The most traditional approach is unit by unit. A combined approach links knowledge and understanding from two units together. Many staff will move towards the portfolio approach as their confidence grows. Here evidence is gathered from everyday learning using key classroom tasks. Unit assessment support is kept on the SQA Secure website.

Verification

The verification process is meant to be supportive and not onerous.

Internal verification is the process of ensuring standards are applied uniformly and consistently within a school in line with national standards. External verification is the process of ensuring that national standards are maintained consistently across all schools.

Quality assurance: http://www.sqa.org.uk/sqa/58448.html

Prior verification

http://www.sqa.org.uk/files_ccc/Prior%20Verification%20Centre%20Guidance%20FINAL.pdf

Staff who devise their own assessments can send them to SQA for prior verification, free of charge. This is only necessary where significant changes have been made to the unit assessment provided by SQA. It gives staff confidence that their proposed assessment is fit for purpose and meets national standards.

Internal verification

http://www.sqa.org.uk/sqa/files_ccc/InternalVerificationGuideforSQAcentres.pdf

As a matter of course staff should be quality assuring their assessments by carrying out activities that they have always done for NABs, for example double marking and blind marking. A sample of learners' work should be marked by more than one staff member in a department, and in single-person departments an arrangement should be made with another local authority school.

External verification

In mathematics schools will submit a sample of learners' evidence for scrutiny by subject-specialist qualification verifiers. SQA intend that every school will be verified over the first few years. Verification will take place in November, February and May. Twelve samples will be asked for.
http://www.sqa.org.uk/sqa/files_ccc/Evidence_required_for_verificationevents.pdf

Schools must retain the evidence until 31 July of each academic year.
http://www.sqa.org.uk/sqa/files_ccc/SQA_Evidence_retention_requirements_A3_table.pdf

Key messages from verification will be put up on the SQA website.

Education Scotland support materials

Advice and support for new national qualifications (Glow password required):
http://www.educationscotland.gov.uk/nqcoursematerials/subjects/mathematics/coursematerials.asp
http://www.educationscotland.gov.uk/nqcoursematerials/subjects/mathematics/learningandteaching.asp

Other useful websites

A quick guide to finding vital information about Curriculum for Excellence:
http://www.educationscotland.gov.uk/keycfesupport/index.asp

This appears under three headings:

- the latest guidance, updates and plans for embedding Curriculum for Excellence
- information on assessment
- information on the new qualifications.

The BBC have pulled together all their learning content in a new Knowledge and Learning Beta site that includes Class Clips:
www.bbc.co.uk/education

The Bitesize websites have also been updated for National 4:
http://www.bbc.co.uk/education/subjects/zyc76sg

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