

AS and A Level Science: Decisions on Conditions and Guidance



In June 2015 we published a consultation about the rules and guidance we proposed to put in place to implement our decisions on assessing practical skills in reformed biology, chemistry and physics A levels.

This consultation set out additional draft Conditions, requirements and guidance that would apply to reformed A level qualifications in biology, chemistry and physics. It also included proposals to consolidate our rules and guidance for biology, chemistry and physics AS and A levels into a single documents that applied to all three subjects.

We have reviewed the responses to the consultation and are now announcing our decisions. We are also publishing a more detailed analysis of the responses alongside this document.¹

Consolidating our rules and guidance for biology, chemistry and physics

Currently, we set out our rules and guidance for AS and A level biology, chemistry and physics in three separate sets of documents. Because our rules and guidance are almost identical in these three subjects, we proposed to consolidate them into a single set of documents that applies to all three subjects.

The majority of respondents supported this proposal, but some felt that it was important for teachers to have separate information for each subject.

To clarify, we proposed that we should introduce a single set of documents that sets out the regulatory rules and guidance for AS and A level biology, chemistry and physics. Exam boards will still need to produce separate specifications for biology, chemistry and physics, so teachers will still have the subject-specific information they need.

Our proposed approach is in line with that for GCSE science, and for modern foreign languages and ancient languages at GCSE, AS and A level. We have therefore decided to confirm this proposal.

¹ www.gov.uk/government/consultations/a-level-reform-regulations-for-biology-chemistry-and-physics

Conditions and requirements for practical science assessments

We proposed that exam boards must:

- include practical activities and assessment of students' practical skills in their specifications;
- require schools to provide an annual statement confirming that they have taken reasonable steps to secure that their students have undertaken at least 12 practical activities, and made a contemporaneous record of their work; and
- ensure that the practical assessments allow students to demonstrate the skills outlined in the subject content.

We also set out the competencies that students must be assessed against, and proposed that students would need 'consistently and routinely' to demonstrate all these competencies in order to receive a pass grade. The competencies had been trialled by the exam boards, working together with a group of schools, to make sure that they would support accurate and consistent assessment.

Although respondents were supportive of our overall approach, they did raise a number of detailed concerns.

Some respondents felt that requiring schools to provide an annual statement on practical work was inappropriate for a two-year course. To clarify, our proposed conditions mean that exam boards will need to collect a 'practical science statement' covering the students entered for exams in any given year. This means that the 'practical science statement' would be submitted at the end of the second year of the two-year A level course.

One respondent also suggested that we should allow flexibility for schools to submit the practical science statements as part of a single form covering all subjects with similar requirements. To clarify, nothing in our rules prohibits such an approach – and we would encourage exam boards to explore ways in which they could minimise the administrative burden on schools.

Some respondents were also concerned that requiring students 'consistently and routinely' to demonstrate practical skills was unclear, and could be difficult or burdensome to evidence.

Our view remains that it is appropriate to assess whether students can consistently and routinely demonstrate practical competencies because this is what other users of the qualification such as employers and universities expect. Whether a student can consistently and routinely demonstrate a competency is, by its very nature, a matter of judgement. It is a judgement that teachers are best placed to make, taking into

account what a student can do by the end of the course and all the relevant evidence from across that course.

A number of respondents commented that we had not specified the records that schools should keep to evidence their judgements on students' practical skills. This is a deliberate choice because we do not think this is something we should specify. We want to give schools and exam boards the freedom to develop approaches that best suit them, support good teaching practice, and avoid imposing unnecessary administrative burdens.

Some respondents also made detailed comments on the drafting of our requirements. In response to those comments, we have made minor changes to our proposed requirements for clarity.

Some exam board respondents raised concerns that the provision in the draft Conditions for exam boards, as well as teachers, to mark the practical science assessment would lead schools to believe they could opt for exam board marking. This is not the intention behind the provision and we accept that for reasons of costs and manageability the practical science assessment will be conducted and marked by teachers. Nevertheless, it is possible that, exceptionally, it might be appropriate for an exam board to mark the assessment and we do not want to prohibit this. We have retained this provision in the Conditions.

Certificate requirements

We proposed that exam boards must:

- determine outcomes of exams and practical assessments separately;
- comply with our requirements on reporting the outcome of practical assessments on certificates – reporting exam results and practical assessments separately, and using a pass/not classified grading scale for practical assessments; and
- allow students to carry forward the outcome of practical assessments if they re-sit their exams.

Most respondents did not comment on these proposals – and those who did were broadly supportive of them. We have therefore decided to confirm our proposals.

One respondent questioned whether it was possible to re-sit the practical science assessment without re-taking the exams. To clarify, our current requirements would not permit this. This is intentional, as the practical skills should be developed as part of the teaching and learning of the whole subject and the assessment is designed to assess students demonstrating the skills over a period, not just as a one-off.

Monitoring of practical science assessments

We proposed to introduce requirements around the monitoring of practical science assessments. In particular, we proposed that exam boards should work together to ensure that at least some of every school's practical science assessments are monitored at least once in a two-year period.

Respondents expressed concerns that it was not clear what evidence exam boards would expect to review on a monitoring visit, and it was unrealistic to expect to observe practical work on every visit. One respondent also commented that our proposed arrangements should only apply to the first two years of the new qualification.

We do not think it is appropriate (or desirable) for us to specify exactly what an exam board should review as part of a monitoring visit. This is for the exam boards to determine. However, we are committed to reviewing these arrangements after the first two years, and we will then take a decision on whether (and if so how) arrangements should change going forward.

One respondent also commented that it was not possible for an exam board to control how well another exam board's representatives conducted a monitoring visit. We have accepted this comment and have made changes to our requirements that reflect the different levels of control that exam boards can exert over their own and others' monitors.

Accreditation of science AS and A level qualifications

We noted that our proposals had the effect of changing the accreditation criteria for AS and A level science qualifications that we have already accredited. We proposed that we should not require exam boards to submit their existing qualifications for re-accreditation – but rather that existing qualifications would need to comply with our new rules. Exam boards' specifications and assessment strategies for these qualifications would have to be revised to that effect.

Respondents largely supported this approach.

We have therefore decided to confirm this proposal, and we will publish a formal determination under section 140(8) of the Apprenticeship, Skills, Children and Learning Act 2009 to give effect to that decision.

Next steps

Alongside this document, we have published revised *Subject Level Conditions and Requirements*² and *Subject Level Guidance*³ for AS and A level science (biology, chemistry, physics).

Reformed AS and A level qualifications in biology, chemistry and physics will be taught in schools from September 2015.

² www.gov.uk/government/publications/gce-subject-level-conditions-and-requirements-for-science

³ www.gov.uk/government/publications/gce-subject-level-guidance-for-science