The Association for Science Education

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A response to the Department for Education consultation on primary assessment in England

The **Association for Science Education (ASE)** is the largest subject association in the UK. Members include teachers, technicians and others involved in science education. The Association plays a significant role in promoting excellence in teaching and learning of science in schools and colleges. Working closely with the science professional bodies, industry and business, ASE provides a UK-wide network bringing together individuals and organisations to share ideas and tackle challenges in science teaching, develop resources and foster high quality Continuing Professional Development. The Association for Science Education can trace its origins back to 1900. Incorporated by Royal Charter in October 2004, the ASE operates as a Registered Charity.

The Association welcomes the opportunity to provide a response to the Department for Education's consultation on primary assessment in England. This submission is informed by ASE's response to the House of Commons Education Committee's inquiry on primary assessment[1] and ASE's statement on assessment in science[2], and has been formulated in consultation with ASE's national Primary Science and Education committees. Together these groups bring expertise in primary science education from a range of viewpoints, including classroom practitioners, educational research, teacher education and professional development.

The Association welcomes the spirit of the consultation as 'a significant step towards establishing a settled, stable primary assessment system that is trusted by teachers and parents' and in support of efforts to address teachers' significant workload issues, agrees with the principles of assessment that 'government should only collect data that is needed for a robust accountability system'. The main focus of our response is on the role, operation and improvement of teacher assessment in science.

The role of key stage 1 statutory assessments

Amongst the core subjects, each with their own characteristics and requirements for effective assessment, the current statutory assessment arrangements for primary science (teacher assessment at the ends of key stage 1 and key stage 2, with biennial sampling tests in Year 6) adequately meet the two purposes of assessment in education – to help learning (formative assessment, also known as assessment for learning) and to summarise what has been achieved at particular times (summative assessment or assessment of learning).

Whilst very young children clearly enjoy and benefit from the many opportunities to explore their world around them during their early years foundation stage, it would not be appropriate for a

[1] ASE's response to the House of Commons Education Committee's inquiry on primary assessment https://www.ase.org.uk/documents/ase-response-hoc-education-inquiry-on-primary-assessment/
[2] ASE's statement on assessment in science https://www.ase.org.uk/documents/ase-statement-assessment/

proposed new reception baseline measure to include aspects of science overtly. The end of key stage 1, as currently, is an appropriate point during a child's primary education to summarise progress and achievements in science, and to set a baseline for measuring progress at the end of key stage 2 through effective teacher assessment.

If end of key stage 1 assessment (teacher assessments and national curriculum tests) become non-statutory for all-through primary schools (once a proposed new baseline in reception has become fully established), there is an argument for the continuation of statutory teacher assessment in science. In line with the desire to address workload issues across the other core subjects, a focus on teacher assessment of science would not be unreasonable. Additionally there are benefits in enabling teachers to focus on science which frequently does not receive the same attention as the other core subjects. In this situation it is anticipated that, with support, teacher assessment would benefit from opportunities to further integrate children's mathematical knowledge and skills into their understanding of science, and to further develop their reading and writing skills alongside specialist science language – as a solid foundation for entering into key stage 2.

Alternatively, if end of key stage 1 assessment (including science) becomes non statutory in the longer term, there is merit in an exploration of monitoring national standards at key stage 1 through a sample of assessment data from a small proportion of schools for all core subjects.

Improving end-of-key stage statutory teacher assessment

The Association welcomes the decision to maintain the collection of teacher assessment data at the end of key stage 2 and we agree that 'it is important that this is proportionate and fair for teachers and pupils, whilst producing reliable and accurate data for school accountability purposes'. Currently through the interim teacher assessment frameworks there is some assurance in validity against the science national curriculum statements. However reliability could be improved by providing better guidance on expectations and a wider range of exemplification including children's practical investigation and enquiry work. Additionally, a broader set of materials would provide examples of quality science teaching to aid effective planning. Reliability would also be improved with a requirement for moderation of teachers' judgements, coupled with professional development opportunities to support science leaders and teachers in developing their skills in making consistent and accurate judgements.