

This document was archived in March 2017 as it no longer reflects current policy.

The acid test: guidance on self-evaluation for science subject leaders

This guidance is intended to help science subject leaders implement, monitor and evaluate school improvement. The guide uses materials from the [school inspection handbook](#), which sets out the grade descriptors and guidance used by inspectors when making their judgements during section 5 inspections. It also draws upon the additional [subject-specific guidance](#) that Ofsted uses when conducting science survey inspections and the [supplementary guidance for school self-evaluation](#).

While the focus is on science, the principles of effective self-evaluation can be applied to any subject.



This guidance is not an inspection or performance management instrument, and should not be used as such. Rather, it is intended to promote dialogue and understanding about the features of self-evaluation that result in good learning.

Introduction

- Continuous improvement requires accurate monitoring and evaluation of the school's provision for science that then drives effective development. Inspection evidence consistently shows that the best school science teams are already good at self-review, and know how to drive improvements as a result.
- For a school in a category of concern, or requiring improvement, accurate identification of key strengths and weaknesses is a necessary but not sufficient step in raising standards. That identification must then lead to sharply focussed action, which prioritises and sequences the steps needed, and assigns measurable and timely milestones to ensure rapid improvement.

Key features of an effective self-evaluation summary

- A self-evaluation summary should be:
 - concise and succinct, capturing no more than two or three key points for each aspect, and identifying sources of primary evidence or more detailed evaluative material
 - evaluative, not descriptive or repetitive, and capturing succinctly the impact of the school's actions on the quality of science teaching, pupils' achievement in science, and their behaviour and safety
 - a working document developed by and used to inform leaders, including governors and middle leaders as well as senior staff
 - able to set out strengths and weaknesses in relation to pupils' achievement, the quality of teaching, behaviour and safety in science, the provision for the pupils' spiritual, moral, social and cultural development and, where relevant the effectiveness of the sixth form
 - linked to the science improvement plan, because it identifies areas for improvement
 - an indicator of the success of actions in tackling previous weakness.
- The self-evaluation summary should include an analysis of:
 - outcomes of lesson observations and scrutiny of pupils' work, including the quality of practical investigations
 - progress and attainment of pupils currently on roll, including the performance of different groups of pupils, particularly boys, girls, those who attend alternative provision and those eligible for the Pupil Premium
 - pupils' past progress and attainment, in comparison with national figures and other subjects within the school
 - the contribution made by science to pupils' achievement in literacy, numeracy and ICT
 - science subject pathways into Key Stage 4, post-16 and higher education including destination data, and where possible how this compares with national

data, other subjects in the school including relative participation by different groups, noting in particular any gender differences

- information related to pupils' behaviour and safety in science, including exclusions, rewards and sanctions, incident logs and punctuality
- the effectiveness of specific interventions to improve, for example, the achievement and/or behaviour of particular groups of pupils
- the views of parents and carers (if available from school surveys)
- the views of pupils
- any external evaluations such as those carried out by the local authority
- the outcomes of any surveys carried out by Ofsted.

An approach to writing a self-evaluation summary

- Subject managers may structure self-evaluation summaries in any way they see fit. It is helpful to first describe the circumstances of the school and then to summarise the evaluation outcomes under the following broad headings:
 - pupils' achievement
 - the quality of teaching
 - pupils' behaviour and safety
 - the leadership of, and management in, the school including the quality of the science curriculum
 - where relevant, the effectiveness of the sixth form including proportions of students progressing to study science and how well these compare with sector averages, including for girls and boys, and retention rates in science including progression from AS to A2
 - the overall effectiveness of science including how well it promotes pupils' spiritual, moral, social and cultural development.
- For each key aspect, science managers may wish to:
 - summarise the evidence gathered
 - consider whether there are there any gaps in the evidence or whether the evidence lacks breadth or depth – if there are gaps, this may suggest that some further evidence gathering and evaluation is needed
 - consider how well their evidence supports the [Ofsted science specialist descriptors](#).

- Schools might then consider which judgement or grade evidence fits best. The grade descriptors do not operate as a check list and can only be applied as a 'best fit' because:
 - very strong evidence of success in relation to one point may outweigh some areas where evidence is not as strong
 - different points may carry more weight in different schools, depending on their circumstances
 - there is no fixed number of bullets 'required' to gain a particular grade, although if the evidence only supports, for example, two of the six bullets in a 'good' descriptor then that aspect is unlikely to be judged 'good'
 - weak, inaccurate or limited evidence, even in support of all the bullets in a particular aspect may not necessarily lead to a judgement of good.
- The generic grade descriptors should be met before further qualification using the science specific descriptors; in other words the science descriptors supplement the generic ones, not supersede them. For example, low academic progress is likely to suggest inadequate achievement, whatever the quality of independent practical work performed by pupils. But high progress measures based solely on end of key stage tests do not necessarily mean high science achievement, if pupils have no experience of practical work themselves.
- Having reached judgements about each key area of work, it is helpful to test the accuracy and robustness of the evaluation. Subject managers may wish to share their evaluations with senior managers, and any governors who have oversight of science. This ensures that senior leadership are an integral part of the self-evaluation process, as well as ensuring that they hold the subject to account by:
 - challenging the judgements and probing the evidence to ensure that self-evaluation is robust
 - focussing on areas where there are 'gaps' in the evaluation and, most importantly, where evaluation indicates that performance is not strong enough.

A quick reference handbook (QRH)

The following questions might help science leaders quickly identify strengths, and areas for development, in science. A key indicator of overall high quality provision is consistency of these judgements for each class, and for every teacher.

- What is the quality of teaching and the achievement and progress of all groups of pupils, including those for whom the Pupil Premium provides support?
- Do science teachers know how well pupils are progressing and then act effectively on that information to plan lessons?
- Do pupils know how well they are progressing and what they need to do to improve further?
- Are well-focussed improvement plans, based on robust self-evaluation, rigorously implemented?
- Are policies and procedures, in particular in relation to reading, writing and mathematics, consistently applied?

- Are pupils, parents and carers and staff committed to your vision and ambition?
- Is respect and courtesy shown by staff towards each other and pupils?
- Is underperformance tackled?
- How coherent and effective is the programme of professional development, and the opportunities provided for promotion for science teachers?
- Is the best science teaching practice accurately identified, modelled and shared, including the development of scientific enquiry skills?
- Does the curriculum meet the needs, aptitudes and interest of all groups of pupils, including equality of opportunity for girls and boys to study all sciences?
- Do science lessons promote the spiritual, moral, social and cultural development of pupils?
- Is achievement rising over time or are high outcomes being maintained?
- Is teaching improving over time or staying at least good?
- Do governors ensure clarity of vision, ethos and strategic direction for science?
- Does science use the Pupil Premium and other resources to overcome barriers to learning effectively, including reading, writing and mathematics?
- Does science help pupils to prepare for life in modern Britain and a global society, and to prevent extremist behaviour?
- Do staff work in partnership with other schools, external agencies and the community, including business, to improve science, extend the curriculum and increase the range and quality of learning opportunities for pupils?
- Do safeguarding arrangements in science promote safe practices and a culture of safety, including e-safety?