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Mr B Davies
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Dear Mr Davies

Ofsted survey inspection programme – Science

Thank you for your hospitality and cooperation, and that of your staff, during my visit on 5 and 6 October 2009, to look at work in science.

The visit provided valuable information which will contribute to our national evaluation and reporting. Published reports are likely to list the names of the contributing institutions but individual institutions will not be identified in the main text. All feedback letters will be published on the Ofsted website at the end of each half term.

The evidence used to inform the judgements made included: interviews with staff and learners, scrutiny of relevant documentation, analysis of students' work, and observation of parts of nine lessons.

The overall effectiveness of science was judged to be good.

Achievement in science

Achievement in science is good.

- Standards are broadly average overall.
- The last set of validated data on GCSE performance shows that the proportion of students achieving two or more grades A* to C in science was just above the national average. Given that these students had slightly below average attainment on entry, this represents good progress.
- A* to C pass rates for GCSE physics, chemistry and biology are typically high. However, the percentages of students achieving the highest grades of A* or A were below national averages in 2008 and 2009.

- Unvalidated data for 2009 show that the A* to C pass rate for GCSE science increased when compared with 2008, but the pass rate for additional science decreased.
- The results of national tests at Key Stage 3 have consistently shown high proportions of students achieving the expected Level 5 and the higher levels. The current teacher assessment procedures for the end of Key Stage 3 show continuing improvements.
- A level pass rates are generally in line with national averages. AS level pass rates have been more variable, and were below average in 2009.
- Students' attitudes to learning are good. Students work diligently, displaying an interest in their work. Their behaviour is typically very good and often outstanding.
- In the majority of lessons students make good progress.

Quality of teaching

The quality of teaching in science is good.

- In the majority of the lessons the quality of teaching was good. In other lessons it was satisfactory.
- Teachers establish good relationships with their students. They are supportive and encouraging.
- Teachers display very good subject knowledge and their enthusiasm for their subjects is successfully conveyed to their students.
- Effective use is made of information and communications technology to enhance learning.
- Teachers employ a range of strategies to engage interest and motivate students.
- Although teachers' exposition is usually lively and engaging, in some lessons it goes on for too long, with students as passive listeners.
- Lesson planning focuses on the subject matter teachers intend to impart to the students. Planning does not focus sufficiently on how students are to learn it, or how teaching will be adapted to meet the needs of different groups of students.
- Most lessons involve whole-class teaching, which works well for many students. However, there are instances where the pace or the work set are not appropriate for students of different abilities.
- Students speak positively about their experiences of science. They feel they learn a lot and they enjoy the lessons.

- Assessment is carried out systematically but the information from assessment is not always used effectively to ensure that all students reach their target grades.

Quality of the curriculum

The curriculum for science is satisfactory.

- At Key Stage 4, courses include GCSE physics, chemistry, biology, science and additional science. A small number of students are offered an entry level qualification. However, there is no alternative to GCSE courses for many students, including those for whom a grade C at GCSE is an unrealistic aspiration.
- Science enrichment activities include a 'Science and Industry week' and a number of trips and visits connected with science.
- The sixth form curriculum has been enhanced this year by the addition of a vocational course alongside AS and A level science subjects. This enables more students to progress to a post-16 science course from Key Stage 4.
- There was little practical and experimental work in the lessons observed. There are insufficient opportunities for students to plan and carry out independent investigations.

Effectiveness of leadership and management

Leadership and management of science are good.

- The recently refurbished science block with a large suite of well equipped laboratories provides a clear identity for the science specialism, as well as very good facilities.
- There is good senior leadership support for science, and a clear understanding of key issues at senior management level.
- There is a large committed team of science teachers.
- The structure of the large department allows responsibilities for different aspects of the work to be shared effectively.
- Day-to-day operational management is generally effective, and teachers are deployed appropriately according to their specialisms and expertise.
- Leaders and managers have begun to consider and implement curriculum developments in science. For example, the introduction of a vocational course to the sixth form in 2009 has improved progression opportunities.

- Although examination results are scrutinised and analysed, an analysis of the performance of different groups of students is not routinely carried out.
- The school's system for monitoring progress includes staging points towards the final grade, but this is not well suited to modular science courses, and does not necessarily give an accurate picture of progress against targets or clearly identify underachievers.
- Self-evaluation in science is at an early stage of development.

Areas for improvement, which we discussed, included:

- raising achievement in science further by developing the curriculum at Key Stage 4 to better meet the needs of students from the full range of abilities, with a particular focus on students for whom a grade C at GCSE is an unrealistic aspiration
- further improving the quality of teaching and learning by:
 - ensuring that tasks and activities are appropriately challenging for all students
 - increasing the active involvement of students in activities, which encourage them to think and apply their knowledge and to become more independent learners
- developing more opportunities for independent investigative work.

I hope these observations are useful as you continue to develop science in the school.

As I explained in my previous letter, a copy of this letter will be sent to your local authority and will be published on the Ofsted website. It will also be available to the team for your next institutional inspection.

Yours sincerely

Ruth James
Her Majesty's Inspector