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Mr M Heuston, Executive Headteacher  
and Mrs J Adamson,  
Associate Headteacher  
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Dear Mr Heuston and Mrs Adamson

Ofsted 2010-11 subject survey inspection programme: science

Thank you for your hospitality and cooperation, and that of the staff and students, during my visit on 28 May 2010 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.

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

The overall effectiveness of science is satisfactory.

Achievement in science

Achievement in science is satisfactory.

- In 2009, GCSE A\* to C pass rates for physics, chemistry and biology were high. The proportions of students gaining the higher A\* and A grades were low. GCSE A\* to C pass rates for GCSE science and additional science were well below average and were particularly low for girls.
- The proportion of students gaining two or more GCSE A\* to C grades in science subjects has declined from above average in 2007 to significantly below average in 2009.
- Current school assessment and progress monitoring data, including the results of externally assessed module tests, suggest that GCSE results in science subjects in 2010 will be better than in 2009.

- Value-added data for the period between 2007 and 2009 show that progress in science declined, particularly for girls who underachieved in 2009.
- Work in students' books is of variable quality.
- Students made satisfactory progress in the lessons observed.
- Some students have weak mathematical skills which hinder their learning in science.
- Students' behaviour is good and they display good attitudes to learning.

#### Quality of teaching in science

The quality of teaching in science is satisfactory.

- Teachers have good subject knowledge.
- Good relationships exist between students and their teachers.
- In the lessons observed, a variety of activities was seen. Examples included an exercise for students to work out their own food webs, question and answer, internet research, practical experimental work, and written examination coursework practice.
- Learning outcomes for the lessons observed were often generic in nature rather than focused on scientific knowledge and science-specific skills.
- Teachers' monitoring of the work of individual students in lessons is sometimes weak. Errors and misconceptions are not picked up quickly and acted upon. In lessons where students were working independently, teachers missed many opportunities to give specific feedback to individuals to help them improve their work.
- There is much whole-class teaching. Less able students are not always sufficiently well supported.
- The marking of students' books is inconsistent in terms of frequency and the nature of marks and comments. There is little specific guidance on how students could improve their work to reach a higher level or grade.
- Students spoken to were positive about science lessons which they enjoy, especially the practical work.
- Students are assessed regularly through end of unit or topic tests, and progress is monitored.

#### Quality of the curriculum in science

The quality of the curriculum in science is satisfactory.

- There is a satisfactory range of courses at Key Stage 4, including science, additional science, physics, chemistry and biology. No additional time is allocated for the triple science course. There is no vocational course in science which would offer students an alternative route to a level 2 qualification in science.

- The fall in GCSE results in science between 2007 and 2009 shows that the impact of the specialism on achievement has declined. There are effective links with local primary schools. A named teacher is linked with the main partner primary schools and taster days are offered. The introduction of student awards for contribution to science is helping to raise the subject's profile within the school.
- The school is beginning to develop some interesting cross-curricular links. For example, a project involving year 7 students in fitness testing included science, physical education, mathematics and information and communication technology (ICT).
- ICT is used effectively to enhance learning in science.
- There are occasional visits, for example to the local university, but little other enrichment in science.

#### Effectiveness of leadership and management in science

The effectiveness of the leadership and management in science is satisfactory.

- Day-to-day operational management is effective. There is a conscientious staff team.
- Leaders and managers recognise the need to develop the science specialism. The science development plan includes useful aims, for example in relation to furthering links between science and physical education. However, it is not sufficiently focused on improving teaching and learning and raising achievement in science.
- Senior leaders have noted some historic under-resourcing in science and have tackled it, enabling additional equipment to be bought.
- The departmental review process has identified some areas for improvement, such as the quality of marking in science. However, there are weaknesses in the school's self-evaluation in science. Some of the judgements were over optimistic. The underachievement of girls in 2009 was not identified as a weakness.
- The link with another local high school through the federation provides opportunities to share good practice and resources.

Areas for improvement, which we discussed, include:

- raising achievement in science, especially of girls
- improving teaching and learning in science by:
  - focusing on science-specific outcomes rather than generic outcomes
  - more astute teacher monitoring of individual progress in lessons with interventions to tackle misconceptions
  - improving the quality of marking so that students receive more individual guidance on how to improve their work

- improving leadership and management by further developing self-evaluation skills
- introducing a vocational science course at Key Stage 4.

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

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

Yours sincerely

Ruth James  
Her Majesty's Inspector