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Ms A Thomson
Headteacher
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Dear Ms Thomson

Ofsted 2009-10 subject survey inspection programme:
science in the sixth form

Thank you for your hospitality and cooperation, and that of the staff and students, during my visit on 26 and 27 January 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 good.

Achievement in science

Achievement in science is good.

- Standards in post-16 science are broadly average. GCE A-level pass rates are high. GCE AS-level pass rates have been variable and, in 2009, pass rates for most science subjects were below average.
- Students make good progress in science. Value-added data indicate that students achieve GCE A-level grades that are above expectations based on prior attainment at GCSE. Although value-added data for GCE AS levels show a more mixed picture, current school assessment data suggest that most AS-level students are on track to achieve or exceed their target grades. In lessons, students make good progress as a result of good teaching.

- Personal development is promoted well through science teaching. Teachers are very good role-models. Students' self-confidence is developed through the encouragement, guidance and support from their teachers.
- Students' behaviour in lessons is outstanding. They display very good attitudes to learning and engage well with the activities in lessons.
- Science provides good opportunities for students to develop independent learning skills, for example through the use of the virtual learning environment.
- Progression to science-related higher education courses is very good.

Quality of teaching in science

The quality of teaching in science is good.

- Teachers have very good subject knowledge.
- Teachers have very good rapport with their students, who appreciate the help they receive and feel confident about asking when they do not understand.
- In most of the lessons observed, learning outcomes were clear and well expressed. These were shared with students.
- Teachers' questioning techniques are effective, and used well as part of ongoing assessment in lessons.
- Lessons proceed at an appropriate pace and include a good variety of activities, which engage interest and motivate students as well as building and consolidating learning. Examples of differentiated activities were observed, with tasks adapted to meet the needs of students of different abilities.
- Lessons are well structured to build learning in steps beginning with simple concepts and developing these to more complex ideas.
- The school sixth-form system for setting individual target grades and monitoring progress against these is effective.
- Marking is thorough and often includes helpful comments to enable students to improve their work. However, this is not always followed up with checks to ensure that students act on the advice given.

Quality of the curriculum in science

The quality of the curriculum in science is good.

- The sixth-form science curriculum provides an excellent range of opportunities and meets a wide range of needs. It includes GCE AS and A-level courses in biology, chemistry, physics, psychology, and single and double award applied science.

- The school is part of a post-16 consortium which enables students from other institutions to access the wide range of science courses, in keeping with Marlborough's specialist science status.
- Little experimental or investigative work was seen in the lessons observed, but schemes of work and student feedback indicate that it is used appropriately.
- There was some effective use of information and communication technology (ICT) by teachers in the lessons observed, but little direct involvement of students.
- The introduction of the virtual learning environment, led by the advanced skills teacher in science, is a positive initiative. Although it is too early to assess the impact of this on outcomes, early signs are very encouraging.

Effectiveness of leadership and management in science

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

- Specialist science status has been used well in the sixth form to build on the school's excellent performance in science at Key Stage 4.
- Leaders and managers have a clear understanding of post-16 science issues.
- Leaders and managers have responded well with strategies to tackle the below average AS pass rates in 2009. Staffing issues have been tackled. Entry requirements for specific courses have been applied stringently, and advice and guidance about course choice post-16 have been improved, to ensure that students are enrolled on to appropriate courses.
- Although there is no specific self-evaluation of post-16 science courses, this is included in the overarching sixth form self-evaluation led by the head of sixth form. However, lines of accountability for post-16 science courses are not entirely clear.
- Observations of post-16 science lessons are included as part of the whole-school observation plan. Inspection evidence supported the school's judgement that post-16 science teaching is good.
- Physical resources are adequate. There is limited access to ICT in science laboratories and teaching rooms.

Areas for improvement, which we discussed, include:

- developing further the self-evaluation of post-16 science courses, with more involvement of the relevant subject teachers and leaders
- ensuring that monitoring and support strategies, particularly for AS courses, are clearly focused on students at risk of underachieving
- developing more opportunities for students to use ICT in science lessons.

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. It will also be available to the team for your next institutional inspection.

Yours sincerely

Ruth James
Her Majesty's Inspector