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Mr S J Prandle
Headteacher
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Dear Mr Prandle

Ofsted 2009-10 subject survey inspection programme: science

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

As outlined in my initial letter, as well as looking at key areas of science, the visit had a particular focus on: transition within and between phases; the range of learning experiences provided; the status and use of scientific enquiry and how science works; the range of science courses offered in Key Stage 4 to meet the needs of all students; and the range of science courses offered post-16 to meet the needs of all students.

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 included: interviews with the school leadership team, staff and students; scrutiny of relevant documentation; analysis of students' work; and observation of lessons.

The overall effectiveness of science is outstanding.

Achievement in science

Achievement in science is outstanding.

- Performance data show that the school is significantly above the national average for the proportion of students being awarded two or more A* to C grades in GCSE science subjects.

- Over the last three years, there has been a strong upward trend in outcomes at GCSE in science so that students' attainments in biology, chemistry, physics and additional science are all significantly above average.
- The progress students make, from entry to the school to the end of Year 11, is strong. In 2009, performance data showed the proportion of students making three levels of progress in that time was more than 20% above the national average. The proportion making four levels of progress was almost as large.
- Overall outcomes in the sixth form show students' attainment to be significantly above average.
- In lessons, students are seen to be making at least good progress as they apply themselves very well to the work involved. They answer questions readily and are keen to contribute to lessons.
- There are high levels of respect between teachers and students. Students show they enjoy science lessons and are happy to act with maturity and responsibility.
- The outstanding achievement and progress are a consequence of teaching which is of a high standard, a very rich and engaging curriculum that is matched well to the range of students' needs and the very good attitudes of the students to learning.

Quality of teaching of science

The quality of teaching in science is good.

- Almost all lessons seen were good or better and a proportion was outstanding. There is coherence in the teaching that demonstrates the teachers' common belief in the importance of teaching students investigative skills and how science works.
- Teachers plan collaboratively and very effectively on the basis that students are to be active participants in activities. There is a good range of activities to meet a range of needs and learning styles. Students describe the quality of teaching they receive as being very good.
- Questioning and answering techniques are used very effectively by teachers. They often use targeted questions to check on students' understanding and the progress they are making. Such questioning also promotes the high engagement of students.
- Assessment is carried out systematically and performance data are centrally recorded and analysed to evaluate the progress made by students and the effectiveness of teaching.
- A great strength of the assessment regime is the involvement of students. They are very well aware of their targets. Their engagement in self- and peer-assessment gives them a clear understanding of their standards. Overall the quality of marking is good, although the quality of written feedback varies.

Quality of the curriculum in science

The curriculum for science is outstanding.

- The science curriculum is broad and balanced. It deals with science issues that are relevant to living in a technological age. It is diverse and designed to ensure students have appropriate courses to study at each stage of their science education.
- Across the range of courses, there is strong emphasis on developing students' scientific enquiry skills and activities are embedded in how science works.
- Key Stage 3 has been shortened so that GCSE studies can begin in the second term of Year 9. Students are experiencing a highly engaging Key Stage 3 course that prepares them well for entering GCSE studies.
- The GCSE courses run over a longer period than the usual two years and this allows for good enrichment activities and a less hurried approach to GCSE in which students have time to develop scientific maturity.
- There are traditional A-level courses in science available to students post-16 and applied science has been introduced so that there are both academic and applied routes available to students from 14 to 19.
- There is a good range of extra-curricular activities for students, not least the STEM club. Students express very positive views on the extra-curricular activities and on the way teachers make themselves available out of class to answer their questions and provide help and guidance.

Effectiveness of leadership and management in science

Leadership and management of science are outstanding.

- The senior leadership has created a very positive climate for raising standards in the school. The science principal teacher and team have played their part well in making the vision a reality.
- There is a positive climate of accountability in the school and science staff are clear about their responsibilities and roles. They collaborate in a range of ways under the very effective leadership and management of the principal teacher.
- Staff work together to provide an effective curriculum that has at its heart the development of students' enquiry skills. Teachers believe that effective science education involves how science works and this is manifested in the coherent and active way that science is taught.
- Monitoring, evaluation and tracking are carried out systematically and relate well to the challenging targets that staff set for students.
- Staff are led well and supported with newly appointed staff being paired with a 'buddy' teacher in the department as an effective way to induct them. This principle of providing support is also seen in the way sixth-form students are 'buddied' with students from younger age groups, who need additional support.

- Performance data are rigorously analysed and evaluated to ensure a close match between provision and desired outcomes. Outcomes of evaluations are discussed by the whole science team at regular half-termly reviews and this informs planning.
- The department has received significant amounts of continuing professional development linked to whole school departmental and individual needs. Staff value the opportunities they have for their professional development. A very positive 'show and tell' culture pervades the department's work.

Areas for improvement

- There are no areas for improvement that the school has not recognised and planned strategically to tackle.

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

Ian Richardson
Her Majesty's Inspector