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Dear Mr Foster

## Ofsted survey inspection programme – Science

Thank you for your hospitality and co-operation, and that of your staff, during my visit on 22-23 January 2008 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 pupils; 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 made included analysis of data, interviews with staff and learners, scrutiny of relevant documentation, students' work and observation of lessons.

The overall effectiveness of science was judged to be good.

## Achievement and standards

Achievement and standards are satisfactory.

- Students make good progress in science during Key Stage 3. Data which take account of students' prior attainment and circumstances show that in 2007 they did significantly better than would be expected. The school is in the top third of schools on this measure.

- School data for current year 11 students taking GCSEs in 2008 show that students should achieve well in GCSE core science. This data include the results of external module tests.
- For students taking GCSEs in 2007 the A*- C pass rate for double award science was slightly above average. Girls did slightly better than boys.
- The 2007 A*- C pass rate pass rate for GCSE applied science was lower than expected. This was partly due to staffing difficulties which have now been resolved.
- GCE A level science pass rates are high and there is good progression to university.
- In the sixth form retention from year 12 to year 13 is low, and this is partly associated with low pass rates for GCE AS level sciences.
- Behaviour in science is good.
- Attendance in science lessons remains below average but is improving rapidly as a result of the many strategies employed by the school.

## Quality of teaching and learning of science

Teaching and learning are good.

- Teachers are knowledgeable, committed and enthusiastic.
- Lessons are well planned and structured.
- Teachers' explanations are clear.
- A good range of learning activities is provided.
- Good use is made of practical and experimental work.
- Lessons include an appropriate emphasis on scientific investigations and how science works.
- Formal assessments are carried out in the school's regular scheduled assessment weeks.
- Good use is made of information and communications technology (ICT).
- Students generally know their target levels or grades and the level they are working at. This is particularly evident at Key Stage 4.
- In lessons students display good attitudes to learning. They are attentive and engaged, and keen to do well.
- Marking of students' books is of variable quality. Teachers generally make encouraging comments and often give guidance on how to improve, but this is not consistent.

## Quality of the curriculum

The curriculum in science is good.

- Transition arrangements from Key Stage 2 are excellent, and are particularly valued by participating partner primary schools. Science staff maintain strong links with local primary schools. A particularly successful project was initiated by a local primary school in 2006-07 and funded through a pharmaceutical company. This enhanced the experience of Year 5 and Year 6 pupils in science through well planned opportunities at St Mary's. Local headteachers have noted the contribution of this in helping to raise attainment in science at Key Stage 2.
- A good range of enrichment activities is offered. This includes a Key Stage 3 science club, opportunities for participating in events such as the

'Construction Challenge' and CREST awards, visits, and a new e-mentoring scheme for those considering higher education science courses.
- At Key Stage 4 the good range of courses includes core science, additional science and applied science. There are plans to offer triple science from next year.
- During the inspection appropriate links were made with the mission week theme of 'Live life to the full'.
- There are strong links with the local universities which benefit students.
- Transition arrangements from Key Stage 4 to the sixth form do not always ensure that students embark on the most appropriate courses post 16. The sixth form curriculum does not offer a progression pathway for students who take applied science at GCSE, but this is under review.

## Leadership and management of science

Leadership and management of science are good.

- Day to day operational management is effective.
- Responsibilities, particularly for monitoring the progress of students, are clear.
- In addition to analyses of data provided by external bodies, the school is increasingly carrying out its own analyses, and the use of these is improving rapidly.
- There is an increasing emphasis on raising achievement in science by relevant managers at all levels.
- Managers now make good use of comprehensive progress tracking data, especially in Key Stage 4. This is used to plan strategies to support underachievers and to raise attainment, through various interventions.
- Monitoring and evaluation of the quality of science teaching and learning are carried out, with constructive feedback to individual teachers.
- The science development plan includes an appropriate focus on raising achievement.
- The school's own evaluation of science was broadly accurate in most of its judgements.
- Appropriate use is made of the schools own advanced skills teachers in science, to share good practice and develop teaching and learning.
- Teachers make appropriate use of local courses, particularly those offered after school at the local teachers' centre, to update their knowledge of aspects of science teaching and learning.

## Inclusion

The school's approach to inclusion in science is good.

- Teachers know their students well and plan effectively to meet their needs. Lesson plans include comprehensive information about individual students with additional learning needs and support arrangements.
- Good support is provided for students with additional needs by teachers and teaching assistants.

- In science classes, new arrivals who do not speak English are paired initially with students who can help them by translating into their own first language.
- There is good integration in science of students from different faiths and minority ethnic backgrounds.

Areas for improvement, which we discussed, included:

- continuing to develop and implement strategies to raise achievement at Key Stage 4, particularly that of less able students
- developing strategies to raise attainment in GCE AS level science courses, to improve progression to GCE A level courses in Year 13
- further developing the school's successful strategies to improve attendance
- considering increasing opportunities to develop literacy skills through science, for example through more extended writing tasks.

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