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26 November 2008

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Dear Mrs O'Shea

Ofsted survey inspection programme – science

Thank you for your hospitality and co-operation, and that of your staff, during my visit on 5-6 November 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 tracking the impact of recent initiatives and to investigate the need for future developments.

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 students, scrutiny of relevant documentation, analysis of students' work and observation of seven lessons.

The overall effectiveness of science was judged to be outstanding.

Achievement and standards

Students' achievements are outstanding and standards in science are well above average.

- Students arrive at the school with Key Stage 2 attainment at or just above national averages. However, a good number have English as a second language and attendant literacy issues.
- Attainment in Key Stage 3 science improved in 2008. The proportion of students attaining at least level 5 has been significantly above national averages for the past two years. Those attaining level 6 and level 7 improved markedly in 2008 to well above national averages.

- Students' progress from Key Stage 2 to Key Stage 3 is broadly at that expected from their prior attainment. No group by gender, ethnicity or ability made significantly different progress from any other in 2007.
- GCSE science examination results have been consistently high for a number of years. In 2008, 83% of the students entered for at least one science GCSE attained an A* to C pass. Year 10 students attained 72% A* to C grades in core science and Year 11 students attained 86% in additional science. All those entered for separate sciences attained A* to C grades and around two thirds were awarded A* or A grades.
- Students taking the BTEC science programme achieved a 94% pass rate in 2008.
- In the same year the sixth form, both at GCE AS and A level, all the students taking biology, chemistry and physics achieved a pass grade. Over half of those entered for AS subjects were awarded A or B grades in 2008.
- Students' behaviour is good and they are enthusiastic about their science studies. They cooperate well in the laboratories and show respect for the opinions of others.
- Written work is of a good standard. Practical work is carried out safely and investigations are of an appropriate standard. AS physics students demonstrated very good use of ICT in presentations concerning the laws of motion.

Quality of teaching and learning in science

Teaching and learning are good.

- Of the seven lessons observed, one was judged outstanding, five good and one satisfactory. This brief profile, which contains two joint lesson observations with managers, largely confirms the school's view of the quality of teaching and learning in science.
- Science lessons are well planned and have clear starting points. This reflects the current focus in the science self evaluation report on developing objective led lessons.
- Teachers have high expectations of their students who respond accordingly.
- There is a good range of, often short activities in science lessons to engage and interest the students. In the best lessons the pace keeps all the students working well right till the end.
- In one lesson the teacher managed the behaviour of a lower ability and less engaged group with skill. As a result they behaved sensibly and learned about drugs and medicines without digression or any disruption.
- Practical work is well planned and the students work individually or in small groups and successfully carry out the investigations. The technical back up for practical work is a strength of the science teaching and learning. However some plenary discussions were rushed.
- Teachers use ICT effectively in science lessons and BTEC students' work shows regular use of ICT. There are 12 PCs in a small ICT suite for students use in the science department and A-level physics

students use ICT well. However, data-logging is under-developed and this is recognised in the science self evaluation.

- Assessment is good and has been the focus of recent development in the department. Teachers are now more rigorous in ensuring students complete missing work and follow up corrections from marked work. Internal verification of BTEC assignments is good.

Quality of the science curriculum

The science curriculum is outstanding

- The recently reviewed and revised Key Stage 3 curriculum is effective in meeting the needs of the students. National strategies were helpful in this review.
- Mixed ability sets are used in Year 7 and broad banding in Years 8 and 9. Relevant textbooks have been bought using specialism money and schemes of work are comprehensive.
- The Year 7 "eco-houses" project has successfully built bridges between science and design technology. In addition this has been an important citizenship vehicle; a means of seeing science in the bigger context.
- The combination of GCSE core science, additional science and separate sciences along with both the BTEC certificate and diploma ensure that the Key Stage 4 science curriculum meets the needs of the full range of ability and aspirations.
- Biology, chemistry and physics are offered at both GCE AS and A level. In addition this range of options has recently been widened by the addition of AS science and society.
- Enrichment activities are well developed and provide a very good range of experiences for students. The "E Squad", a group of students partly responsible for installing solar panels and a wind turbine at the school, made presentations in Paris to the European youth Eco- Parliament.
- Successful peer mentoring of Year 7 and 8 students by sixth formers takes place. There is a wide variety of interesting trips and a group of enthusiastic Year 8 students will be entered for GCSE human physiology and health as a result of their extra-curricular activities.

Leadership and management of science

Leadership and management are outstanding

- The science department is exceptionally well run and organised. Technical support is highly efficient. Teachers appreciate the high quality support which contributes to confident teaching and promotes successful outcomes for students.
- Science teachers are well qualified specialists and their morale is high. They are enthusiastic about their work and speak knowledgeably and confidently about their responsibilities.
- The head of department leads by example and has the full confidence of the department. Students' attainment has improved; as have progress, teaching and learning.
- Lesson observation is well organised and staff monitoring is robust.

- Tracking and monitoring of students' progress is sound and the science team have a well coordinated approach to assessment.
- Resources, both accommodation and specialist equipment, are good.
- The science development plan is thorough and evaluative. Some targets, however, are not specific enough to allow evaluation of outcomes.

Areas for improvement, which we discussed, included:

- developing the use and consistency of plenary activities
- continuing to develop ICT, especially data-logging
- using SMART targets in the development plan.

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

Alex Falconer
Her Majesty's Inspector