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Mrs G Bremner
Headteacher
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Dear Mrs Bremner

Ofsted 2012–13 subject survey inspection programme: Science

Thank you for your hospitality and cooperation, and that of your staff and students, during my visit on 8 and 9 November 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 without their consent.

The evidence used to inform the judgements included: interviews with staff and students; scrutiny of relevant documentation; analysis of students' work; and observation of 13 lessons.

The overall effectiveness of science is outstanding.

Achievement in science

Achievement in science is outstanding.

- Student attainment in GCSE science courses is very high and rising year by year. This indicates very high academic progress, for all groups of students. Science is the strongest subject for many students who find learning in the rest of the school more difficult.
- Sixth form attainment is also very high and well above the national average overall in science. Given the higher than average starting points of most sixth form students, this represents good rather than exceptional progress.
- Students develop their science investigative skills exceptionally well, throughout the school. This allows students to conduct controlled practical assessments successfully. They are also thoroughly well prepared to tackle the difficult demands of A level scientific enquiry.

- A high proportion of students study science at Advanced level (some 50% of all sixth formers) and a high proportion of these students continue science, technology, engineering or mathematics based undergraduate studies. In some years, in some science subjects, the proportion of students progressing from AS to A2 science courses is lower than the national figure. This reflects much higher than average participation at AS level in Year 12, and some Year 13 students taking an extra science at AS level.
- Many students benefit from completing the Extended Project Qualification, using a science theme as the context. The qualification further enhances the independent research skills of students.

Quality of teaching in science

The quality of teaching in science is outstanding.

- Without exception, scientific phenomena are at the heart of every lesson. This may be through practical investigation, teacher demonstration, media and other resources, and stories about science told by experts who enjoy their subject as much as they enjoy teaching.
- Teachers use that subject expertise regularly in response to questions raised by students. The learning ethos encourages students' inquisitiveness, and can result in some lively exchanges between students and teachers that extend learning far beyond the confines of a syllabus.
- Students' investigative skills are developed systematically over time. Teachers give students the time and support necessary to develop practical plans, try them out, and to learn through personal experience. Students really value this independent learning approach and seize these opportunities with relish as well as responsibility.
- Teachers mark work thoroughly and generally identify its strengths well, with corrections when required. Students are not yet in the habit of responding to advice on what they should do to improve their work. They do appreciate the feedback and also say they have plenty of verbal advice and encouragement in lessons.

Quality of the curriculum in science

The quality of the curriculum in science is outstanding.

- The curriculum is fully focussed on the big ideas of science, and the major concepts. In all years it is completely academic and very demanding intellectually, even for students with severe disabilities and special educational needs. Their needs are fully met by superb support that gives them full access to the investigative science approach adopted by the curriculum team.
- Schemes of work include connections with local science and engineering contexts. The curriculum tackles ethical issues and the impact of science in society very well.

- Students enjoy the many competitions (CREST), clubs, activities, trips and visits provided by the school. These include international visits to CERN. Professional scientists and engineers also regularly visit the school. These contacts have a substantial and positive impact on shaping young people's thoughts for their future careers.

Effectiveness of leadership in, and management of, science

The effectiveness of leadership in, and management of, science is outstanding.

- Subject leaders carefully monitor student progress at frequent formal intervals during the year. They also regularly check teaching quality, carry out book scrutiny, and listen to students' own thoughts on learning in science. The evidence from all these strands leads to continuous evaluation of provision at subject, curriculum team and whole-school level. As a result, schemes of work are in continual review, with annual adjustments to examination programmes.
- Staff performance management objectives are coupled to the science curriculum team overall improvement priorities. This ensures a consistent and shared focus on improvement across the faculty, and leads to a joined-up programme of professional development and training for staff.
- All staff have a voice in curriculum development. A collegiate approach to planning results in lessons that interest and engage teachers as much as students.
- Technical staff are highly qualified and experienced scientists. They have excellent access to any training they identify as necessary, including updates on health and safety developments.

There are no significant areas for improvement.

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

As explained previously, a copy of this letter will be published on the Ofsted website. It may be used to inform decisions about any future inspection. A copy of this letter is also being sent to your local authority.

Yours sincerely

Brian Cartwright
Her Majesty's Inspector