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Mr D Meikle
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Dear Mr Meikle

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 4 and 5 December 2012 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; observation of 16 lessons jointly with members of the school's leadership team; and visits to extra-curricular clubs and activities.

The overall effectiveness of science is good.

Achievement in science

Achievement in science is good.

- The average attainment of students when they enter the school is above average. In GCSE examinations last year, students' attainment was well above average in GCSE core science and additional science. Students of higher and middle ability performed even better than those of lower ability. The work of students at Key Stage 3 shows high levels of achievement over time.
- Students supported at school action, school action plus or with a statement of special educational need, and students of very low ability generally make satisfactory progress in science.

- In 2012, at A2 level, attainment in chemistry and physics was at average levels, but below average in biology. At AS level, the picture is improving and achievement in science in all science subjects is currently good.
- Students enjoy science lessons. Students particularly enjoy lessons which are fun and active such as in chemistry.
- Behaviour is generally good in science lessons and students show positive attitudes to their work. However, in the small number of lessons which fail to capture the interests of students or engage them, inattention occurs.

Quality of teaching in science

The quality of teaching in science is good.

- Teachers use their good subject knowledge to plan activities which engage students' interest. In the best lessons, well-thought-out learning objectives lead to clear sequences of learning, supported by activities which are carefully adapted to meet the needs of students. Questioning is used well to challenge students and check their understanding, reshaping tasks when necessary. Teachers try hard to relate science lessons to current events and real-life situations.
- On some occasions, activities are not well matched to the needs of all students, particularly those of low ability. The sharing of success criteria is not always carried out so that students have clear indications on what they need to do to develop or improve their work further. Questioning is not always used as well as it could be to check understanding and to pick up and challenge misconceptions.
- Good arrangements are generally made for marking and assessment. However, on occasions marking does not always provide specific advice on the next steps they need to take to improve their learning in science. When it is given, the advice is not always followed up by pupils.

Quality of the curriculum in science

The quality of the curriculum in science is good.

- Science at Key Stage 3 covers all three sciences and is taught over two years. This results in an end of Key Stage assessment that is based on national curriculum levels and expectations.
- Key Stage 4 courses commence at the beginning of Year 9. The school offers a range of courses. All students have the opportunity to gain a minimum of two GCSE qualifications in science. These comprise triple sciences (biology, chemistry and physics), core and additional science. A growing number, now over half the students study triple science. The sixth form offers academic courses in four science subjects.
- Science is popular in the school. It is enriched well within and outside of school. Students make visits to field centres and universities to extend science understanding. Last year around half of all sixth form students opted to study a science course.

Effectiveness of leadership in, and management of, science

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

- The head of faculty has established a clear vision for science based on the aim that all students should explore the sciences in their fullest depth and breadth. Along with senior leaders, the head of faculty carefully monitors and evaluates provision and outcomes for science.
- Teachers are supported to develop their teaching by in-house and external professional development. A small team of technicians provide effective support to the practical work. Along with an individualised coaching programme, this is resulting in an improving quality of teaching.
- Ambitious targets are set for students in science and progress is carefully monitored to ensure that they are met. Various interventions, including revision classes, one-to-one support and catch-up sessions, are helping targeted students to gain lost ground.

Areas for improvement, which we discussed, include:

- improving the achievement for low ability students in all year groups
- providing consistently clear guidance and feedback to students so that they know what to do to improve further by:
 - ensuring at the start of lessons that students of all abilities understand how they will be able to demonstrate their new learning or improved skills
 - ensuring that teachers' comments in students' workbooks focus specifically on the identification of the next steps to their learning.

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

Trevor Riddiough
Her Majesty's Inspector