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19 October 2011

Mr S Fenton
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Dear Mr Fenton

Ofsted 2011–12 subject survey inspection programme: mathematics

Thank you for your hospitality and cooperation, and that of the staff and students, during my visit on 10 and 11 October 2011 to look at work in mathematics.

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 nine lessons and a 'learning walk' across four classes to observe how algebra is taught.

The overall effectiveness of mathematics is outstanding.

Achievement in mathematics

Achievement in mathematics is outstanding.

- The school has very high aspirations for its students who exceed these expectations. Results from GCSE examinations in 2011 show that over 99% of students gained a grade A or A*, with 70% gaining the higher grade. One set also successfully completed a free standing mathematics qualification (FSMQ), again with excellent results.
- Almost half of the students in the sixth form study A-level mathematics. Results in 2011 show standards to be high with over three quarters of the students gaining an A* or A grade. In further mathematics 80% of students gained an A*.

- Attainment is so high because students develop outstanding attitudes to learning and make excellent progress. The school is very successful in developing students as mathematicians and focuses on ensuring that they have an exceptional understanding of the subject rather than just preparing them for examinations. This holistic approach is also why the number of students studying further mathematics has increased greatly: 30 students are currently following this course in Year 12. Students are very pleased with the individual support available from members of the department and commented, 'It does not matter if the person is not your teacher, they are all very willing to help.'
- Students enjoy the challenge of lessons and being constantly stretched by the work. As they said, 'mathematics is fun because teachers make sure we are engaged in our own learning'. As one individual explained, to the agreement of others, 'it is not about doing exercises but about making sure we enjoy the subject and understand what and why we do things.'

Quality of teaching in mathematics

The quality of teaching in mathematics is outstanding.

- The quality of teaching and learning is often outstanding and consistently at least good. Relationships between students and staff are excellent.
- Teaching consistently enhances students' conceptual development and understanding of the topics. This is often done by expert questioning and setting high expectations of students' responses so that students develop very good reasoning skills.
- In the very best lessons, students are highly interactive, working collaboratively and discussing their ideas. Because the work extends beyond the syllabus, students develop high-level skills which they are able to use across a variety of different applications, some of which are outside of mathematics, for example interpretation of graphs in economics.
- Assessment is very good. Teachers regularly assess how well students are progressing in lessons through direct observation, skilled questioning and students' responses. Books are very well marked, showing students where they have gone wrong and giving very clear advice on how to improve.

Quality of the curriculum in mathematics

The quality of the curriculum in mathematics is outstanding.

- A very clear curriculum path enables students to develop deep mathematical understanding and ensures that they are very well prepared for GCSE, which they take once at the end of Year 11. At the same time, many groups extend their understanding by working on elements of the FSMQ. While not all of these students sit the examination, the work they cover in developing algebraic skills is highly beneficial for GCSE and in preparation for A-level mathematics and other related subjects which require mathematical skills, such as the sciences.

- Schemes of work are detailed and include a wide variety of opportunities for students to investigate problems and to enhance their reasoning skills. Many lessons incorporate opportunities for students to make connections for themselves. The scheme of work identifies when students will use information and communication technology to enhance their learning, for example in graphical work or dynamic geometry. Students are also encouraged to use mathematical support materials in the school's virtual learning environment.
- The school library has a number of interesting mathematics books which students use to extend their subject knowledge. Staff regularly recommend books for the library to stock and for students to read.

Effectiveness of leadership and management in mathematics

The effectiveness of leadership and management in mathematics is outstanding.

- Leaders within the department work well together and share a very well understood ambition to build upon previous excellence. A reflective self-evaluation identifies areas for further development and leads to a clear action plan.
- Constant improvement to the quality of teaching and learning is the principal focus, especially ensuring that lessons consistently encourage independent and group working.
- The school's learning platform provides support for other local secondary schools. The school also works with various primary schools to enhance their provision for gifted and talented pupils.
- Targets are used effectively to challenge students. Rigorous monitoring of individuals' progress enables quick intervention if any student appears in danger of underachieving.

Area for improvement

No areas of weakness were identified during the visit. The school is keen to build upon its success by ensuring that all teaching is consistently outstanding and by encouraging even more students to take further mathematics.

I hope that these observations are useful as you continue to develop mathematics 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.

Yours sincerely

Michael Smith
Her Majesty's Inspector