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12 April 2012

Mr D Wheeldon
Headteacher
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Dear Mr Wheeldon

Ofsted 2011–12 subject survey inspection programme: mathematics

Thank you for your hospitality and cooperation, and that of your staff and students, during my visit on 27 and 28 March 2012 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 10 lessons.

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. In 2011, Year 10 students took their GCSE examinations early and virtually all achieved a grade A or A*. Results for the previous cohort were of a similarly high standard. The majority of those students are completing a Free Standing Mathematics Qualification in Year 11 with the remainder completing an AS unit on decision mathematics.
- Over half of the students in the sixth form take A-level mathematics, with around three quarters completing an AS qualification. Those students who do not go on to complete the A level had opted to study AS mathematics to support their other subjects, for example science. Results of A and AS examinations in 2011 show standards to be high with over half of the students gaining A* or A grades. The number of students completing

further mathematics A level has increased with similar success. Numbers opting for A-level mathematics is due to rise again next year and include two viable groups who are studying the International Baccalaureate.

- The strong focus on developing understanding in lessons has ensured outstanding attitudes to learning. Students make excellent progress. The very strong emphasis on the power of mathematics both as a means to academic success but also on how it has influenced history raises students' cultural awareness of mathematics. Displays stimulate interest and inform students about the importance of mathematics, including the work of a former student which has received international recognition. Students respond positively to the excellent support they receive from members of the department. They comment that individual support is readily available from all staff, irrespective of whether they teach you or not.
- Students appreciate the challenge of lessons and are often engaged and enthused by the work. Behaviour is very good because of the way in which lessons motivate and allow students opportunities to show resilience and work collaboratively. Students enjoy additional mathematical activities, like the recent 'pi day', and readily take part in mathematics challenges.

Quality of teaching in mathematics

The quality of teaching in mathematics is outstanding.

- The quality of teaching is consistently at least good and often outstanding, which brings about outstanding achievement. Staff and students respect each other: relationships are excellent.
- Teaching is often based on students investigating problems to make connections for themselves; this enhances their conceptual development and understanding of the topics. It also encourages students to develop a fascination with the subject and enhances their spiritual awareness. Teachers' questioning is a strength and, through their high expectations of responses, students develop very good reasoning skills.
- In the outstanding lessons, students work very well together, often in groups. Because problems are set with little structure, students have to show resilience to discover solutions for themselves. For example, a task about maximising profits provided an excellent introduction to linear programming. Staff make very good use of electronic whiteboards.
- Assessment in lessons is good. Teachers circulate to assess how well students are progressing. They use focused questions to identify students who are not confident and make teaching points of responses. However, the quality of marking in books is variable. While some is very good, other work is not marked regularly and so does not always aid improvement.

Quality of the curriculum in mathematics

The quality of the curriculum in mathematics is outstanding.

- Schemes of work are well established and include clear advice on how to best teach a topic. They ensure that students develop deep mathematical

understanding and effective preparation for GCSE, and then for A level. The school has responded to students' experiences of GCSE and, in future, some students will take GCSE in Year 11. The department rightly recognises the importance of good algebraic understanding and proficiency as a foundation for A-level study.

- The school successfully develops students' interest in mathematics beyond examination courses. Students often discuss mathematics, especially its relevance in modern Britain and from a historical perspective. Lessons include opportunities to use mathematics in practical real-life applications, for example how income tax and National Insurance are levied. The school library has a number of suitable mathematics books to extend students' learning of and staff regularly recommend particular books to students.
- The scheme of work includes use of information and communication technology to enhance students' learning, for example in graphical work or dynamic geometry.

Effectiveness of leadership and management in mathematics

The effectiveness of leadership and management in mathematics is outstanding.

- The subject leader gives a very strong steer to the departmental team who share the drive and ambition. Staff work collaboratively and constantly discuss ways in which they can improve their teaching and best engage students. Line management holds the department to account and ensures a comprehensive self-evaluation. This leads to a departmental development plan, linked to the whole-school plan, but which does not identify specific measurable outcomes to aid evaluation and ensure actions are sharply focused.
- Capacity to improve is excellent, as reflected in the marked success in raising standards, improving the quality of teaching, and increasing the uptake of A-level mathematics, including students who transfer into the sixth form.

Areas for improvement, which we discussed, include:

- ensuring that work is marked regularly and provides suitable advice on how students can improve
- including clear, specific success criteria within the development plan to aid evaluation.

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