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Mrs B Smith
Headteacher
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Dear Mrs Smith

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 15 and 16 November 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 five lessons, together with shorter visits to nine other lessons.

The overall effectiveness of mathematics is outstanding.

Achievement in mathematics

Achievement in mathematics is outstanding.

- Attainment is well above average. This is well illustrated by the 2010 GCSE results, when 90% of students gained a grade A* to C, compared with the national average of 64%. The unvalidated 2011 results are similar to those in 2010 and the school's records show that these standards are likely to be maintained. The proportion of students gaining the highest A* and A grades was double the national average in 2010 and rose further in 2011.
- All groups of students, including those with special educational needs and/or disabilities, make at least good progress relative to their starting points, both during lessons and over time. Data show that over the last three years, students have made consistently more progress than similar students in other schools. In 2010, approximately 90% of students in each

ability group made the expected three National Curriculum levels of progress between Key Stage 2 and Key Stage 4; this is well above the national average overall and particularly so for those students who entered the school with attainment at National Curriculum Levels 3 or 4.

- In recent years, girls have achieved better than boys. There is no clear evidence of achievement gaps for other groups.
- In the sixth form, students' achievement is good. Attainment is above average and students make good progress relative to their starting points.
- Students behave very well. They show consistently positive attitudes in lessons and enjoy working together, such as on a wide range of sorting and matching activities. Many have a high level of algebraic skills; they tackle multi-step solutions readily and set out their work in a clear and logical fashion. Students' calculations in geometry and measure also show good understanding of the key concepts and methods but supporting diagrams are sometimes inaccurate or carelessly drawn.

Quality of teaching in mathematics

The quality of teaching in mathematics is good.

- Teachers justify and/or prove results as appropriate. They have a strong focus on promoting students' understanding of mathematical concepts and select activities that go well beyond giving students opportunities to practise techniques. Activities are suitably challenging so that students cover topics in breadth and depth and build their understanding securely. Teachers' good subject knowledge helps them to plan for progression, anticipate likely errors and respond well to students' questions.
- Teachers use mini-whiteboards well to involve students in responding to questions. As a result, they gain a sharp and detailed picture of students' learning, which they use to adjust the pace of the lesson.
- Students appreciate the opportunity to access subject-specific software at home so that they can follow up areas of difficulty or prepare for examinations. Teachers use interactive whiteboards well to present ideas clearly, engage interest and to add pace to the lesson. However, opportunities for students to learn mathematics through using other software are currently limited.

Quality of the curriculum in mathematics

The quality of the curriculum in mathematics is outstanding.

- The curriculum meets students' needs very well and contributes strongly to their outstanding achievement. The large majority of Key Stage 4 students enter the GCSE examination at the higher tier and, in 2011, all those who entered at this tier gained grades A* to C.
- Over a third of students completing Year 11 opt to study mathematics in the sixth form. Year 13 students are able to choose between units in mechanics and decision mathematics as part of their A-level studies. Collaboration with other local schools provides an opportunity for

additional students to study AS or A-level mathematics. Further mathematics is available but with a reduced teaching time. An innovative 'bridging day' in June, designed to help with the transition between GCSE and AS study, is regarded by students as very effective.

- The schemes of work cover all requirements. In addition, they offer strong and detailed guidance to help teachers in their medium- and short-term planning. Each topic is supported by useful reference to a wide range of teaching materials, including electronic links to recommended websites.
- In recent years, less-able students in Key Stage 3 have benefited from additional lessons that have helped them to catch up with others. An alternative scheme is planned for current students. Students benefit from extensive support outside lessons, particularly before external examinations. Several take part in extra-curricular activities such as the Mathematics Club and mathematics competitions.

Effectiveness of leadership and management in mathematics

The effectiveness of leadership and management in mathematics is outstanding.

- Leaders and managers have maintained high standards over an extended period of time. Teachers benefit from regular opportunities to share ideas and this contributes to the strong sense of teamwork. Regular monitoring of classroom practice ensures that all students experience a full curriculum entitlement.
- Self-evaluation is accurate. Improvement planning is detailed and comprehensive and has appropriate areas of focus although, because some success criteria are difficult to measure, reviewing the impact of actions taken is difficult.
- A shared philosophy about features of good teaching exists across all members of the department. Together with the sharing of teaching materials, this contributes strongly to a high degree of consistency in teaching approaches and has a strongly positive impact on students' learning and progress.

Areas for improvement, which we discussed, include:

- enriching learning further through giving students more opportunity to explore mathematical ideas using dedicated software.

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. A copy of this letter is also being sent to your local authority.

Yours sincerely

Paul Chambers
Her Majesty's Inspector