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Dear Mr Leighton

Ofsted 2010–11 subject survey inspection programme: mathematics

Thank you for your hospitality and cooperation, and that of the staff and students, during my visit on 13 and 14 July 2010 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; observation of eight lessons; and short visits to three others. The timing of the visit meant that it was not possible to observe any sixth-form lessons but I was able to observe a sixth-form taster lesson for Year 11 students and also to talk to some sixth-form students.

The overall effectiveness of mathematics is satisfactory.

Achievement in mathematics

Achievement in mathematics is satisfactory.

- Attainment in mathematics has been well below average in recent years, but is now rising strongly. This is the result of improvements in lesson planning and a much more rigorous programme of academic support. The proportion of students gaining GCSE passes at grades A* to C is now close to the national average, but relatively few achieve the highest A and A* grades. Attainment in sixth-form mathematics is now broadly average.
- Students make satisfactory progress between Years 7 and 11. This is consistent with the mixed picture of some good, but some inadequate

progress in lessons. The progress of many students is hindered by their insecure knowledge of basic facts, such as multiplication tables.

- Students speak positively about the support they receive from their teachers. They are well behaved in lessons, but do not always take an active role in their own learning. The department is tackling this issue by encouraging students to reflect on what they have learnt in each lesson and to note down 'things to remember'. However, teachers' use of this technique is inconsistent.

Quality of teaching of mathematics

The quality of teaching of mathematics is satisfactory.

- Lessons are structured carefully. A 'warm-up' task is followed by the introduction of new material and appropriate consolidation activities. However, their impact is inconsistent. Two key influences on students' learning and progress are the emphasis that the teacher places on developing understanding and the quality of assessment during the lesson.
- The most effective teachers aim to teach the guiding principles of the mathematical techniques they are using. They provide a mixture of routine exercises and problems that encourage students to think for themselves. Sixth-form students speak very positively about the way in which lessons develop their understanding of mathematics. However, lessons are less effective when the teacher merely provides instruction on how to use mathematical techniques, without taking enough account of students' prior learning. Students are not always helped to make sense of mathematics through diagrammatic representations or other learning resources.
- The quality of assessment in lessons is inconsistent. Most teachers circulate purposefully to check on students' progress as they work, but they vary in their ability to adapt the lesson accordingly, for example to pinpoint the need for extra support or challenge, or a different approach. In the best cases, teachers probe students' understanding through well-chosen questions to draw out any misconceptions. In contrast, teachers sometimes move on without checking that students are keeping up. This can cause students to disengage and results in inadequate learning.
- The department makes good use of summative assessments, both to monitor students' progress in mathematics and to identify individual and collective areas of weakness. However, day-to-day marking is inconsistent in both frequency and quality.

Quality of the mathematics curriculum

The quality of the mathematics curriculum is good.

- The mathematics curriculum is organised to support students on different pathways. Most students maximise their chances of gaining a good grade in mathematics by taking their GCSE examination in Year 11. The most able students are taught beyond the GCSE specification to allow them to take an AS module at the same time. Students on the school's alternative programmes take GCSE mathematics in Year 10, allowing them to develop

other interests in their final year. Each year group also includes a class for students who find it difficult to settle in normal lessons. The small group size allows them to make satisfactory progress in mathematics.

- The schemes of work are helpful in giving students a consistent programme of study. They are well-organised electronic documents with many valuable hyperlinks. Topics are covered in a sensible order with different starting points for each teaching group, depending on prior attainment. Gradually, a rich mathematical activity is being associated with each topic to support students' conceptual development and to give them opportunities to use and apply mathematics in context.
- The department uses information and communication technology well in some respects. For example, the school has invested in a set of media clips that feature animated demonstrations of mathematical procedures, which are sometimes used to good effect in lessons. The demonstrations are largely procedural, but the most effective teachers draw attention to key points and provide further explanation as students follow them on the interactive whiteboard. A DVD of the media clips is made available for students to use at home to meet their individual needs. In addition, a web-based mathematical learning resource provides explanations and exercises which are used for homework and also to enable students to learn independently.

Effectiveness of leadership and management of mathematics

The effectiveness of the leadership and management of mathematics is good.

- Effective self-evaluation has given the head of department and the senior leadership team a clear understanding of the department's work. They recognise that there is not enough assessment to support learning in many lessons and that more needs to be done to develop understanding through better pedagogy and the schemes of work.
- Teachers are regularly observed as part of a department-led review in the autumn term and a senior leaders' review in the spring term. Each teacher's strengths and areas for improvement are identified and linked to their professional development plans.
- The big improvement in 2009, which appears to have been sustained and developed in 2010, is largely the result of better monitoring and intervention. The latter has included the use of mentors and individual tuition. The school runs a mathematics clinic and has used analysis of examination papers to pinpoint areas for improvement at individual and class levels.
- The improvements in attainment and progress, seen in mathematics since the previous inspection, provide evidence of a good capacity for improvement. This capacity has been enhanced by giving the head of department a low teaching load to allow her to promote improvements in teaching, to enhance the curriculum, and to nurture some of her colleagues as future leaders.

Areas for improvement, which we discussed, include:

- continuing to raise achievement in mathematics by:
 - putting more emphasis on developing students' understanding of mathematics
 - ensuring that students have a secure grasp of multiplication tables and other basic facts
- improving the quality of teaching and learning by ensuring that all teachers make good use of assessment during lessons to check students' progress and adapt their teaching accordingly
- taking a firmer line in the monitoring of marking to ensure consistency in its frequency and quality.

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 sent to your local authority and will be published on the Ofsted website under the URN for your school. It will also be available to the team for your next institutional inspection.

Yours sincerely

Stephen Abbott
Her Majesty's Inspector