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Mr R Crookes
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Dear Mr Crookes

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 17 and 18 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; observation of six lessons and brief visits to four other lessons.

The overall effectiveness of mathematics is satisfactory.

Achievement in mathematics

Achievement in mathematics is satisfactory.

- Results in GCSE mathematics fell sharply in 2009 but have since improved significantly. Students' attainment is now broadly average and students make satisfactory progress during their time at the school.
- Students enjoy mathematics. They behave well, their work is neat and they take pride in what they do. When students have the opportunity to work together in pairs or small groups they do so with enthusiasm and help each other. At times, all that teachers expect of them is simply to complete closed tasks, and they do this willingly but without gaining deep understanding.
- Students recognise that mathematics is important. However, because they have limited opportunities to investigate or reason in mathematics they

lack strategies to help them when they experience difficulty, or when they forget the rule that applies in a particular situation. They try to remember set rules, without reflecting on the structures that underlie those rules.

Quality of teaching in mathematics

The quality of teaching in mathematics is satisfactory.

- Teachers have good relationships with their classes and explain the methods needed for the topics they are covering clearly. Some Year 11 classes have two teachers with them during lessons and this gives extra opportunities for students to gain help.
- Teaching is most effective when teachers plan for students to take an active role in their learning, especially in pairs or small groups. A Year 8 class made outstanding progress when students worked in small groups solving problems for the purpose of revision. An element of competition enhanced the pace of learning. The teacher had planned the tasks to be engaging, and moved between the groups to assess students' learning and develop their understanding. However, in some lessons the length of the teacher's exposition slows down students' learning and limits the opportunity for independent activity. At times, tasks are not well-matched to students' abilities.
- In planning lessons, teachers often make sure that activities are varied. However, the lesson objectives have too great a focus on what students will be able to do by the end of the lesson, at the expense of what they should understand. The result is a strong emphasis on developing techniques, but not enough on activities that are designed to enable students to develop their understanding.

Quality of the curriculum in mathematics

The quality of the curriculum in mathematics is satisfactory.

- The schemes of work provide clear guidance on the learning objectives covered by every class during each term. They give much less guidance, however, on the ways in which students can develop their reasoning skills or investigate within mathematics. As a result, students' experience of reasoning and investigation varies depending on which teaching group they are in and, for many students, is limited. Too little use is made of information and communication technology to enable students to investigate in mathematics. However, students in a low ability Year 7 class did make outstanding progress developing their skills with interpreting times on clock faces using well-chosen software.
- Students are provided with good summaries of each year's curriculum so that they can monitor their progress and structure their revision.
- The department has chosen certain practical activities to develop students' skills in applying mathematics. While these have the capacity to help assess students' skills, they are mostly too closed as tasks to develop and foster the skills of applying mathematics.

- During an annual science, technology, engineering and mathematics (STEM) day, students gain experience of using mathematics, for example to produce a scale model of the solar system.

Effectiveness of leadership and management in mathematics

The effectiveness of leadership and management in mathematics is good.

- Leaders and managers have been successful in increasing students' attainment. The proportion of students obtaining A* to C grades in mathematics has doubled since 2009 and is now at a level consistent with satisfactory progress. This improvement has been achieved through the determined implementation of good plans.
- Leaders and managers regularly monitor the progress in mathematics of every student in the school. This information is used to intervene effectively when students fall behind with their work and make sure that they recover any lost ground. This monitoring has been an important feature in improving results quickly.
- Departmental self-evaluation is of good quality and follows a model set by the school that is founded on robust analysis of data. Effective plans result from this evaluation, although currently they only have a limited focus on improving the quality of teaching. The capacity for further improvement is good.

Areas for improvement, which we discussed, include:

- increasing the proportion of good and outstanding teaching by ensuring that lessons place a greater focus on enabling students to develop their understanding of mathematics
- ensuring that the scheme of work contains regular opportunities for students to develop their skills in investigating in mathematics and in reasoning, including through the use of information and communication technology.

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

Robert Barbour
Her Majesty's Inspector