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Mr P Bhutta
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Dear Mr Bhutta

Ofsted 2012–13 subject survey inspection programme: Science

Thank you for your hospitality and cooperation, and that of your staff and students, during my visit on 23 and 24 October 2012 to look at work in science.

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 eight lessons.

The overall effectiveness of science is outstanding.

Achievement in science

Achievement in science is outstanding.

- Students arrive in Year 7 with below average attainment. At the completion of their science courses in Year 11 they attain above average standards in each course. The high proportion of students known to be eligible for the Pupil Premium attain as well as other students and well above similar students nationally. In 2011, the academic progress of students was exceptionally high.
- Learning over time is outstanding primarily because most lessons contain challenging science that stretches students, captures their interests, and motivates them to further study beyond the classroom. The key ingredient in bringing this about is a substantial volume of science practical work, usually delivered through an experimental investigation that includes practical problem solving.

- Science lessons play an important part in developing students' literacy skills through the regular opportunities they are given to write extended answers. This is particularly important given that almost all students speak English as an additional language.

Quality of teaching in science

The quality of teaching in science is outstanding.

- Teachers' use their subject expertise exceptionally well to ensure students master key concepts in all three conventional science disciplines. Unusually, each teacher delivers all three subjects of biology, chemistry and physics. This gives teachers plenty of contact with their classes. As a result teachers have a sophisticated grasp of each student's progress and this ensures activities are very well matched to students' prior knowledge.
- Teachers use scientific phenomena at the heart of lessons, directly through practical investigation and demonstration, and via multi-media presentations. Teachers expertly connect current affairs in science with the requirements of the formal curriculum, and this helps bring science to life for students.
- The quality of marking and feedback is outstanding and contributes very significantly to students' excellent achievement. Students value the comments and almost always make a written response. One student captured the culture within science by saying 'we learn science by doing it, and making mistakes, and learning from those mistakes'.
- Occasionally teachers are too anxious to move the whole class onto the next activity before every student has fully thought about and respond to the initial tasks.

Quality of the curriculum in science

The quality of the curriculum in science is outstanding.

- The high demand, depth and breadth of science knowledge and understanding demanded of students is driving their above average attainment. Students are expected to do more and learn more than the minimum required by a syllabus.
- Schemes of work are very well matched to students' ability, and this ensures full inclusion of every learner irrespective of their backgrounds. Very effective support for disabled pupils and those who have special educational needs comes from teaching support staff, some of whom are scientists.
- The use of scientific enquiry to deliver science knowledge and understanding as well as skills ensures students are becoming competent young scientists, not mere observers of science.
- The high number of trips, visits, and visitors enhance the curriculum by introducing students to professional scientists. Very effective partnerships also extend learning opportunities beyond the school. These include the

private City of London School, and with another Local Authority school as part of specialist science college outreach.

Effectiveness of leadership in, and management of, science

The effectiveness of leadership in, and management of, science is outstanding.

- Careful monitoring and evaluation of teaching and learning had previously identified literacy as a barrier to science achievement. This has been tackled systematically, using in-house and external expertise. Literacy for science is now playing an important part in raising attainment for all learners.
- The school recruits and successfully retains expert and enthusiastic science teachers. Teachers are excellent role models for students and ensure students from all backgrounds have high aspirations with regard to future careers. Teachers' professional development needs are identified and met very effectively through performance management.
- The science department formally reports the outcomes of its own self-review to governors. This is grounded in high quality faculty and senior leadership evidence from monitoring of classroom teaching, coupled with an accurate analysis of student performance.
- Very detailed tracking of student progress results in swift additional support, or adaption of schemes of work, to ensure no students are left behind. This includes a regular programme of additional lessons after school, funded through the Pupil Premium. Students enjoy these extra classes, and almost all Key Stage 4 students participate.

Areas for improvement, which we discussed, include:

- ensuring students always have sufficient time to reflect and respond to lesson activities before they move to the next step.

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

Brian Cartwright
Her Majesty's Inspector