

Aviation House  
125 Kingsway  
London  
WC2B 6SE

T 0300 123 1231  
F 020 7421 6855  
[enquiries@ofsted.gov.uk](mailto:enquiries@ofsted.gov.uk)  
[www.ofsted.gov.uk](http://www.ofsted.gov.uk)



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Dr M Jenkin  
Headteacher  
Moorside High School  
Cellarhead Road  
Werrington  
Stoke-on-Trent  
ST9 0HP

Dear Dr Jenkin

### **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 with Charles Lowry on 9 and 10 May 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 nine lessons.

The overall effectiveness of science is good.

#### **Achievement in science**

Achievement in science is good.

- Students begin school with broadly average attainment, with all groups of students making good progress in science to Year 11. Science attainment at GCSE is above average, and has been rising in recent years despite a slight dip in 2011.
- All students study at least two GCSE sciences, or a double award BTEC applied science. In the GCSE courses, students make significantly better progress than other students nationally and locally, and better than they do in other subjects in this school. Students are encouraged to consider whichever science course they would find most interesting, irrespective of their ability.

- A- and AS-level attainment is average overall, with biology results better than chemistry and physics. For most students this represents at least satisfactory and often good progress. The numbers of students choosing to study science at post-16 level is broadly typical of the national picture.
- Practical scientific enquiry is at the heart of almost every lesson, resulting in high levels of enjoyment and engagement among students. Students' books show many examples of good research and independent learning, with some interesting developments in creative writing about science emerging in Year 8.

### **Quality of teaching in science**

The quality of teaching in science is good.

- Almost all the lessons observed were good or better, with our judgements consistent with the school's own evaluation of science teaching quality.
- Teachers have a plethora of information about the levels or grades at which students are working, what this represents in terms of expected progress, and share this with students. Lesson plans contain levelled learning outcomes, but do not always match individual students to those expected outcomes with different tasks from the outset. In practice, teachers usually adapt the plan as a result of students' responses.
- The school has resources to encourage student self-review, and uses these on occasion to help students sharpen their personal revision programmes. However, lesson plans take little account of what each student already knows and can do, so opportunities are missed to build on this prior knowledge. This is not unusual elsewhere in other schools, but the high demands often made of students here sometimes reveal a gap between what teachers thought students already understood, and what in practice was beyond them. Occasionally, students repeat work they have already mastered. These situations can hamper progression from one lesson to the next.
- Marking is usually done well, with advice to students on how to improve, although students are less consistently acting on that advice in writing.

### **Quality of the curriculum in science**

The quality of the curriculum in science is outstanding.

- Primary school pupils begin to experience practical science through a series of liaison events; these are much appreciated by these pupils and often include their parents. Once in secondary school, scientific enquiry and the use of scientific phenomena to capture interest and illustrate the big ideas in science is central to the department's curriculum delivery.
- Very good subject expertise, and the confidence to allow new lines of enquiry within lessons, help teachers to enrich and enhance science lessons. Excellent resources and good technical support for teachers allow all students to have a go for themselves.

- Very good links with local science and engineering businesses ensure that students experience how science is applied in engineering, research and development. A systematic programme of trips, visits and visitors also helps widen students' knowledge.
- Students can also participate in after-school clubs, for example where a programme of CREST-like awards are followed.
- The school continues to take its specialist science college status seriously, by maintaining good primary school links, promoting science within the school and wider community (for example with the Scouts), and expecting each student to complete at least a double GCSE or equivalent award.

### **Effectiveness of leadership and management in science**

The effectiveness of leadership and management in science is outstanding.

- The school has a successful track record of developing and promoting science teachers to leadership, resulting in very good support by senior staff for science, and effective training and development of aspiring middle and senior leaders through science. Class teachers can also access subject-specific training as needs are identified. Technical support and training for technical staff is equally strong.
- Where weaknesses in teaching have been identified, they are tackled through the full range of support and formal improvement systems.
- The determination of the subject leader to maximise practical science teaching is backed up by the necessary resources of time, equipment and recently refurbished laboratories.
- Moderated teacher assessments of 'how science works' are done through the assessing student-progress scheme. Coupled with frequent summative tests, science leaders have detailed information about student knowledge, skills and understanding, and use this to keep student progress high.

### **Areas for improvement, which we discussed, include:**

- refining the use made by teachers of each student's prior knowledge and understanding to ensure more efficient progression through schemes of work.

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**