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Ms K Smyth  
Deputy Headteacher  
Cardinal Heenan Catholic High School  
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Merseyside  
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Dear Ms Smyth

### **Ofsted 2011–12 subject survey inspection programme: science**

Thank you for your hospitality and cooperation, and that of your staff and students, during my visit on 12 and 13 January 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 satisfactory.

### **Achievement in science**

Achievement in science is satisfactory.

- By the end of Year 9, teacher assessment data show that the proportion of students gaining Level 5 and above is in line with the national average. Proportions reaching the higher levels are also similar to national averages. This represents satisfactory progress from students' starting points.
- Of those entered for GCSE science examinations, the overall proportion gaining at least two grades at C or above is similar to the national average. However, in 2011, attainment was lower for higher ability students and value-added data show that these students made slower progress that would have been expected given their starting points.

- A large majority of those entered for a vocational science qualification in Key Stage 4 in 2011 were successful.
- A-level pass rates are high. Many AS-level pass rates are below average. Progression from AS level to the full A-level is low.
- Students behave well in lessons. They display good attitudes to learning and engage well with the activities and tasks set, but few show independence in their learning.

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

The quality of teaching in science is satisfactory.

- The quality of teaching in the majority of the lessons observed was satisfactory. Examples of good teaching were seen.
- Teachers have good subject knowledge and they use a range of activities to engage interest, including group work, paired activities, and experimental work. However, teachers' skills in using active learning strategies vary, and refinements are necessary to ensure that these strategies consistently promote rapid progress.
- In the better lessons, students were encouraged to think for themselves and there was good reinforcement of key points. However, occasionally in lessons, a strongly task-focused approach did little to encourage students to think for themselves, so although while tasks were completed, students' knowledge and understanding were not moved on greatly.
- The quality of teachers' lesson plans varies. Too much whole-class teaching does not always meet the needs of students of widely differing abilities. This was most evident in mixed-ability Year 7 lessons.
- Students generally know their targets and often know how well they are progressing towards these. Marking is of variable quality. Some is cursory but some includes helpful comments to support improvement.
- Assessment techniques which involve students in assessing their own and others' work are beginning to be used successfully.
- Some appropriate use of information and communication technology (ICT) was observed, mainly the use of electronic whiteboards by teachers.

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

The quality of the curriculum in science is satisfactory.

- The integration of science into a themed curriculum at Key Stage 3 initially led to teaching by non-specialists, lessons timetabled in classrooms and the absence of experimental and practical work for Year 7 students. Steps have now been taken to ensure that discrete science lessons, taught by specialists, and with access to laboratories, are included in the Key Stage 3 curriculum.
- The fast-track system, enabling more able students to complete their GCSE courses by the end of Year 10, led to a decline in the achievement

of this group of students. It also limited choice, and for two years students had no opportunity to study the three separate science subjects at GCSE. This has now been rectified.

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

The effectiveness of leadership and management in science is satisfactory.

- Leaders and managers have recognised that decisions about the curriculum in science at all key stages in the recent past have not produced the anticipated outcomes, and have now addressed this.
- Issues associated with the new school building project have occupied much management time in the last two years. Building works have also affected access to laboratories and appropriate temporary arrangements are in place for the current academic year.
- School self-evaluation identifies the low proportion of higher GCSE grades as a weakness and plans have been implemented to address this.
- Strategies to improve outcomes of AS-levels are beginning to be developed but it is too early to assess the impact of these.

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

- further improving the quality of teaching so that more lessons are good by:
  - ensuring that teaching meets the full range of abilities of the students in lessons
  - refining active learning strategies to ensure that they encourage students to think and apply their knowledge, and so promote rapid progress
  - ensuring that key points are effectively reinforced
- improving sixth form provision to increase the number of AS-level pass rates and progression to the second year of A-level science courses
- ensuring that the curriculum meets students' entitlement to triple science at Key Stage 4 and includes sufficient opportunities for experimental and investigative work for all students in Key Stage 3.

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

**Ruth James**  
**Her Majesty's Inspector**