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Mr A Davies
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Dear Mr Davies

Ofsted 2012–13 subject survey inspection programme: science

Thank you for your hospitality and cooperation, and that of your staff and pupils, during my visit on 30 and 31 January 2013 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 pupils; scrutiny of relevant subject documentation; scrutinies of pupils' work; analyses of achievement data, observation of eleven lessons, many of which were joint observations with the senior leaders; and a tour of the science department and its resources.

The overall effectiveness of science is good.

Achievement in science

Achievement in science is good.

- Pupils enter the school with prior attainment which is above the national average. Attainment in science at the end of Key Stage 4 is well above the national average in most courses and subjects. Pupils make good progress in their chosen science courses, including disabled pupils and those who have special educational needs.
- Rates of progress in the sixth form are generally above average, with more pupils than that found nationally gaining the higher A*-B grades. Pass rates are high in all three science subjects taken, but are less strong in chemistry.
- Pupils are enthusiastic about learning science, particularly practical science and scientific enquiry. As a result, pupils show a high level of engagement

during lessons. They can confidently discuss scientific ideas, and they have secure subject knowledge. Pupils work well together during practical work and investigations, and often take the initiative when planning and solving problems.

- Ambitious targets are set for pupils in science and progress is carefully monitored to ensure that they are met. Pupils who are behind with their work are given structured help to catch up.
- Each year a high proportion of pupils progress to take sciences in the sixth form, and continue on to study science or science related subjects at university.

Quality of teaching in science

The quality of teaching in science is good.

- Teachers have good subject knowledge. They are enthusiastic and encouraging and they work hard to plan a variety of activities in lessons, including group work, paired activities, and experimental work.
- Pupils work safely in the laboratories and show good levels of confidence in using scientific equipment and expressing scientific terminology both orally and in writing.
- In the best lessons, learning intentions are made clear to pupils at the start of the lesson and reviewed throughout and at the end of each lesson to ensure that all pupils make the most progress possible. However, this practice is not yet universal and some lessons take on a task-focused approach and so while tasks are completed, pupils' knowledge and understanding are not moved on greatly. This approach also limits the opportunities for pupils to think for themselves.
- Teachers have a good knowledge of pupils' levels of understanding and they continuously assess them and demonstrate the progress that they are making. Pupils work towards challenging targets but these are not easily accessible or known to all pupils. This makes it difficult for them to know what improvements can be made to their current grade or level.
- All work is marked by teachers on a regular basis. Pupils receive feedback on effort and achievement but do not consistently receive specific guidance on how improvements can be made.
- Pupils' attitudes to their learning in science are very positive, contributing to effective teaching and learning across the department.

Quality of the curriculum in science

The quality of the curriculum in science is good.

- Science is very popular in the school. Practical work features prominently within the science curriculum which the pupils really enjoy. Science is well resourced and pupils have access to a range of high quality practical experiences. All pupils study at least two sciences to GCSE level and over half the year group go on to study at least one science in the sixth form.

- Practical provision is of high quality. Pupils can carry out independent practical work with significant support from the technical support team.
- Key Stage 3 has been shortened so that GCSE studies can begin in Year 9 and this re-focuses pupils in Year 9 on higher level science and provides a good foundation at Key Stage 4.
- A range of extra-curricular activities is organised by the school, which has a very high profile with the pupils. For example the school's 'HiSPARC project' involves pupils in the detection and analysis of cosmic radiation in partnership with a local university.

Effectiveness of leadership in, and management of, science

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

- The science department is well organised and well-led. Staff form a cohesive team which is highly committed to moving the science department forward. As a result, achievement in science is on an upward trend and pupils are making better progress and reaching higher standards than before.
- Pupils' progress is monitored carefully and effective intervention strategies are used to help pupils who are behind to catch up.
- Department self-evaluation is well carried out and thought through and accurately identifies key strengths and areas for improvement. This reliably informs future developments, particularly in the further development of teaching.

Areas for improvement, which we discussed, include:

- refining the strategies of teaching so that all pupils are made aware of the learning intentions for every lesson
- encouraging all pupils to take more of a lead in their own learning so that they initiate more ideas themselves and learn more independently
- ensuring that current working levels and targets are known by all pupils and that they know what to do to meet their challenging targets
- providing clearer guidance in marking so that all pupils know what they have to do to improve.

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.

Yours sincerely

Trevor Riddiough
Her Majesty's Inspector