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Mrs C Claydon
Headteacher
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Dear Mrs Claydon

Ofsted 2011–12 subject survey inspection programme: science

Thank you for your hospitality and cooperation, and that of the staff and pupils, during my visit on 11 November 2011 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 documentation; analysis of pupils' work; and observation of six lessons.

The overall effectiveness of science is good.

Achievement in science

Achievement in science is good.

- The quality of pupils' scientific investigation work is particularly impressive, with pupils of all ages confidently able to explain what makes an experiment fair and reliable, and to raise questions about a suggested experimental method if they feel it needs adjusting.
- In past years, pupils' attainment in science national tests was high. Recently, teacher assessment of their levels has been more cautious, and is slightly underestimating the above-average standards of pupils' scientific knowledge, skills and understanding evident at this visit. For example, Year 6 pupils discussed the experimental evidence emerging from an investigation into yeast fermentation. The evidence was convincing in that it showed 'the colder the water, the more carbon dioxide is made', which is contrary to the conventional theory that they knew. This led to further discussion about the experimental method they had been asked to use.

Year 5 pupils connected their knowledge of solids, liquids and gases to predict that 'thicker liquids will evaporate slower than thinner ones, because they are nearer to being solids that don't evaporate'.

- Pupils approach lessons with considerable relish, because they are able to suggest what they would like to find out about, and have systematic opportunities to explain what they already know about the topic. This gives pupils a strong sense of ownership, and consequently they take a pride in their work that shows in the high standards of written recording of their activities.

Quality of teaching in science

The quality of teaching in science is good.

- Lessons are thoroughly prepared with ample practical resources so that every pupil can take part in practical activities. The activities are pitched at different levels according to pupils' prior attainment and knowledge, often in a subtle way which ensures that every pupil is included in the lesson at an appropriately high level of challenge.
- The best teaching is characterised by relatively short episodes of whole-class teacher talk and very little whole-class 'discussion'. These lessons also have a high proportion of individual and group work by pupils, carried out under the careful supervision of the teacher and classroom assistants. They only intervene to pose personalised questions, or respond to individual pupils' requests for some help.
- Day-to-day marking is accurate and helpful, with written feedback that every pupil responds to consistently; this bespoke guidance plays an important role in pushing pupils to higher levels of attainment and is also welcomed by pupils as they develop their understanding of science.

Quality of the curriculum in science

The quality of the curriculum in science is good.

- Science is taught as part of the International Primary Curriculum (IPC) model, and occupies most of the lesson time for two weeks or so each half term, across the school. This approach allows for extended 'immersion' in a science theme, which the school exploits by arranging external visitors as supplementary resources to enrich the science curriculum; for example 'dinosaurs' not only ruled the world 65 million years ago, life-sized replicas rule the school hall as part of an impressive display of archaeological relics. Pupils create detailed portfolios relating to the topic, with a depth of knowledge and understanding greater than that required by the National Curriculum.
- This approach, however, leaves gaps in the coverage of National Curriculum content, so the recently appointed science coordinators have now added the additional material in a long-term plan ensuring full compliance. At the same time, they have written level descriptors to help

teachers connect the IPC with assessment requirements beyond 'how science works'.

Effectiveness of leadership and management in science

The effectiveness of leadership and management in science is good.

- The apparent mismatch between the IPC approach and the National Curriculum has been identified, with action taken to ensure full coverage. Further work is planned to ensure secure evidence of pupils' progress in science, particularly where no formal written evidence is present in pupils' books (it is there in displays, models, presentations and some photographic records).
- The good consistency of approach to teaching science, together with other subjects is evidence of good leadership and a clear, shared vision that is committed to the IPC and its central tenet of the pupils' voice.
- Training for teachers in science has been limited to in-house sharing of ideas. Subject coordinators have attended national IPC conferences, but there is no regular contact with local authority advisers for science, and the school is unaware of the services of Science Learning Centres.

Areas for improvement, which we discussed, include:

- further developing the moderation of teacher assessments of science in conjunction with other schools to ensure more accurate measurements of pupils' attainment
- ensuring that clear records of pupils' achievement support the evaluation of their progress.

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