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Mr T Griffiths
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Dear Mr Griffiths

Ofsted survey inspection programme – Science

Thank you for your hospitality and co-operation, and that of your staff, during my visit on 18 - 19 September to look at work in science.

As outlined in my initial letter, as well as looking at key areas of science, the visit had a particular focus on transition within and between phases (KS2-KS3-KS4-post16); and the range of learning experiences and status of SC1.

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. All feedback letters will be published on the Ofsted website at the end of each half-term.

The evidence used to inform the judgements made included: analysis of data, interviews with staff and learners, scrutiny of relevant documentation, students' work and observation of lessons.

The overall effectiveness of science was judged to be good.

Achievement and standards

Achievement and standards are good overall.

- The proportion of pupils who achieve at least two GCSE A*-C grades in science subjects is broadly in line with the national figure.
- School analyses show that during Key Stage 4 the majority of students achieve the challenging targets they are set in science subjects. This represents good progress for these students. However, in 2007 some students studying triple sciences (biology, chemistry and physics) did not achieve in line with expectations. This was associated with long term staff absence. The staff situation has now been resolved.

- School analyses of core science module examination results for the current Year 11 students suggest that they are on track to achieve the challenging targets they have been set.
- Key Stage 3 national tests results are slightly better than national average. The proportion of students achieving at least level 6 is significantly higher than that found nationally.
- Contextual value added measures, which take account of students' prior attainment and circumstances, show that students consistently make good progress in science during Key Stage 3
- Behaviour is good.

Quality of teaching and learning

Teaching and learning in science are good.

- Teachers are committed and hard working. They successfully convey to students their own enthusiasm for their subjects through their lively exposition.
- Teachers have good subject knowledge. Lessons are generally well planned and structured. A good range of activities is used to engage students and involve them actively in their own learning.
- Good use is made of demonstrations to engage interest and to illustrate concepts. Lessons include an appropriate emphasis on scientific investigations and how science works.
- Learning materials are excellent. They are clearly laid out and well structured to help develop students understanding.
- Some good use is made of information and communications technology. For example, in one lesson observed an animation was used to show the relative proportions of gravitational potential energy and kinetic energy during a pendulum swing.
- Teachers make effective use of question and answer to check prior knowledge, to involve students and to encourage them to think.
- Effective use is made of individual targets. Students know the levels or grades they are aiming for, and what they need to do to achieve these.
- Students' books are marked regularly, and marking sometimes includes helpful comments. Summary feedback sheets note students' strengths and improvement points, but these often relate to presentation rather than focusing on learning in science.
- No unsatisfactory teaching was observed.

Quality of the curriculum

The curriculum in science is good.

- During Key Stage 3 there are various enrichment opportunities including special interest days such as 'Kitchen sink science' and 'Crime scene investigation'
- A science club is offered.
- The range of courses offered at Key Stage 4 meets a wide range of needs. Courses include core science and additional science, and triple science (physics, chemistry and biology). For those on a work related pathway a two year single GCSE core science option is available.

Leadership and management

Leadership and management are good.

- Operational management is highly effective.
- There is very good teamwork and teachers are very hard working. This ensured that teachers were very well prepared for the new GCSE science courses introduced in 2006.
- Documentation is excellent. For example, the science handbook includes a section about features of high quality provision which provides staff with a useful and succinct summary referring to teaching and learning, displays, laboratory organisation, and resources. Detailed and comprehensive schemes of work are in place.
- The science development plan is appropriately focused on a small number of key priorities, including support for the small number of Year 11 students who are not yet on track to achieve their target grades.
- The head of department carries out thorough analyses of relevant data and examination results, and uses these to plan improvements with the team of teachers.
- Intervention strategies to support underachieving students are implemented.
- Effective action is taken to address weaknesses. For example, following an analysis by the head of science the curriculum time for science at Key Stage 4 has been increased.
- Some of the laboratories are slightly dilapidated and do not provide a modern scientific learning environment. This is recognised and there are plans for refurbishment.

Subject issues

Provision for scientific enquiry and for transition between stages are good.

- At the end of Year 9 and Key Stage 4 there is an appropriate emphasis on 'How science works'. Students are thoroughly prepared for the investigative skills assignments required for their examinations.
- Plenty of well-planned practical and experimental work is included in Key Stage 3.
- There are well established links with the main feeder primary schools. These include visits from science teachers to deliver lessons to Year 6 pupils.
- For students who may wish to progress to study science at A level, the triple science (biology, chemistry and physics) route is offered at GCSE. These are also available to students studying on the core and additional science route if they attend extra lessons after school.

Inclusion

Inclusion in science is good.

- The setting arrangements in place are effective. Less able students are generally placed in smaller groups which allows for more individual help from teachers.
- Some effective support of individuals and small groups by teaching assistants was observed in lessons.
- Students report that teachers are friendly and approachable. Students are confident about asking for help which is readily given.
- There are appropriate intervention strategies to support under-achievers.

Areas for improvement, which we discussed, included:

- continuing to implement strategies to improve GCSE results, particularly in biology, chemistry and physics, to ensure that all students achieve the grades they are capable of
- developing further the use of information from the school's own lesson observations, for example in planning professional development
- developing assessment and marking strategies to improve consistency of practice, and ensure that feedback helps students to improve their learning in science
- implementing plans to refurbish those laboratories which are older and which are slightly dilapidated.

I hope these observations are useful as you continue to develop science in the school.

As I explained in my previous letter, a copy of this letter will be sent to your Local Authority and will be published on the Ofsted website. It will also be available to the team for your next institutional inspection.

Yours sincerely

Ruth James
Her Majesty's Inspector