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Mrs S Ballard  
Headteacher  
North Bromsgrove High School  
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Stratford Road  
Bromsgrove  
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Dear Mrs Ballard

### **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 on 24 and 25 April 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 15 lessons and a 'Blow it up' club session.

The overall effectiveness of science is good.

#### **Achievement in science**

Achievement in science is good.

- Students join the school in Year 9, with broadly average attainment, and all make good progress in the various science courses they follow, achieving above average results in GCSE examinations.
- Achievement in science is improving substantially over time, as steps to refine the curriculum and improve teaching take effect. Achievement in the sixth form is also improving and was satisfactory in 2011. The number of science sixth form students has improved substantially in 2011/12.
- Students respond enthusiastically to practical science activities and tasks that involve research, group work and discussion. They also enjoy mastering the concepts that underpin science knowledge. Their written work reflects a good mix of theory and experimental work, and a sense of care in presentation.

- Some sixth form students of biology were not convinced they had enough opportunity for practical enquiry, or debate about the underpinning concepts, or opportunities for independent research.

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

The quality of teaching in science is good.

- The good subject knowledge of teachers is consistently deployed in lessons, particularly as they support students doing experiments or solving problems. This cultivates a positive and good-humoured learning climate in these lessons, that in turn results in students raising their own questions about science that extend their learning beyond the confines of the syllabus.
- Very good practical resources and expert technical support staff ensure that students can individually, and regularly, experience the scientific phenomena for themselves.
- Teachers know their students well, mark written work accurately and give clear written feedback; however students are not yet consistently responding in writing.
- Some lessons contain too many teacher-centred processes that do not engage the interest or commitment of students or advance their learning. This limits the time students have to experiment, research, discuss concepts for themselves and resolve problems.
- Teachers are good at circulating through the class, observing and assessing student progress on a personalised basis and responding with suggestions and support. Sometimes, teachers then think they ought to interrupt learning, for example with whole-class 'plenary' discussions, that do not help further their assessment of learning, and do not engage or motivate students.
- The best lessons do ensure that individual students have activities adjusted to their prior learning from the outset of the lesson. Here, teachers trust students to get on with the task without too much initial discussion. However, sometimes over-long introduction to the lesson limits the effectiveness of individual student learning.

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

The quality of the curriculum in science is good.

- The Key Stage 4 curriculum contains a healthy mix of different science examination pathways that are changing over time to accommodate rising standards and an increasing proportion of students studying separate science GCSEs. Students on the vocational pathway are well guided, and a clear future route is in place to level 3 vocational science at the neighbouring college.
- Good links with middle schools ensure a swift and coherent start to science in Year 9 through a common programme for all students.

- A strong extra-curricular feature is a 'Blow it up' club, that has involved from a 'bangs and flashes' session to a well-resourced and quite demanding series of projects that include rocket cars and microprocessor based robots. This project has established national links, for example the supersonic 'Bloodhound' car team, and students are competitors in the CREST award schemes.
- As yet, the department has not developed a systematic programme of science-based trips, visits or visitors that all students will experience. Although teachers recognise the opportunities to develop social, moral, spiritual and cultural elements in science, no systematic plan is in place to guarantee what each student ought to experience in science.

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

The effectiveness of leadership and management in science is good.

- Over a period of four years, the head of science, with consistent support from senior leaders, has led the development of science very well, resulting in rapidly rising academic outcomes at Key Stage 4, and much-improved numbers of students wanting to continue studying science in the sixth form.
- Science occupies a high profile in the school and has become one of its best performing faculties. Teachers enjoy their subject and are increasingly confident in deploying their skills of assessment to maximise opportunities for students to learn through doing investigative experiments and research.
- Teaching quality has improved, despite a period of some staff turbulence that required the deployment of short-term staffing solutions. Staff have sufficient access to professional development opportunities although most of these relate to whole-school priorities.
- The senior laboratory technician has accessed the support of the regional science learning centre.

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

- further improving the consistency and quality of teaching by maximising the time students spend on the main activity of a lesson, including practical work, group discussions and independent research.

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**