

16 March 2007

Mr Neil Turrell  
Headmaster  
Maidstone Grammar School  
Barton Road  
Maidstone  
Kent  
ME15 7BT

Dear Mr Turrell

Ofsted Subject and Survey Inspection Programme 2006/07

Sector Skills Area: 2 Science and mathematics post-16

Thank you for the hospitality and co-operation shown during the visit on Thursday, 15 March 2007. I am grateful to your staff for all their work in preparing the programme and background documentation and giving up their time during the visit. Please pass on my thanks to staff and learners who also gave up their time.

The visit provided much useful evidence for the good practice survey in science. Published reports are likely to list the names of the contributing institutions but should we wish to cite specific aspects of practice we will contact the school or college first. All feedback letters will be published on the Ofsted website at the end of each half-term.

The evidence used to inform judgements included interviews with staff and learners, scrutiny of relevant documentation and observation of two lessons.

As agreed, this letter provides a summary of the observations of good practice seen in the sciences and suggests some areas for development.

Good practice observed

Learners' achievement

- Learners' achievements within the school are very good and this is reflected in the science results. Retention and achievement rates for GCSE, A-level and the International baccalaureate (IB) are generally well above the national averages.

- Around one-third of the Year 11 cohort takes GCSE biology, chemistry and physics as separate subjects, the rest opting for the Double Award. All students generally obtain a grade A\* to C pass in these subjects, with a high proportion gaining an A\* or A grade.
- The pass rate for AS physics is high and all 23 students were successful in 2006. Pass rates for AS chemistry were high and showed a trend of improvement until dipping to 83% in 2006. The most popular post-16 subject is AS biology with an 81% pass rate for the 32 students in 2006.
- All students taking A2 chemistry and physics have been successful in gaining the qualification over the previous three years. Pass rates for A2 biology are also high. A large proportion of students gain high grade passes which in 2006 was 51.9% across the school as a whole.
- A successful IB programme is taken by a substantial group of students with high pass rates.
- Progression to Higher Education (HE) is a strength of the school and many learners are accepted for degrees at prestigious universities.
- Students are keen and articulate learners. They are confident and eager to participate in lessons and either answer or pose questions. Sixth form students work hard, are diligent in their studies and enjoy their time in the school.

#### Teaching, training and learning

- The previous inspection of the school in November 2004 judged 87% of teaching to be good or better. The science teaching observed during the visit was good with outstanding features. Teachers have very good relationships with learners. They receive good support from the effective team of well-qualified science technicians.
- An example of high quality and responsive teaching that utilised a new discovery was observed during an A2 biology lesson. The teacher was explaining the process of speciation and evolutionary change when a student remarked that he had heard a scientist on the radio that morning declaring the discovery of a new species of carnivore, the cloud leopard, in Borneo. The teacher skilfully drew out further information on this discovery from the class and adapted his description of speciation, using this example to demonstrate how evolution can take place as a result of geographical isolation. The students were very interested in the subject and vigorously debated the process of evolutionary change, appreciating the relevance and currency of the cloud leopard example.
- Science teachers place a strong emphasis on practical work. An AS physics lesson used a game involving dice to illustrate the principles of random decay for radioactive isotopes. The learners participated actively in the exercise and pondered the random nature of decay, leading to them gain a clear understanding of the process. The teacher was careful to ensure all learners used the relevant scientific terminology and were able to plot graphs quickly and accurately.

## Programmes and activities

- As a selective school that attracts students of high ability, the academic scientific courses provided meet the needs of students well. The science A-level offer is complemented by the IB course and this enhances the choice of provision, particularly for those learners of high ability.
- The high success rates and excellent record of progression to university clearly show that the programmes offered meet the needs of learners.

## Guidance and support

- Learners interviewed by the inspector reported that they felt extremely well supported by teaching and non-teaching staff. Induction processes for students joining the sixth form from another school are welcoming and help students to settle down quickly. All learners receive strong support in the application process for HE. The sixth form common area is too small for the large number of students entitled to use it. The school has a strong focus on student attendance which is high for science subjects.

## Leadership and management

- Leadership and management of the sixth form were judged to be very good in the previous inspection. They have continued to ensure learners obtain consistently high success rates.
- All science teachers have one lesson observed annually and it has been agreed recently to increase this to two per year. Proformas are completed by the observer and teachers receive separate grades on teaching, learning, subject knowledge, managing behaviour and additional learning opportunities.
- Team meetings are held regularly and have a strong focus on monitoring the progress of learners and students' achievements.
- All science students are set a target A-level grade based on their previous GCSE achievement. The current performance of students is reviewed three times per year and an academic review meeting takes place annually attended by the form tutor, student and parents/carers. This value-added information is not used to evaluate the performance of individual subjects.

## Areas for development, which we discussed, included:

- the use of information learning technology (ILT) in science teaching is under-developed; most science laboratories have no permanent data projector and there is infrequent use of datalogging and other interactive programmes to enliven teaching
- as acknowledged by school staff, some science accommodation is too small for the large class sizes and some lessons take place in non-specialist rooms, detracting from their effectiveness
- the school has a rich programme of extra-curricular activities and students meet daily with form tutors; however, sixth formers have no

minimum entitlement to ensure all students receive a suitable programme to meet their personal, social and health needs.

I hope these observations are useful as you continue to develop science courses 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

Sarbdip Noonan  
Additional Inspector