

Department for Education  
Assessment, Curriculum and General Qualifications  
Reform Group  
2 St Paul's Place  
125 Norfolk Street  
Sheffield, S1 2FJ

23 July 2014

Dear Mrs Ward

## **National Curriculum Reform (England): Key Stage 4 Science**

I am writing in response to your current consultation *National Curriculum Reform (England): Key Stage 4 Science*. The Trust has a long-standing commitment to ensuring that inspirational, high-quality science education is available to all young people, and a broad and balanced science curriculum underpins this. I am therefore pleased to provide some comments on the proposals.

We warmly welcome the requirement for Key Stage 4 curricula to comprise approximately equal proportions of biology, chemistry and physics. We believe that it is essential that every student studies all three core sciences until the end of Key Stage 4. Each of these subjects contains knowledge that everyone should be familiar with to make informed decisions in their lives – from healthcare to choices about new technologies or sustainable diets. Furthermore, anyone wishing to progress in any particular scientific discipline post-16 will struggle to do so effectively without having studied the breadth of all three up until that point. The sciences are becoming increasingly interdisciplinary and the boundaries between them are rich areas for investigation and exploitation.

We believe that all schools, including Academies and Free Schools, should be required to teach a balance of biology, chemistry and physics to all students up to 16. Schools, their governors, and Ofsted should be absolutely clear on this point. Academies and Free Schools do not have to follow the national curriculum and while they are required to provide a “balanced and broadly based” curriculum including science, the need for three core sciences is not mentioned and should be.

We welcome your acknowledgement of the practical nature of science. Practical work is a defining feature of scientific observation and inquiry, and must remain an integral part of every young person's science education. It enthuses and engages students and is an essential part of training for university study, higher apprenticeships and jobs in science and engineering. It is essential that the impact of the new practical assessment regime at A level is understood before any changes are made at GCSE.

If you would like to discuss any of these points in further detail, I would be pleased to do so.

Yours sincerely

Dr Hilary Leever  
Head of Education and Learning, Wellcome Trust