

Rt Hon Ed Balls MP
Secretary of State for Children, Schools and Families
Department for Children, Schools and Families
Sanctuary Buildings,
Great Smith Street,
London SW1P 3BT

27 July 2009

As scientists and educators, we are writing to seek improvements in the proposed '*Scientific and technological understanding*' area of learning proposed in Sir Jim Rose's review of the primary school curriculum.

Evolution

We find it extraordinary that evolution and natural selection find no place in the section '*Science – life and living things*' (page 6). The theory of evolution is one of the most important ideas underlying biological science. It is a key concept that children should be introduced to at an early stage so as to ensure a firmer scientific understanding when they study it in more detail later on. The wealth of new resources on evolution available for children of primary school age clearly demonstrates their ability to grasp its central concepts. We consider its inclusion vital.

Scientific method

The '*Essential knowledge*' section on page 2 of the document seeks to set out the key areas of knowledge of which children should develop a secure grasp. The list does not make reference to the value of science as a way of attempting to find explanations for observed natural phenomena. As this is science's principal function it must be referred to. We recommend adding it as the first item of the list: 'how the scientific method enables us to explain natural phenomena.'

The information provided under the '*Key skills*' section of the same page taken together constitutes the scientific method, but the term itself is not referred to and this absence is notable. We recommend that the term 'scientific method' is explicitly incorporated as a key skill in this section.

Enjoyment from science

We note that guidance on other draft areas of learning offer more emphasis on how rewarding and enlightening learning about them can be for pupils than does '*Scientific and technological understanding*'. Our final recommendation is that at the end of the section '*Why is this area of learning important*' on page one the following be added: 'Children's understanding of science is a source of inspiration, enjoyment and fulfilment. It enables them to participate in and respond to debates in the life of their communities about scientific and technological issues using skills of critical evaluation.'

We hope that these recommendations will be taken up by your Department to help ensure that primary science education is enjoyable and comprehensive.

Yours sincerely,

Professor Sir Tom Blundell FRS FMedSci

Professor Paul Braterman

Professor Richard Dawkins FRS

Professor Sir Anthony Epstein, CBE, FRS, hon FRSE, FRCP.

Professor Robin Dunbar FBA

Professor R. John Ellis FRS

Dr Dylan Evans

Sir James Gowans CBE FRCP FRS

Adam Hart-Davis

Professor Robert A Hinde CBE FRS FBE

Sir Tim Hunt FRS

Professor Hugh Huxley FRS MBE

Professor Steve Jones

Professor Sir Hans Kornberg FRS

Professor Sir Harold Kroto FRS

Professor John Lee

Sir Paul Nurse FRS

Revd Professor Michael Reiss FIBiol, FRSA

Sir David Smith FRS FRSE

Professor Sir Kenneth Stuart FRCP

Sir Fraser Stoddart FRS, FRSE

Sir John Sulston FRS.

Professor Sir David Weatherall FRS

James Williams FIBio CSciTeach

Professor Raymond Tallis FMedSci

Professor Lewis Wolpert CBE FRS