

6 October 2022

Dear Mr Malthouse,

I am writing to congratulate you on your appointment as Secretary of State for Education and to highlight some pressing opportunities and concerns relating to biology and wider STEM education, on behalf of the Royal Society of Biology (RSB). The RSB is committed to supporting and encouraging the study of biology at primary, secondary and tertiary levels across the UK, together with our member organisations and the broader scientific community.

It is clear that the UK requires a growing pipeline of people with skills and expertise in biological sciences for the 21st Century. Biology education and training lead to a wealth of employment options at all levels and across many sectors from agriculture to medical research, and the whole population also benefits from a basic level of understanding to support healthy and sustainable lifestyles.

The role of biological scientists in addressing the COVID-19 pandemic has demonstrated their vital importance to both the health of the population and the growth and competitiveness of the UK economy. We must build on this to prepare now for further pandemics and global health crises such as antimicrobial resistance. Similarly, there is a pressing need to accelerate biology-based research and development to help provide solutions to the climate change emergency and its potentially devastating impacts on health, food security and biodiversity.

We believe that all young people should have equal opportunities to continue studying the sciences, and experience curricula and assessment that prepare them to be scientifically literate, and for a diverse and changing world of work. To this end:

- Biology curricula and specifications should be informed by best practice and evidence such as RSB's [Evolving 5-19 Biology](#) recommendations and framework.
- Qualifications for the sciences should be fit for purpose, equitable and ensure parity of esteem between academic, technical and vocational pathways.
- Equity should be ensured by committing to a single route through the sciences at GCSE (combined science double GCSE award).
- To ensure that a successful education pathway in the sciences is not closed off, RSB recommends that funding of level 3 qualifications in applied sciences and engineering should be retained alongside funding for T levels.
- All young people should benefit from an unbroken chain of experts teaching the science disciplines.

Securing a diverse pipeline of world-class biologists for the future depends on a sustainable workforce of high-quality, specialist teachers, who are supported to develop their subject-specific knowledge and deployed appropriately within their disciplinary expertise. However, there is currently a shortage of high-quality specialist teachers, recruitment is still falling short of targets and teacher attrition is highest in the sciences. Therefore, we would like to see:

- Career-long learning and recruitment and retention strategies containing subject-specific entitlements at primary and secondary level, and teacher training supported by appropriate bursary and scholarship schemes to encourage excellent candidates into teaching.
- Investment made in teachers now to provide future returns through increased innovation and productivity. Over 3 years, we seek an additional investment of £44m on top of existing spend to develop and deliver an ambitious, systematic approach to subject-specific professional development and retraining in the sciences as part of a STEM education strategy.
- Initial Teacher Training bursaries for biology trainees in 2023/24 and beyond increased, to boost recruitment.

We would be keen to meet with you to discuss these issues further.

Yours sincerely,



Dr Mark Downs CSci CBiol FRSB
Chief Executive
Royal Society of Biology