

Education Policy priorities 2023-2028

This document outlines several important areas that the Royal Society of Biology has identified as priorities for biology education. It builds on the Society's current [strategy and three-year plan for 2022-2024, calls for commitment in general election manifestos](#), and draws on positions set out in recent [consultation responses](#) and priorities developed with partners, for example through the jointly-funded Science Education Policy Alliance (SEPA), as part of the STEM Learning Science CPD Partnership advisory group, the Subjects Matter group, the Primary Curriculum Advisory Group (PCAG) and as a member of the Learned Societies' Group in Scotland.

The RSB is committed to supporting and encouraging the study of biology at primary, secondary and tertiary levels across the UK, working in coordination with our member organisations and with the broader scientific community. Our education policy officers provide specific policy focus support on the 5 – 19 Biology curriculum and academic and technical qualifications, and teacher training, recruitment, retention and subject-specific continuous professional development (CPD). Steered by our Education and Science Policy Committee, we aim to do this through bringing together the education and science communities, informing policymakers, providing impartial, evidence-based advice and being seen as the leading voice for biology.

Our education priorities 2023-2028 underpin our policy work, and outline important factors that contribute to excellent biology teaching and learning in the UK, for all students at all levels. RSB's education policy team seeks to support, inform and develop policy in the following areas by working with UK governments, awarding organisations, regulatory bodies, schools, colleges and universities.

- **All young people should have an unbroken chain of experts teaching the science disciplines**

The challenge of teacher recruitment and retention is multi-faceted. High-quality initial teacher education (ITE) and subject-specific continuous professional development (CPD) can improve retention rates. We also need to raise the professional status of teachers in all educational settings, make sure teachers are being supported to develop their subject-specific knowledge, and deployed appropriately within their subject discipline.

- **All young people should experience curricula and assessments which prepare them to be scientifically literate, able to make scientifically informed choices, and ready them for a diverse and evolving world of work**

Teaching and learning policies should work towards ethical, equitable and inclusive learning, curricula and assessment. The curriculum must reflect the current needs of students and employers and support progression into technical, vocational and academic qualifications ensuring parity of esteem in these routes to allow students to continue to study the biosciences, progress into higher education and the workplace. Practical work and the development of practical skills are highly valuable, and must be an integral part of all biology taught in schools, colleges and universities.

Alongside these education policy priorities, the Society will provide an annual update detailing how our policy officers, groups and committees, and partnerships are contributing to furthering these aims.

Further details can be found at www.rsb.org.uk/education.

All young people should have an unbroken chain of experts teaching the science disciplines

Teachers' disciplinary expertise continues to be recognised as important.

- Governments should target investment in teachers' professional learning in all primary, secondary and tertiary settings to ensure all students have access to high-quality subject teachers.
- Provide subject-specific mentoring for all teachers; for efficiency and effectiveness.
- Have a coordinated, world-leading system of subject-specific CPD to ensure that all teachers can access professional learning, through various means, helping to address inconsistencies in investment and drawing on the recommendations in Institute of Physics report [Subjects Matter](#).
- Establish an entitlement for secondary teachers so that at least half of their professional development and learning is subject specific, topic-level development and research informed.
- All primary teachers should be entitled to appropriate CPD, aiming to improve confidence in teaching the sciences and addressing misconceptions.
- All teachers have a recognised teaching qualification or are working towards one.
- Best practice based on education research, in pedagogy and science teaching, is shared, disseminated and valued, with routes to embed research in practice.

There is a coherent and coordinated strategy for recruiting and preparing the right people for roles in teaching the sciences in a disciplinary specific way.

- Ensure that all trainees, wherever trained, are able to access subject-specific support.
- Ensure ITE programmes are fit for purpose in adequately preparing student teachers to enter the workforce and teach their STEM specialism confidently.
- Secondary schools should recruit specialist teachers for each of the scientific disciplines, support subject knowledge and specialism development and data regarding their specialisms should be collected at government level to support this.
- Diversify the teaching workforce to help encourage all students to continue studying biosciences post-16, through academic, technical and vocational routes.

Teacher retention is acknowledged by all UK governments as a national issue requiring a coordinated national solution. We will use our STEM specific knowledge to influence national programmes and debates.

- Improve teacher salaries to reflect their skill level at all points on the pay scale, ensuring staff feel valued and to further the impetus to stay in teaching.
- Early-career secondary teachers should be supported by subject-specific mentors. The workload burden of deploying new teachers to multiple year groups, specifications and science subjects should be considered by senior leaders when timetabling.
- Create a programme of mid-career support for experienced STEM teachers which includes subject-specific CPD throughout their careers.
- Invest in teachers to provide future returns through increased innovation and productivity as part of a STEM education strategy.

All young people should experience curricula and assessments which prepare them to be scientifically literate, able to make scientifically informed choices, and ready them for a diverse and evolving world of work

Curriculum reforms across the UK are informed by our work.

- RSB's [Evolving 5-19 Biology framework: recommendations and framework for 5-19 curricula](#) should be at the forefront for curriculum reform or changes alongside educational research.
- Science must be prioritised as a core subject in primary settings.
- Biology curricula should ensure all students have opportunities to investigate biological phenomena and develop investigative and analytical skills in laboratory and field contexts.

Qualifications and qualification systems are fit for purpose, supporting students to make informed choices and continue studying or working in the biosciences.

- Qualification reform is led by learned societies and subject experts, informed by best research and evidence, with learners directly at the heart.
- In bioscience higher education, undergraduate and Master degrees, foundation and doctoral programmes should seek [RSB accreditation](#) to ensure high quality experiences for students.
- Excellence and consistent careers provision from primary through to tertiary education and beyond. This must include:
 - support for schools and colleges to implement the benchmarks and recommendations in the Gatsby Foundations' [Good Careers Guidance](#)
 - relationships built between schools, universities and industry to demonstrate the range of bioscience careers available
 - a range of appropriate role models to encourage students to understand the range of career opportunities within and from the biosciences
 - high quality ITE and CPD for teachers in providing careers support, including up to date information on labour markets and on the range of post-16 and post-18 courses available. This should also include information on non-degree routes into bioscience careers, such as apprenticeships.

All students have equal opportunities to continue studying the sciences.

- Equality of access to academic, technical and vocational routes into the biosciences for all.
- Parity of esteem between the different post-16 qualifications, to allow all students to continue to access science.
- A single route through the sciences for 14-16 year olds should have the following features: biology, chemistry and physics are identifiable, timetabled distinctly, with subject-specialist teachers deployed within their specialism.
- Evidence should be gathered on the impacts of education reform, including the:
 - amount and quality of practical work taking place within schools in the science subjects
 - uptake of STEM subjects post-16 and post-18
 - impact on preparedness for entry into tertiary education and the workforce
 - number of students entering STEM careers and training.

Practical skills, field work and understanding of investigative work are vital parts of the school and university experience.

- Curricula should provide ample opportunities to engage in practical and investigative work, including in the field.
- Government funding should be provided to support the resourcing of practical work in schools, colleges and universities. Specific consideration should be given to more deprived areas.
- Practical work should be purposeful and be used to aid the understanding of the biological world, drawing on RSB's [Evolving 5-19 Biology](#) and Gatsby's [Good Practical Science](#).