

Spreading the word about good practical science

Why we've sent out more than 6,000 posters to secondary schools in England...

Here at the Association for Science Education we are proud of the work we continue to do to support the landmark *Good Practical Science* report, and the efforts of our members and those of our science education community partners to help 'Make it Happen'.

To that end we have produced a poster designed to help teachers and technicians understand the importance and potential impact of a properly planned practical science policy and, thanks to the generous support of the Gatsby Foundation, we have sent two copies of the poster to every secondary school in England!

It was quite an undertaking, with more than 3,000 (recyclable!) cardboard poster tubes being sent across the country, but one that was in line with our mandate to help the secondary science education community to appreciate the importance of quality practical work, and help school science leaders develop the effectiveness of practical work by working towards the 10 benchmarks outlined in the report.



Led by ASE President Professor Sir John Holman, the *Good Practical Science* report was released in September 2017. The report, based on international evidence, establishes ten benchmarks, specifying what world-class practical science should look like in schools and how it can be achieved.

Obviously, many ASE members are based outside of England, and we want to help all of our members to spread the

message about good practical science. While our funding for the project doesn't cover sending out individual posters beyond England, our network of Field Officers will have some copies on hand at upcoming events – such as the Scotland Conference.

We've also made the poster available as a free digital download. Head to <https://www.ase.org.uk/file/gps-posterpdf> to get your own copy.

... Calls to action - opportunities from our friends ...

The Royal Society of Biology's Big Biology Day Grant 2020 is now open for applications. The grants are an opportunity to share your passion for biology and the natural world within your community, and the RSB are offering grants of up to £500 to help teachers engage the public with an array of hands-on science activities, crafts and displays in-school...

<http://www.rsb.org.uk/bbdgrants>

Our friends at Practical Action have issued a new STEM challenge to science educators! The 'Regreen the desert' scheme challenges pupils aged 7-14 to provide a solution for a community in Sudan suffering from drought as a result of climate change. Pupils explore how water pressure works then design and build a simple irrigation system...

www.practicalaction.org/schools/regreen-the-desert

Book now for The Royal Society Summer Science Exhibition 2020. Teachers can bring up to 28 of their Year 10–13 (ages 15–18) students to explore the Exhibition and meet the researchers involved. Groups can either attend a 2-hour slot as part of the KS4+ (age 16+) visits, or a full day as part of the sixth form days. Early booking advised...

<https://royalsociety.org/schools-booking>

Helping the Woodcraft Folk to take on climate change

We're delighted to announce that we're teaming up with the Woodcraft Folk and Friends of the Earth to launch an exciting new venture: *All Change - Climate Science Education Project*.

Thanks to new funding from the National Association for Environmental Education (NAEE), Woodcraft Folk and its partners will be looking to engage ASE members in a range of opportunities, including:

- New educational resources – *Climate Action Now!* Jam packed with activities for children and young people to learn about and take action on the Climate Emergency, this will be published in March 2020.
- *Climate Science Fun* – an interactive workshop, delivered in partnership with Perimeter Institute, to explore how to engage and inspire young people to learn about climate science; 2pm Thursday March 12th at Angel Square, Manchester.
- *Climate Science Youth Training* – a residential experience for teachers and youth workers led by young people. This short stay in an AONB will give individuals an opportunity to live off-grid and access a full days training delivered



by young people. The young educators will share their concerns for the environment and a number of interactive sessions to inspire you to take participative learning into the classroom; 5pm Tuesday 7th April – 10am Thursday 9th April at Biblins Youth Campsite (optional training in environmental education available on Tuesday 7th).

The *All Change* project will be linking up with Friends of the Earth to co-ordinate a symposium looking at how educators can support the emotional wellbeing of young people as they learn about and take on action on climate emergency.

The *All Change* project will also seek to share resources and development at ASE TeachMeets and other national and regional CPD events, including the Annual Conference in 2021.

For more information and to find out how you can get involved, visit <https://woodcraft.org.uk/all-change-climate-science-education-project>



IOP is seeking out physics NQTs

If you've got a Physics NQT joining your school this summer, the Institute of Physics would really like to hear from you – and are offering a £250 grant for your science department for your trouble.

With only 547 physics teachers in ITT this year, the IOP want to understand how to encourage as many as possible to enter and stay in the profession. The KEEP Teaching trial is part of the IOP's work in this area. It is looking for 120 schools with physics teachers starting

their NQT year in September 2020 to participate in a new research project.

The trial tests an intervention that reduces workload during a physics teacher's NQT year. Early-career teachers can then focus on becoming skilled classroom practitioners. The trial examines how this early workload reduction impacts teacher retention.

Schools can register their interest at www.iop.org/keeptrial and the IOP will then share further information.

ASE Scotland 2020

Saturday 28th March

Edinburgh Academy

Please find below an outline of the programme for this exciting event. For more information about the 2020 ASE Scotland Conference, please visit www.ase.org.uk/events/association-science-education-scottish-conference-2020

Keynote address – Talk, dialogue and questions

Stuart Naylor CSciTeach

This interactive talk explores some aspects of dialogic teaching, including how a growth mindset supports dialogue in classrooms. It focuses especially on the nature of thought-provoking questions and the impact that these can have on learners. Is asking thought-provoking questions the most valuable skill that teachers of science can develop?

Workshop A choices:

A1: Teaching physics through road safety

Jennie Hargreaves, Institute of Physics

A2: 'Edible Chemistry'

Stephen Hendry, Royal Society of Chemistry

A3: Looking at the B and E in 'Sustainable' and the I and Y of Sustainability

Dr. Liz Lakin, Royal Society of Biology and University of Dundee

A4: TAPS Scotland: supporting teaching and assessment of scientific skills

Dr. Sarah Earle CSciTeach, Bath Spa Uni

A5: Timstar DNA fingerprinting session

Lucienne McCallum, Timstar

Workshop B choices:

B1: Using research to improve learning in the science classroom

Andrew Bailey, Institute of Physics

B2: Seaside Chemistry

Stephen Hendry, RSC

B3: Finding global solutions through science

Krissie Davis, Tracey Shaw and Claire Tatar, secondary science teachers

B4: Laying the Foundations of Computer Science

Darren Grant, SSERC

B5: Lets talk about animals

Stuart Naylor CSciTeach

Workshop C choices:

C1: Ideas for science open days, fairs, parents' evenings and informal events

Dr. Susie Burr

C2: Safeguards in the School Laboratory

Chris Lloyd, SSERC

C3: Escape The Classroom – Activities to challenge and enthuse

Adrian Allan, teacher of chemistry, Dornoch Academy

C4: Creating and implementing a whole school vision for science: How does effective leadership and an aspirational curriculum impact on the quality of teaching and learning in science?

Associate Professor Jane Turner CSciTeach, PSQM

C5: Primary & secondary transition workshop

Stephen Hendry, RSC

Workshop D choices:

D1: How do scientists think?

Stuart Farmer CSciTeach, Institute of Physics

D2: The perfect enzyme

Dr. Doug Macdonald and Dr. Alistair Macpherson, Edinburgh Academy

D3: Science in the Outdoor Classroom; a toolbox for educators

Jack Lucas, Field Studies Council (FSC)

D4: 'People Like Me Can Do STEM' (Rolls Royce award)

Kate Carter, Castleview Primary School

D5: Reflection and recognition

Diane Molyneux CSciTeach, GTCS Professional Recognition for Primary Science development

News from The Royal Society

Funding Opportunities:

Partnership Grants

Schools can apply to receive up to £3,000 to run an investigative STEM project through the Royal Society's Partnership Grants scheme. Projects have to be run in partnership with a STEM professional from academia or industry and can cover a wide range of topics. Both primary and secondary schools in the UK are eligible and applications for 2020 are now open.

The application process is in two stages and submissions for stage 1 will close at the beginning of March. To find out more and to apply, please visit

<https://royalsociety.org/grants-schemes-awards/grants/partnership-grants/>.

Tomorrow's climate scientists

To solve global issues relating to climate change, there is a need to build future capacity in terms of developing skills in our future scientists. We know that young people care about the future of the planet and have untapped ingenuity, passion, and creativity. This new programme aims to give students across the UK not just a voice but also an opportunity to take action to address climate and biodiversity issues – to become the climate scientists of tomorrow.

This funded programme will give students the opportunity to develop key skills of experimental science, problem-solving and data handling, as well as allowing them to demonstrate their creativity and have a voice in the direction of scientific research by working alongside established scientists.

We are looking for schools from across the UK, in the age range 5 to 18, to take part in this programme of events. For more information, please contact the Schools Engagement team by 28th February 2020.

Please be aware that the dates in this section are VERY close to the publishing date of this issue of EIS – you may need to act quickly!

Development opportunities with ASE

Vacancies on ASE national committees and specialist groups from September 2020

One of the great benefits of ASE membership is being part of a community of science educators, giving you the opportunity to network with like-minded individuals, share best practice and support your professional development. One way in which you can build your ASE network is to join a national or regional committee. As well as having the chance to get more involved with our activities and events, being on a committee can also provide opportunities to feed in your views to our policy activities and help shape the wider science education landscape. Please don't hesitate to contact us at elections@ase.org.uk if you have any questions or would like to find out more.

Education Group 2020/2021

We have vacancies for members to be nominated directly from the membership, and through the Regions. The Education Group gives advice to the Trustee Body on all aspects of science education. To apply, please complete the form on the ASE website and follow the instructions, or contact elections@ase.org.uk for information on how Regions can make nominations.

International Aspects of Science

Education Specialist Group

This Group co-ordinates the international links of the Association in a variety of ways, including organising the International Programme at the Annual Conference. Nominations from international members currently in Britain will be particularly welcomed.

Publications Specialist Group

This Group is committed to raising the profile of ASE and promoting and supporting membership through its resources. It considers proposals from potential authors and an individual group member liaises with the author during the preparation of a resource.

Working with ASE staff and within a policy framework, this ensures that each publication meets the high standards of ASE. We would like to particularly encourage nominations from classroom practitioners, including recent entrants to the profession.

Science Education 11-19 Committee

The Committee advises and supports teachers of science in secondary schools, colleges and training providers. The Committee is interested in all aspects of the curriculum including assessment and examinations and seeks nominations from NQTs and classroom teachers, as well as subject leaders, advisers and inspectors. The Committee seeks to represent all sectors in 11-19 education and all UK nations.

Primary Science Education Committee

This Committee seeks to promote best practice in the teaching of science in primary schools. It provides advice and support to policy-makers, teachers, science co-ordinators and curriculum developers. Nominations are welcome from anyone interested in primary science, especially classroom teachers, head teachers, experienced providers of both ITT and CPD. We are seeking new members from across the UK to join us, as we look to influence policy at a national level.

Science Laboratory Technicians Committee

This Committee co-ordinates the Association's activities for its technician members. As well as providing advice and support to technicians, it organises National Technician Conferences and the Technician Programme at Annual Conference. The Committee is seeking nominations from all interested technician members, especially those currently working in schools and in the

FE sector. See more about joining this Committee on pages 24-26 of this issue of *EiS*.

Research in Science Specialist Group

This group provides expertise in science education research to inform ASE policy and action, particularly in encouraging a research-based approach to teaching, and is seeking nominations from members with an interest in science education research. See more on page 23.

Health & Safety in Science Education Specialist Group

This is an 'expert group' committee that gives advice to members on all matters relating to health and safety in science education. The Group is an authority in the field of best safe practice in practical school science, respected nationally and internationally. Nominees should have worked in school or college science for at least three years, and taught practical science, or directly supported teaching of practical science. Ideally, nominees need a good knowledge of either biological science or chemistry to maintain the balance of expertise on the committee, and good up-to-date knowledge of health and safety as it affects practical science in schools.

Call for nominations to Trustee Body 2020/2021 – see November 2019 *EiS*.

Member of Quality & Audit Committee 2020–2023 – see November 2019 *EiS*.

All nomination forms are available on the ASE website: www.ase.org.uk/content/committees

DEADLINES: All nomination forms should be with Headquarters by **31st May 2020**.

Elections will be carried out by the membership via the ASE website, in June.