

BRILLIANT *INSPIRATION*



DISCOVER INSIDE

**GOING GREEN – TOP
TIPS FOR INSPIRING
YOUR CLASS WITH
GREEN CAREERS**

**HOW TO CREATE
AN IMPACTFUL STEM
CAREERS PROGRAMME**

**LEARN FROM
OTHER TEACHERS**

neon

Brilliant Inspiration

May // 2025

neonfutures.org.uk

Hello from Neon

We're back and feeling green! This issue covers careers of the future and inspiring engineering solutions to climate change. Hear from other teachers, as well as our experience providers on Neon.

Want more?



Head to Neon to search for more experiences. Use the filters and search bar to find the perfect activity for your class.

www.neonfutures.org.uk

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Bringing engineering to life

Engineers help solve global challenges, from combating climate change to addressing cybersecurity issues to ensuring clean water access for all and much more. Whatever your students are interested in, there's a career in engineering for everyone.

Find out more about how you can bring engineering and STEM careers to life within and outside of the curriculum:

Champion STEM in all subjects

Entry and progression routes into engineering careers vary. Engineering pathways typically align with maths, science and subjects such as D&T and computing. But it's also important that young people learn that other subjects (like geography, art and languages) are also valued by engineering courses and employers.

The Climate Schools Programme is designed to show how multiple school subjects such as English, science and geography, interconnect through engineering and technology:
eukeducation.org.uk/climate-lessons

Encourage interest beyond the classroom

Exploring different careers outside of school, through passions, interests, skills and school subjects supports careers learning.



Top tip! Share 'My world, my future' with students and their parents/carers - a free, downloadable leaflet which lists podcasts, days out, activities, competitions, books and other ways that young people can further their interest in STEM.

Things teachers can do

Bring STEM to life with exciting resources designed for young people by industry and careers experts. Quickly find trusted, high quality resources on:

- resources.careersandenterprise.co.uk
- marketplace.skillsdevelopmentscotland.co.uk/offers
- eukeducation.org.uk/careers-resources



Get more hints and tips in the free guide

Advancing STEM careers provision in schools – a guide for Careers Leaders:
eukeducation.org.uk/careers-leader-guide

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Reasons to book *'I'm an Engineer'*

'I'm an Engineer' is an online, student-led STEM enrichment activity. Students explore diverse engineers' profiles, connect with them in text based live chats, ask follow-up questions, and vote for the winner of a termly prize.

For over 10 years the activity has been helping young people to see engineering as something for them. It supports science capital, helping students to relate to engineering and the real people working within it.

"At the start, lots of them thought engineers were people who fixed lifts or cars, but they've broadened their views about what engineering jobs can involve. Many students are now interested in what they could do or build as an engineer." – **Lucy, teacher**

It's engaging - the activity actively engages 89% of students

It's flexible - it's quick and easy to run, at the time you choose

It matches your curriculum - select from over 100 themes relevant to your teaching

It's inclusive - every student has an equal voice to ask about what matters to them, at their own level

It's free - there's no charge for state funded UK schools

Plus, all chats are facilitated by DBS-checked moderators:

"I kick off the live chats with a brief how-to. Then I'm there to keep them running smoothly with reminders, positive reinforcement, and tips to help students get the most out of the chat."
– **Errol, Moderator**

Find out more or book on Neon:

neonfutures.org.uk/im-an-engineer



Why do we love Solutions for the Planet's **Big Ideas** Programme?

Laura Watford (teacher & STEM educator, Portsmouth) -

"The Big Ideas Programme lit a spark in my students. They tackled real-world problems, built serious STEM and enterprise skills, and grew into confident, creative thinkers. With amazing support from business mentors, they saw their ideas come to life. It's hands-on, inspiring, and shows young people they have the power to shape the future—starting now."

Nusaybah Mannan (Big Ideas Programme student alumni, S4TP Youth Insights panel member) -

"The Big Ideas Programme got me thinking big - bigger than I ever thought over my time at school! Thinking about the large-scale problems facing the planet, innovative national and local solutions to alleviate them and then how we could work in harmony with various sectors, communities and decision-makers to implement these solutions and effect sustainable, long-term positive change."

Andy Simcoe (mentor, Northern Gas Networks) -

"The Big Ideas Programme gives me the opportunity to develop and challenge myself by working with young people, supporting ideas, watching out of the box ideas grow and become viable business models and plans by my engaging, guiding and encouraging. Being a Mentor is a great privilege."

Book the Big Ideas Programme on Neon:

neonfutures.org.uk/big-ideas



Sustainable power STEM session with Skill Supply

Skill Supply have been delivering hands-on engaging STEM workshops since 2014. Founded by 2 scientists, they have engineers and teachers who help develop and deliver their sessions.

At a recent Neon bursary session in St Albans, primary students explored wind power as a renewable energy source. Through hands-on activities with miniature wind turbines, various blade designs, multimeters, and LED lights, students learned how wind energy converts to electricity.

As the turbines spun, students observed how wind energy converts to electrical energy. They concluded which blades generated the most voltage and used that setup to light an LED house. The class were so excited when the turbines lit up the LED lights!

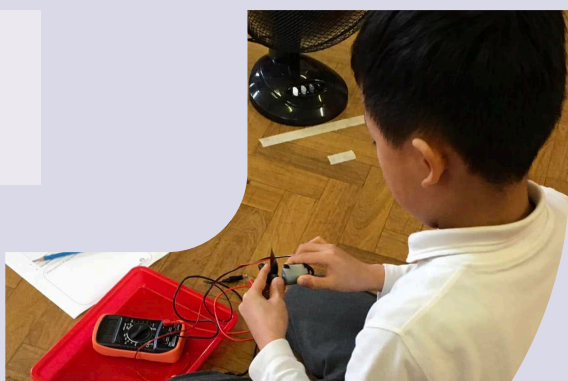
Students developed their scientific method, knowledge of electricity production and gained a deeper understanding of renewable energy and its potential for a sustainable future.

Laura Campbell-Pugh, Assistant Head and SENCO at the school said:

"What an amazing way to start science week and connect science and DT together. The children were engaged in the hands-on learning and so keen to learn more about wind power. The children asked so many detailed questions which Dom and Ian answered expertly. The children's knowledge of electricity was deepened and expanded upon as well as enriching their learning through practical activities."

Book now on Neon:

[neonfutures.org.uk/
sustainable-power](https://neonfutures.org.uk/sustainable-power)



5 reasons to register for Engineering Educates: Robotics Challenge

1. It empowers teachers - get free, curriculum-aligned resources, helpful subject knowledge guides. Teachers say the resources boost their confidence and develop subject knowledge, save planning time and give them creative, real-world contexts.

2. It's evidence informed - the challenges aren't just about cool robots—they are built on solid pedagogical principles:

- Engineering Design Cycle: encourages a systematic approach to problem-solving
- Engineering habits of mind: embeds critical learning habits such as creativity, collaboration, and resilience
- Engineering progression framework: provides teachers with a clear structure to integrate engineering concepts into their curriculum

3. It's endorsed by experts -

"It was great to see the level of engagement from pupils as they tackled real-world challenges using the Engineering Design Cycle. Hands-on learning like this builds confidence, teamwork, and critical thinking—key skills for future engineers." - **Prof. Andy Weightman, Professor of Medical Mechatronics at The University of Manchester.**

4. It sparks excitement - a pupil exploring the **Motion in the Ocean** challenge discovered the magic of animatronics and biomimicry, opening up an entirely new career path for her.

5. It supports early engagement - a young pupil programmed a micro:bit using the **Re-engineering Rehab** challenge, proving that young minds are more than ready to dive into engineering.

Book now on Neon:

[neonfutures.org.uk/
eng-robot-challenge](https://neonfutures.org.uk/eng-robot-challenge)



How to inspire students with sustainability

By Amanda Moffat, Alderman Peel High School

Year 10 enterprise challenge: raising money through sustainability

Last term, our GCSE D&T students kicked off their course by taking part in our annual Sustainability Enterprise Challenge, designing and making recycled plastic products to sell during Global Entrepreneurship Week.

Using collected plastic bottle tops and plastic bags, students transformed waste materials into keyrings, guitar picks, necklaces and coasters. They then marketed and sold their products to raise money for charity, with the team that raised the most money choosing where all proceeds were donated.

This year's winners raised an impressive £56, choosing to donate the proceeds to the British Heart Foundation. Congratulations to them, and to all our students, for turning waste into something wonderful while supporting a fantastic cause!



3 reasons to inspire with sustainability

1. The UK has committed to becoming a net zero economy by 2050. But in 2024, only 1 in 5 school leavers could correctly identify what net zero means!
2. Up to 725,000 new jobs could be created by 2030 in green and low-carbon sectors
3. One of the main growth sectors for green jobs is in renewable energy generation - the UK aims to triple off-shore wind generation by 2030!



Featured experiences on **Neon**

Tech for Everything



This live virtual assembly on 25 June shows students how technology can bring together their skills and interest in English, Languages, Music, Art, and Drama



www.neonfutures.org.uk/tech-everything



CREST Superstar



Discover fun student-led STEM challenges, developed by the British Science Association. Explore everyday problems and situations using science.



www.neonfutures.org.uk/crest-superstar



Skills Miner Vertical Farming



Discover your inner vertical farmer and see how your ideas can make a difference to the future of food.



www.neonfutures.org.uk/vertical-farming-primary



A roadmap to STEM careers

**We love STEM! And you do too.
How do we get students to feel the same?**

Research shows that students who attend one or more STEM careers activity are more likely to consider a career in engineering.

This is where planning sequences of linked activities and resources comes in. Repeated experiences increase their interest in a career in engineering and understanding of the breadth of opportunities that are available to them.

The roadmap below takes you through experiences that showcase the many technology solutions to climate change:

3. Invite a Tech She Can Champion into your school. Tech She Can Champions are volunteers who visit schools to inspire future generations about a career in tech. They can offer a range of experiences from workshops to assemblies. neonfutures.org.uk/tech-she-can

2. Register and start your Climate Action club! Student-led Climate Action Clubs build skills and enable students to think about a solutions-based approach: neonfutures.org.uk/climate-club



1. Order our free green careers posters for your classroom neonfutures.org.uk/green-posters

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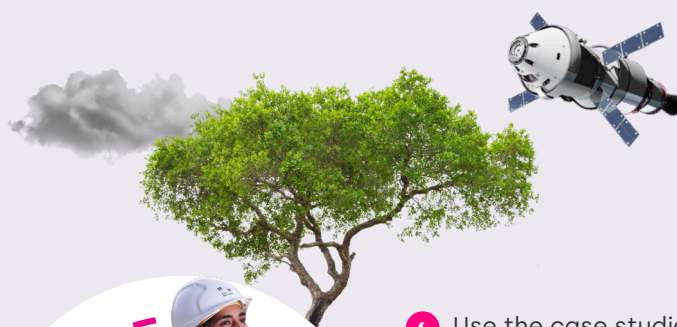
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6. Use the case studies of engineers working to combat climate change we host on Neon. Divide your students into small groups and have them discuss one of the case studies and reflect on them. neonfutures.org.uk/case-studies

5. Take part in Innovate for Climate change. A 7-session introductory computing course that supports students in creating a community focused, climate action app prototype. neonfutures.org.uk/innovate-for-climate-change

4. Share the My world, my future leaflet with your students. It includes suggested STEM inspiration and career resources to explore at home, including podcasts, competitions and days out. neonfutures.org.uk/my-world





Coding for climate action

By Matt Hewlett, Digitall

Climate change is one of the most pressing challenges we face today. Its impact is becoming increasingly evident, and it's crucial for everyone, particularly educators, to be part of the solution. We have the unique opportunity to engage young people, inspire them, and equip them with the skills and knowledge to address future challenges.

We're excited to offer Coding for Climate Action: workshops designed to introduce students to the concept of Early Warning Systems (EWS) and the role of physical computing in climate action. Through these hands-on workshops, students will explore how technology can be used to mitigate the effects of climate-related events such as floods, fires, and temperature fluctuations.

We believe that the best way to teach is by making learning interactive and relevant. In these workshops, we use micro:bits - a versatile and engaging tool that brings coding and physical computing to life. Students will learn to build prototypes of EWS using the sensors and functionality of the micro:bit.

For instance, they will have the opportunity to create a flood detection system using the light and temperature sensors or simulate an earthquake warning system using the motion sensor and radio function.

These workshops are designed to be accessible to all students, regardless of their coding experience. The curriculum is structured to introduce basic concepts and gradually build up to more complex tasks. We also provide teachers with post workshop materials, including comprehensive resources and explanatory videos. All activities begin with pre-written code, allowing students to explore, modify, and expand upon it to create their own solutions.

These workshops align with the UK curriculum and are available for both primary and secondary levels. They offer a great way for students to see the real-world applications of coding and physical computing in the context of climate action. Additionally, the workshops provide valuable opportunities for students to discuss the importance of climate change prevention and mitigation.

The workshops have already been well received by schools across the UK, with teachers and students reporting high levels of engagement and enjoyment. If you're interested in bringing these workshops to your school, please visit our Neon website for more information and to book a session. Together, we can inspire the next generation to take action for a sustainable future!

Book Coding for Climate Action for primary schools: neonfutures.org.uk/coding-climate-primary

Book Coding for Climate Action for secondary schools: neonfutures.org.uk/coding-climate-secondary

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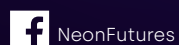
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