STEM UNTAPPED x TECHNIQUEST

A partnership to widen access to STEM opportunities for young people

About the partnership

STEM education has never been so important to Wales' future; it's critical we continue to inspire and nurture the next generation.

Research has found STEM experiences outside of the curriculum in early childhood have a deep and sustained effect on young people shaping their interests, aspirations, and career choices.

This partnership connects STEM Untapped's diverse network of accessible role models with Techniquest's wide reaching primary and secondary school network throughout underrepresented communities across Wales. We collaboratively deliver insightful programmes with strong pathways into STEM education and careers for young people.

AIMS

- Increase awareness and understanding of the different careers and paths in STEM.
- Develop science capital.
- Improve confidence and critical thinking.
- Improve literacy skills and communication.

The WHY

Role models play a crucial role in helping learners see themselves in the world and envision the possibilities for their future. In STEM fields, where underrepresentation remains a significant issue, exposure to diverse and inspiring figures can make all the difference.

Research highlights the positive impact that role models can have, provides real-life context for students to learn from, and offers clear evidence of the many benefits of pursuing a STEM career pathway.

❶ Research from Microsoft has revealed that the number of girls interested in STEM across Europe, on average, almost doubles when they have a role model to inspire them.

❷ STEM role models transform how youth perceive science and technology. By dispelling stereotypes, they boost self-confidence, build a sense of belonging, and increase career motivation, especially for underrepresented groups like girls and minority students. Relatable mentors make abstract concepts feel tangible and attainable.
(www.stem.org.uk/impact-report-2025)

Termly Careers Fairs for Primary Pupils

5 PRIMARY SCHOOLS

150 PUPILS

12 DIVERSE ROLE MODELS

34% AVERAGE FREE SCHOOL MEAL RATE

Overview

STEM professionals were invited to speak to five primary schools (years 4, 5, 6) to present an exciting ten-minute talk about their role in STEM and their journey into their current role. The same five schools attended all sessions to maximise impact through a multi-intervention approach and they all served communities with relatively high levels of free school meal eligibility, where pupils are less likely to have access to diverse STEM role models and careers enrichment opportunities.

"I enjoyed challenging myself to consider how I communicate with young people about my work"
Speaker feedback

Results

- **100%** of teachers said the talks gave a greater sense of awareness of careers in STEM.
- **100%** of teachers said the talks support the World Of Work in line with the national curriculum.
- Speakers rated the programme **8.5+** out of 10 for enjoyment, engagement of the pupils and developing communication skills.

"The project successfully increased pupils' engagement with scientific thinking while broadening their awareness of real-world careers in science. Pupils developed curiosity, confidence, and a clearer understanding of how science is used beyond the classroom."
Primary school teacher feedback

Pen Pal Project: Primary Pupils

21 CLASSES

27 SCHOOLS

23 DIVERSE ROLE MODEL PEN PALS

810 PRIMARY PUPILS

39% AVERAGE FREE SCHOOL MEAL RATE



Overview

Each school was matched with an inspirational STEM role model. The exchange began with an introductory letter before becoming an interactive Q&A between pupils and their STEM pen pal.

"It was incredibly rewarding to see how young pupils view my profession and how curious and eager they were to learn. It was a joy to receive the letters, answer their questions and translate the science in my job into age-appropriate language."

Pen pal feedback

"Pupils loved the anticipation of a letter and the novelty of a pen pal. They enjoyed learning about the different jobs and were very interested in the photos which brought the letter to life."

Primary school teacher feedback

Results

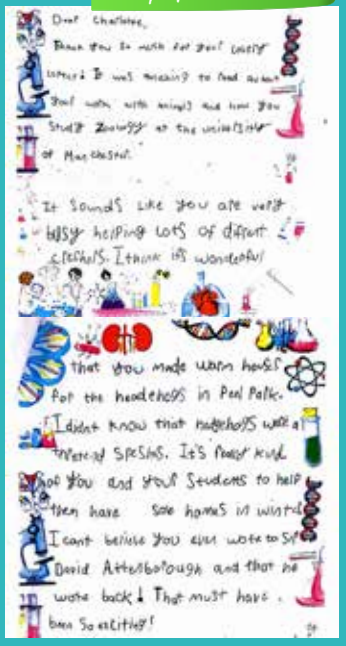
- **75%** of teachers said the letters increased pupils awareness of STEM careers.
- **80%** of teachers said the project supported the teaching of the World Of Work in line with the national curriculum.
- **70%** of teachers agreed that the project supported the development of pupils' literacy/writing kills.
- **92%** of pen pals rated the project **4+** out of 5 for enjoyment
- Highly effective in engaging pupils with scientific enquiry and expanding their understanding of STEM careers. By connecting classroom learning with real professionals, the project made science meaningful, relevant, and inspiring. Pupils finished the project with stronger scientific thinking skills and a clearer sense of the opportunities available to them in the world of work.

"The STEM jobs have been very aspirational for the pupils and they have enjoyed being able to ask questions about a field of work they didn't even know existed."

Primary school teacher feedback

Snapshot of a pen pal letter

Snapshot of a pupil letter



National Science Week: Online Careers Fair for Secondary Pupils

11 SCHOOLS

322 SECONDARY PUPILS

12 DIVERSE ROLE MODELS

24% AVERAGE FREE SCHOOL MEAL RATE

Overview

Throughout Science Week, STEM professionals gave 10-minute talks followed by a 10-minute interactive Q&A with pupils.

Results

- **100%** of teachers rated **5/5** for how their pupils gained greater awareness of careers in STEM.
- **100%** of teachers said the talks supported teaching the World Of Work in line with the national curriculum.
- **100%** of speakers said the project was worthwhile of their time and rated the enjoyment at **4+** out of 5.
- This project was highly effective in engaging pupils with scientific enquiry and expanding their understanding of STEM careers. By connecting classroom learning with real STEM professionals, the project made science meaningful, relevant and inspiring.

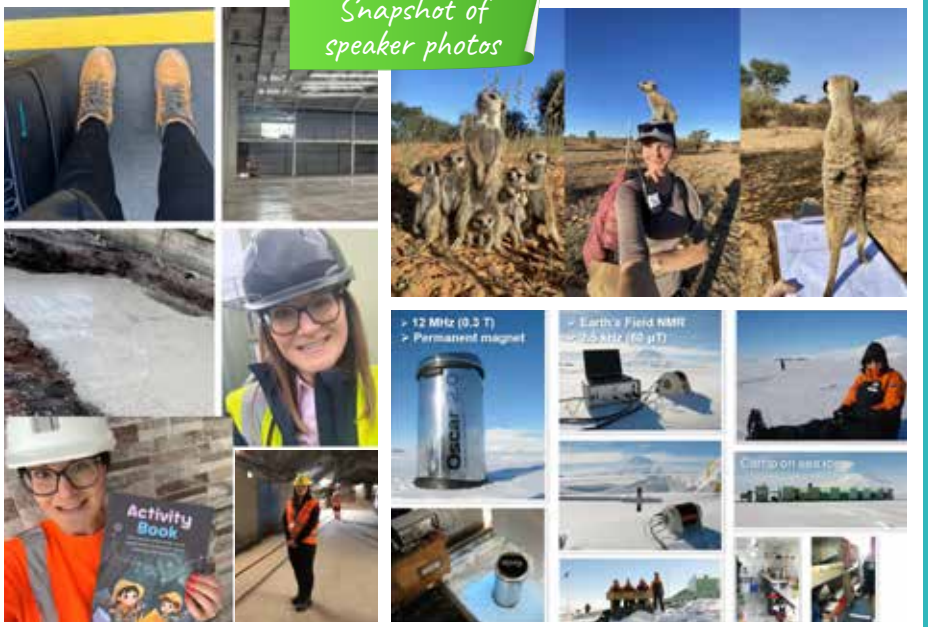
"I enjoyed having an insight into the varied careers and different paths. The presenters were relatable and had interesting stories."

Secondary pupils feedback

"This event was a brilliant reminder of something really powerful: when someone speaks with genuine passion about what they do, it's infectious. That kind of enthusiasm doesn't just inform people, it inspires them. If we can spark even a fraction of curiosity in young people exploring STEM, then we're doing something right."

Sharon Strugnell, Chartered Engineer

Snapshot of speaker photos



"I'm grateful to push my communication and presentation skills further. It was nerve wracking but wonderful to share my experience and inspire others. Events like these are so important to show young people the diverse range of STEM careers available"

Keziah Davies, Physics Masters student

Role Models

STEM role models transform how youth perceive science and technology. By dispelling stereotypes, they boost self-confidence, build a sense of belonging, and increase career motivation, especially for underrepresented groups like girls, minority students and those from disadvantaged areas. Role models significantly increase student engagement, confidence, and career persistence. By breaking outdated stereotypes, they provide underrepresented groups and girls with a crucial sense of belonging. Studies show that young people are far more likely to pursue science and tech careers when they see professionals who share their backgrounds.

The STEM Untapped x Techniquest programme 2025 - 2026 has connected 1,282 pupils across Wales with professionals from diverse STEM sectors including:

Aerospace Engineering
Astronauts
Biology
Chemistry
Civil Engineering
Computer Science
Data Science
Doctors
Ecology
Economics
Farm Veterinary
Food Science
Insect Science
Mechanical Engineering
Medical Engineering
Nature Scientist
NHS Researchers
Nuclear Medicine Technology
Nurses
Nutrition
Palaeontology
Physics
Play & Futurist
Robot Engineering
Science Communication
Wildlife Biology
Wildlife Conservation
Zoology

Partnership Resources

Learn more
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→ techniquest.org

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5% of all Untapped profits are donated to STEM Untapped CIC.

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