

ENGINEERING EDUCATES

SSERC is delighted to be supporting schools across Scotland with Engineering Educates, led by SEERIH (Science & Engineering Education Research and Innovation Hub) at the University of Manchester.

Activities inspiring 7-14 year olds to think as engineers, exploring and designing solutions to real-world problems

Engineering Educates provides a range of **curriculum-linked STEM activities for learners aged 7-14** in Primary schools, Secondary schools and STEM Clubs. These projects are fully resourced with online materials and suggested further ideas.

This year's theme is British farming, with three pathways available depending on the age of your learners. The activities **link to Maths, Sciences and Technologies** – including Engineering and Computing Science (programming Micro:bits) and are underpinned by environmental considerations and **sustainability**. Learners **develop skills** such as creativity, problem-solving, collaboration and communication. They work through the Engineering Design Process to ask questions, imagine, plan, create, test and improve solutions to real-world problems in farming.



The Soil Defenders pathway explores the theme of arable farming, with activities linked to soils, planting and growing. Learners consider ways to

reduce the impact of soil compaction due to heavy farm machinery so that crops can grow better. Suggested age range 7-9 (First or Second Level).



The Cattle Carers pathway is all about dairy farming, with learners considering how to improve the health and well-being of dairy cows. They design living spaces for cattle and explore how to reduce the emission of greenhouse gases on dairy farms. Suggested age range 9-11 (Second Level).



The Sustainable Farms pathway focuses on environmental considerations in farming and for farms of the future. Learners design solutions for sustainable farm machinery and investigate automation techniques. Suggested age range 11-14 (Third or Fourth Level).

Schools can be **linked with engineers and farmers** to support learners with the project.

What happened last year?

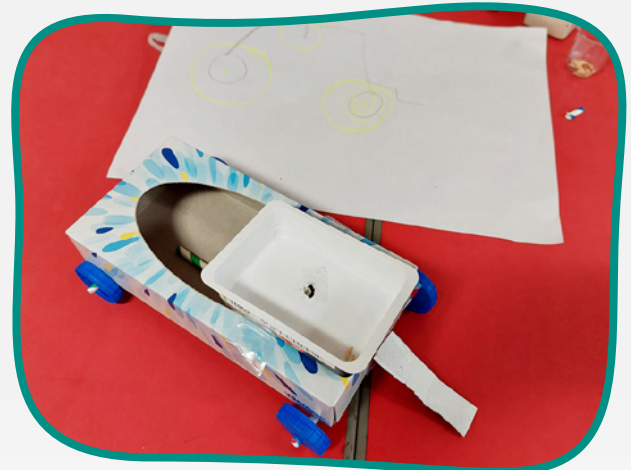


Engineering Educates activities in Scottish schools in 2022-2023:

- 102 sign-ups from 79 educational settings across Scotland.
- Selected schools matched with engineers (through STEM Ambassadors) or farmers (through the Royal Highland Education Trust, RHET).
- Over 200 learners (estimated) attended an online celebration event.

At Ratho Primary School in Edinburgh, P7s designed and built barns to enhance dairy cows' wellbeing. P4s designed devices to scare away pests who might eat arable seeds. >>





At Pitteuchar East Primary School in Fife, learners programmed Micro:bits to monitor dairy cow wellbeing. They developed wearable technology so a cow could be monitored using the device.

“We had webinars on Friday that showed us interesting facts about farming. And we got a visit from farmer James and he showed us a cow horn and a tooth.”

J, P4, Pitteuchar East Primary School, Fife

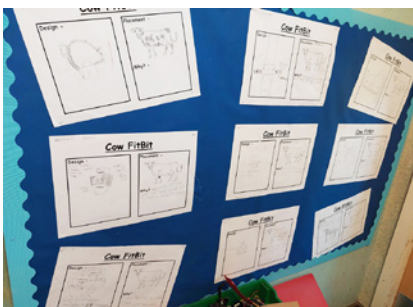
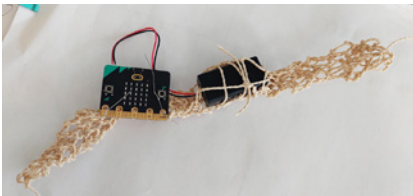
Learners in P3 from Gordon Primary School in Aberdeenshire planted crops and observed them growing. They presented their work to the school and parents in an assembly.

How can our school get involved?

Register on the [Engineering Educates website](#). Registration comes at no cost and provides access to the full range of online resources, professional learning, support and updates about a range of linked opportunities.

“We enjoyed it because we love farming and found it fun and interesting.”

P3-5, Kirkiner Primary School, Dumfries and Galloway



“I liked building the barns and working out the architecture.”

TM, Hawthornden Primary School, Midlothian

Webinar dates...

A series of webinars with the Engineering Educates team, to walk you through the different activities.

SCOTTISH CURRICULUM FOCUS

- Introduction** **Big picture overview**
30 October 2023, 3.45-4.30 pm
- Session 1** **Maths focus**
7 November 2023, 3.45-4.30 pm
- Session 2** **Science focus**
14 November 2023, 3.45-4.30 pm
- Session 3** **Technologies focus**
21 November 2023, 3.45-4.30 pm
- Session 4** **Technologies focus**
28 November 2023, 3.45-4.30 pm
- Session 5** **Technologies Computer Science focus**
5 December 2023, 3.45-4.30 pm

Book here!

