



WELCOME TO THE SCIENCE SKILLS ACADEMY

A Science Centre for the North

**SCIENCE
SKILLS
ACADEMY**

**ACADAMAIDH
SGILEAN
SAIDHEANS**

INSPIRING THE NEXT GENERATION THROUGH STEM

Coding robots, generating renewable electricity, creating biofuel, aquaculture, exploring space, and demystifying human health – just a few of the incredible Science, Technology, Engineering, and Maths (STEM) challenges tackled by young people across the Highlands with the Science Skills Academy.

Delivered in our purpose-built Newton Rooms, we've already engaged over 40,000 primary and secondary pupils, their teachers, families and communities since 2019. SSA has become our region's version of a 'Science Centre of the North', bringing hands-on STEM learning to some of Scotland's most rural areas.

Industry leaders are praising SSA for lighting the path towards exciting futures – creating opportunities for the next generation of scientists, engineers and innovators. By connecting real-world industries with inspiring learning experiences, we're building science capital and laying the foundations for Scotland's STEM future.



ABOUT THE SCIENCE SKILLS ACADEMY

STEM for a greener, fairer future

The Highlands and Islands has always been home to pioneers. From hydroelectricity to aquaculture, and now offshore wind, hydrogen, marine innovation and space – our region shapes the future of energy and industry.

SSA was born from this same spirit of innovation. We support our young people to seize the opportunities that lie ahead and help build a fairer, greener and more prosperous region – learning skills for well-paid jobs and strong, resilient communities.



SUPPORT THE SCIENCE SKILLS ACADEMY

A partnership for the future

The Science Skills Academy was launched in 2019 by Highlands and Islands Enterprise (HIE), with initial core-funding from the Inverness and Highland City Region Deal. We've grown over the years thanks to support from Highland Council, and other public and private sector partners.

Delivering across the Highland region, with an additional project in Shetland which started in 2025, we are making a significant impact on young people's lives and decision-making for their futures and the future of their region.

With your help, we can do even more.

Partner with SSA to:

- Invest in the future workforce for your industry
- Support young people in remote communities
- Help us provide equitable access to STEM provision across the region

Together, we can ensure that every young person in the Highlands and Islands has the chance to explore, engage and excel in STEM.



WHAT WE DO

STEM learning with purpose and place

We run full-day, immersive STEM learning sessions for P6–S2 pupils in our six Newton Room facilities – with permanent rooms in Thurso, Dingwall, Inverness, Fort William, and two Pop-Up Newton Rooms covering Highland and Shetland.

The Newton Room concept was born in Norway, where communities face similar geographical challenges, and has now spread to over 14 countries worldwide.

Our school-focused activities deliver Newton modules, and are:

- Free to schools – with help towards travel costs
- Linked to real-life jobs and industries
- Delivered by specialist STEM Engagement Officers
- Designed to be hands-on, engaging and curriculum-aligned

Our goal? To reach every upper primary and early secondary school pupil across Highland and the Shetland Islands with a unique, exciting STEM learning journey. We also deliver an outreach programme for young people's groups and at events.



LEARNING

Hands-on. Minds-on. Future-ready.

SSA takes learning out of the classroom. Each Newton Room is a vibrant, modern space where pupils investigate real-world challenges using cutting-edge equipment.

Our STEM Engagement Officers work closely with schools to tailor experiences to their needs, year on year. Every session connects young people to industries that matter in their region – from renewables and space to engineering and health sciences.

We also support teachers with:

- Ready-made lesson plans and worksheets
- Teacher training sessions
- Links to industry via 'Meet the Expert' events



OUR MODULES

Each module is designed to be practical, hands on and fun. All modules allow for development of skills such as collaboration, critical thinking, communication and problem solving. Modules are also designed to introduce STEM careers and highlight future opportunities in the region.

Secondary Modules

RENEWABLE ENERGY

This Newton module introduces pupils to the fundamentals of energy through the much loved 'balltrack challenge' activity. Pupils investigate electromagnetic induction and independent variables, and finish by using miniature wind turbines to study factors to make their turbine more efficient.

- Introduces the energy sector and careers
- Everyday relatable examples
- Energy conservation, production and sustainability



SPACE

Designed by our colleagues in the Glasgow Science Centre, this module is centred around the burgeoning space industry in Scotland. The pupils work in groups to study remote sensing and collision avoidance in satellites, as well as aerodynamics in rocket launches.

- Introduces careers in the Space sector
- Build, design and test rockets
- Problem solving, teamwork, communication

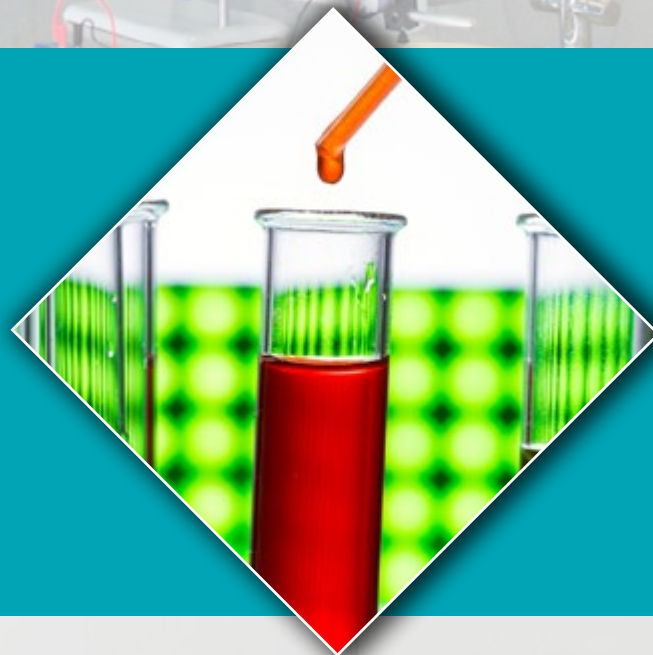




SUSTAINABLE BIOFUELS

In this module pupils learn and experience how wood, which is in abundance in the Highlands, can be used as a raw material for making biofuels. Pupils take part in and follow the fermentation process to show how biofuels are made for the aviation industry.

- Introduces sustainable fuel sources
- Practical application of Chemistry theory
- Group work through lab experiments



UP IN THE AIR WITH NUMBERS

Students work together as scientists and engineers to carry out a rescue mission. They will calculate a flight plan and fly a state-of-the-art simulator in this unforgettable, immersive learning experience.

- Maths and physics theory and applications
- Discussion and collaborative learning
- Flying a state-of-the-art flight simulator
- Reflection and celebration of learning



NEW for 25/26: Green Skills



Primary Modules

ENERGY

Also designed by the Glasgow Science Centre, this module is an introduction to energy and a lead-in to the secondary school module, Renewable Energy. The module itself centres around energy in the home and electronics, building pupils' confidence in identifying forms of energy and energy loss.

- Introduces energy topic and industry
- Energy storage and loss
- Fun little bits circuit challenges

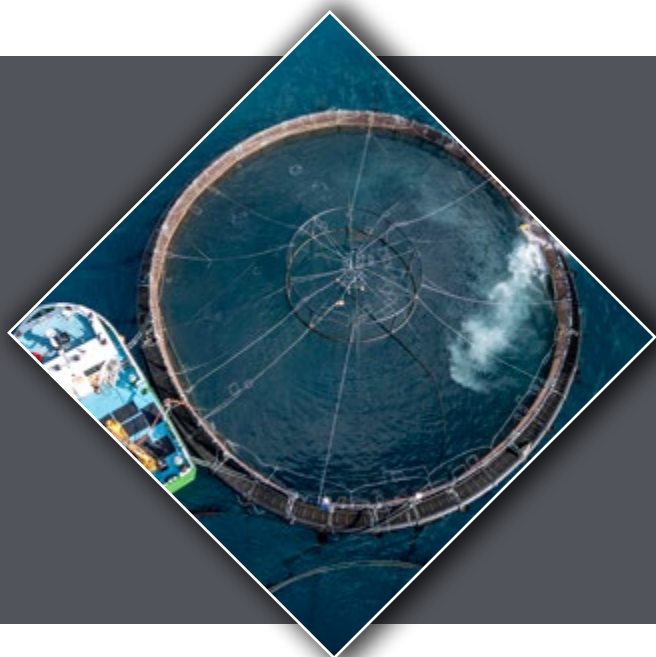


SALMON & AQUACULTURE

This module looks at the lifecycle of wild Atlantic salmon and the obstacles they encounter through their lives.

In addition, pupils also consider the aquaculture industry, creating and presenting their own recipe for healthy salmon feed, and finishing the day with some microscopy to study different organisms.

- Introducing the aquaculture industry
- Understanding of salmon lifecycles
- Pellet development, production and business pitch



ROBOTICS AND MATHEMATICS

Robots and Mathematics is a module with emphasis on mathematical discussions and exploration of strategies to calculate the perimeter of two-dimensional shapes. The students work in pairs throughout the day to complete challenges using Lego robots

- Explore mathematical principles in a unique way
- Encouraging discussion and creative strategies
- Cooperative challenges and problem solving



HEALTH SCIENCE

The pupils will take on the roles of different healthcare workers and use hands-on practical experimentation, research and medical testing methods to diagnose their patients. They will use procedures and techniques used in the professional field and gain an understanding of their associated careers.

- Introduces different roles within healthcare
- Diagnose patients and run scientific tests
- Dissection of real lungs





THE SCIENCE SKILLS ACADEMY AT A GLANCE

40,000+

engagements since inception, some pupils
attending more than once over the years.

99%

of teachers say the class had a positive,
exciting and inspirational learning experience

4 PERMANENT NEWTON ROOMS
+ 2 Pop-Up Rooms

**SERVING OVER
240 SCHOOLS**

in Highland, Shetland and Orkney

THE ONLY

project delivering sustained, face-to-face
STEM engagement across the Highlands

Aligned with the **CURRICULUM FOR EXCELLENCE**
and Scotland's **STEM Education Strategy**

Part of an international Newton Room network
SPANNING 14 COUNTRIES

FIND OUT MORE ABOUT
the Science Skills Academy:
www.scienceskillsacademy.co.uk

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