

# PRODUCTION OF ELECTRICAL ENERGY

## LET'S EXPLORE ELECTRICITY GENERATION

Pupils build a ball track and learn about energy transfer as the ball moves down the track and collides with a model vehicle that they have designed and built. The next step is to generate electricity from movement using three practical activities: electromagnetic induction, a mini hydroelectric plant and a wind turbine.

## CURRICULUM FOR EXCELLENCE

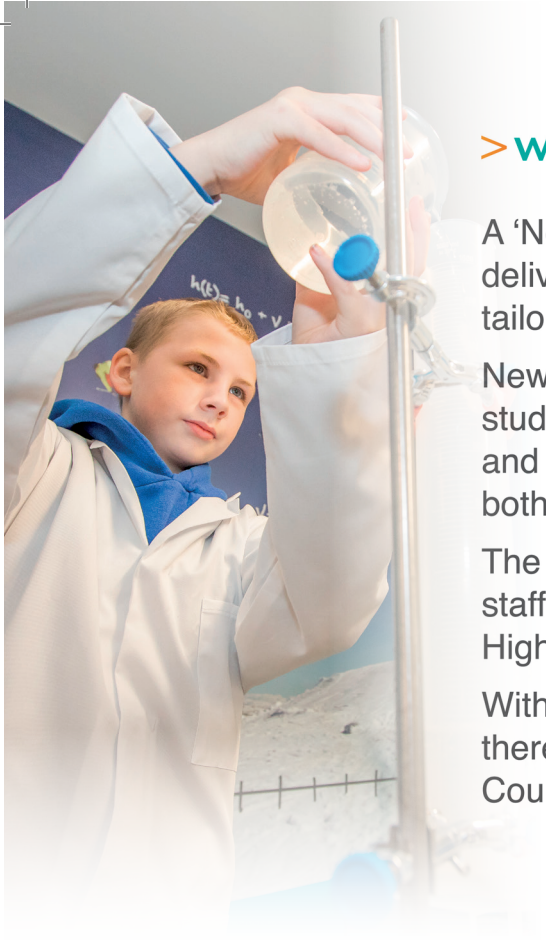
THIS MODULE COMPLEMENTS CFE SCIENCE  
(2.04A, 3.04A, 2.07A, 3.07A, 3.09A)

Pupils explore potential energy, kinetic energy and electrical energy generation. The ball track activity allows pupils to build on team work skills, design creativity, investigate factors affecting motion, and change variables to improve the efficiency of their design. Pupils then take part in more practical activities involving renewable energy sources, and take time to discuss the advantages and disadvantages of renewable and non-renewable energy sources.



SCIENCE  
SKILLS  
ACADEMY

ACADAMAIDH NAN SGILEAN SAIDHEANS



## > WHAT IS A NEWTON ROOM?

A 'Newton Room' is a bespoke STEM learning centre where we deliver practical STEM activities to P6-S2 students, which are tailored to complement the Curriculum for Excellence.

Newton Room modules are designed to excite and inspire students, and encourage them to study STEM subjects at school and beyond. We introduce a variety of STEM career pathways, both in general and in the Highlands and Islands region.

The Newton Rooms are operated by the Science Skills Academy staff employed by Highlands and Islands Enterprise and the Highland Council.

With funding from the Inverness and Highland City-Region Deal, there will be five Newton Rooms created across the Highland Council area.

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### THURSO NEWTON ROOM

NORTH HIGHLAND COLLEGE, ORMLIE ROAD, THURSO KW14 7EE

### FORT WILLIAM NEWTON ROOM (MONDAYS AND TUESDAYS ONLY)

CAOL YOUTH CENTRE, GLENKINGIE STREET, CAOL, FORT WILLIAM PH33 7DP

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#### > HOW DO WE BOOK?

EMAIL: [NEWTONROOMS@HIENT.CO.UK](mailto:NEWTONROOMS@HIENT.CO.UK)

with your first and second choice of dates along with School name, year group, class size and number of accompanying adults.

#### > COST

The Newton Room is free to attend.

#### > LOGISTICS

Pupils will need to bring a packed lunch.

#### > TRANSPORT

Until end of March 2020, the Science Skills Academy is able to make a financial contribution to assist with transport costs as follows:

Distance from Newton Room:	Funding available
Less than 3 miles:	None
3-20 miles:	£75 contribution
Greater than 21 miles:	£100 contribution

We hope to enhance this contribution in the future through local businesses and applications to community funds.



Scottish Government  
Riaghaltas na h-Alba  
[gov.scot](http://gov.scot)

