

SCIENCE  
TECHNOLOGY  
ENGINEERING  
MATHEMATICS



**STEM**

Learning Programme  
2016 / 17

I'M AN INTERACTIVE PDF...   
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**An environment that  
promotes curiosity  
and life-long learning.**

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# Bringing Science, Technology, Engineering and Mathematics to life.

For more information on specific programming and associated CfE links please see the STEM Learning section of our [website](#).



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**Aberdeen Science Centre is a not for profit charity whose enthusiastic and dedicated STEM Learning Team aim to provide:**

- + An important and valuable educational resource for the whole community where people of all ages, backgrounds and abilities can come and engage with STEM and be enthused and inspired.
- + **STEM Learning experiences** that encourage active involvement in learning with hands-on exhibits, investigative workshops and exciting shows and demonstrations.
- + An environment that promotes curiosity and life-long learning by demonstrating and showcasing the relevance of STEM to everyday life and career opportunities.

Aberdeen Science Centre's STEM Learning Programme has been thoughtfully developed to complement and support the Curriculum for Excellence (CfE) Experiences and Outcomes helping pupils to develop their capacity to be successful learners, confident individuals, effective contributors to society and responsible citizens. A visit to Aberdeen Science Centre also addresses the 7 principles for curriculum design; challenge & enjoyment, breadth, progression, depth, personalisation & choice, coherence and relevance.

Progression can be achieved through follow up visits or use of classroom activities related to your chosen show or workshop; these are available for download from our website:

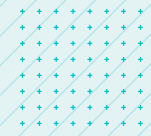
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# STEM Learning Programme

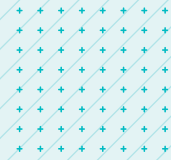
Aberdeen Science Centre’s evolving STEM Learning Programme of shows and workshops for early years, primary, secondary and ASN audiences covers a range of STEM topics in a varied and cross-curricular approach. This curriculum-linked programme is available to all nurseries, schools, home education groups and community groups in the Science Centre. In addition, to meet your needs, the programming can be delivered as outreach in your school or community centre.

**Please note:** This is an interactive PDF. Hover over the titles and ‘click’ to find out more.

Title	Description	Levels			
Bubble Show 	Explore the shape, size and colour of bubbles in this interactive show.	Primary	Secondary	ASN	Early Years
Beebots Workshop 	Working in small groups to program robots, children are introduced to directional language and programming technology.	Primary	Secondary	ASN	Early Years
Day & Night Show 	Discover why it is dark at night and light during the day in this interactive show.	Primary	Secondary	ASN	Early Years
Floating & Sinking Workshop 	Explore the basics of floating and sinking with Problem Pup in this investigative workshop.	Primary	Secondary	ASN	Early Years
Feel the Forces Workshop 	Feel the forces in this interactive workshop! Work in groups to discover the forces all around us with fun mini-investigations and demonstrations.	Primary	Secondary	ASN	Early Years
Bug Show & Tell 	An interactive show in which pupils will have close encounters with Aberdeen Science Centre’s resident creepy crawlies.	Primary	Secondary	ASN	Early Years
Volcano Workshop 	Work in small groups to build and erupt your own volcano while learning about the different types of lava.	Primary	Secondary	ASN	Early Years
Sounds Like Fun Show 	Make some noise in this interactive show! Find out what causes sound and how humans and animals hear.	Primary	Secondary	ASN	Early Years
Medieval Construction Show 	Discover how people built monumental structures with the aid of physics, cleverly using forces in this interactive workshop.	Primary	Secondary	ASN	Early Years
Let it Glow Workshop 	Work in small groups to build simple circuits, take part in electric circuit demonstrations and learn how to stay safe around electricity.	Primary	Secondary	ASN	Early Years
Magnetism Workshop 	Work in small groups to discover magnets, magnetic fields, and carry out an investigation into magnetic and non-magnetic materials and coins.	Primary	Secondary	ASN	Early Years
Destination Space: Crew Training Show 	Pupils will discover the achievements of Astronaut Tim Peake and find out more about the International Space Station and life in space.	Primary	Secondary	ASN	Early Years
How to Make the Perfect Poo Show 	Follow the journey of one meal through the digestive system to find out what happens at each stage of digestion in this interactive show.	Primary	Secondary	ASN	Early Years
Planetarium Shows 	We have a variety of exciting 360° planetarium shows – please contact us for full details.	Primary	Secondary	ASN	Early Years








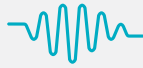



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**STEM Shows and Workshops - descriptions and levels**

**Early**
 **First**
 **Second**
 **Third**

Title	Description	Levels			
Astrobiology Workshop 	Are there aliens on Earth? Come and hunt for Tardigrades, learn about their adaptations, and discover other microscopic life in this exciting workshop.				
Renewable Energy Show 	Discover renewable energy sources and some of the latest technology and how it works in this fast-paced interactive show.				
Bright Ideas Show 	This exciting and interactive show explores what light is, how it behaves and how our eyes see it.				
Kitchen Chemistry Workshop 	Investigate pH and classify some common household substances in this lab-based workshop.				
Soapbox Enterprise Workshop 	A cross-curricular enterprising activity in which pupils work in small groups to design, make and market their own brand of soap.				
Robolab Workshop 	Work in small groups to program sophisticated Lego robot buggies to move and respond to light and touch sensors. Challenging and fun!				
Explore Your Universe Show 	An exciting show created by the STFC and ASDC, exploring how current UK science is shaping what we know about space and how we learn about the universe.				
Electromagnetism Workshop 	Work in groups to discover magnets, electromagnets and their practical applications. Build your own electromagnet in this interactive workshop.				
Healthy Planet Show 	Discover how far our food travels from farmer to plate and how we create a healthier future for our planet in this interactive show.				
Destination Space: Crew Training Workshop 	Pupils will discover the achievements of Astronaut Tim Peake, find out more about the International Space Station and life in space and even carry out their own astronaut training.				
Destination Space: Crew Training Workshop 	Pupils will discover the achievements of Astronaut Tim Peake and find out more about the International Space Station and life in space. Activities include simulating emergencies that could occur on the ISS.				

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Early

**Weather Around Us**



Investigate the science of weather and discover how to record the changing weather with your pupils.  
**SCN 0-05a, 0-20a, SOC 0-12a**

**All About Inside Me**



Discover the science that goes on inside our bodies every day using hands-on activities that you can use with your pupils.  
**HWB 0-15a, 0-30a, 0-47b, SCN 0-12a**

**Planet Earth**



Unearth what gives us day, night, the seasons and explore ways to introduce animal and plant life to your pupils.  
**SCN 0-01a, 0-03a, 0-06a, 0-07a, 0-08a, 0-12a, 0-20a, SOC 0-08a**

**How Hot are You?**



Explore the concepts of heat and insulation and the use of infrared technologies.  
**SCN 0-05a, 0-15a**

**Kitchen Chemistry**



Investigate the use of everyday household substances in a variety of simple, yet effective, science experiments. Includes skills and competencies relevant to this level.

Equip yourself with the tools, knowledge and confidence to carry out scientific investigations in your classroom.

**Facilitating Science Investigations**



**Coverage and skill progression:**  
Inquiry & Investigation Skills  
Scientific Analytical Thinking  
Scientific Skills & Attributes

First

**All About Inside Me**



Discover the science that goes on inside our bodies every day using hands-on activities that you can use with your pupils.  
**SCN 1-12a**

**How Hot are You?**



Explore the concepts of heat and insulation and the use of infrared technologies.  
**SCN 1-04a**

**Energy 4Me**



Experience practical activities to explore the oil and gas industry and petroleum products with your pupils.  
**FREE, generously funded by SPE. SCN 1-15a, 1-20a, TCH 1-02a, 1-14a**

**Inheritance**



Explore the science of genetics and how to make it accessible to first/second level.  
**SCN 1-14a**

**Space**



Discover the wonders of space and space travel using interactive activities.  
**SCN 1-06a**

**Kitchen Chemistry**



Investigate the use of everyday household substances in a variety of simple, yet effective, science experiments. Includes skills and competencies relevant to this level.

Equip yourself with the tools, knowledge and confidence to carry out scientific investigations in your classroom.

**Facilitating Science Investigations**



**Coverage and skill progression:**  
Inquiry & Investigation Skills  
Scientific Analytical Thinking  
Scientific Skills & Attributes

CLICK HERE 

Second

**Kitchen Chemistry**



Investigate the use of everyday household substances in a variety of simple, yet effective, science experiments.

**SCN 2-19a**

**How Hot are You?**



Explore the concepts of heat and insulation and the use of infrared technologies.

**SCN 2-04a**

**Energy 4Me**



Experience practical activities to explore the oil and gas industry and petroleum products with your pupils.

**FREE, generously funded by SPE. SCN 2-17a, 2-15a, TCH 2-14a**

**Inheritance**



Explore the science of genetics and how to make it accessible to first/second level.

**SCN 2-14b**

**Space**



Discover the wonders of space and space travel using interactive activities.

**SCN 2-06a, 2-20b**

Equip yourself with the tools, knowledge and confidence to carry out scientific investigations in your classroom.

**Facilitating Science Investigations**



**Coverage and skill progression:**

Inquiry & Investigation Skills  
Scientific Analytical Thinking  
Scientific Skills & Attributes



## Science for the Terrified Teacher Programme

### Does the thought of running practical science lessons terrify you?

Then let us help! **This three - part programme** is specifically designed to support primary teachers who lack confidence teaching science - and others who want to brush up their approach to the subject.

PART

**1.**

Organisation of practical work; using basic equipment; measuring accurately and using the correct units; safe working; writing a basic science report; asking questions etc.

PART

**2.**

The difference between an experiment and an investigation; the difference between "accurate" and "reliable"; straightforward ways of helping your pupils to carry out investigations.

PART

**3.**

Common misconceptions in science; use of correct language and terminology; thinking deeper e.g. using Concept Cartoons.

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**Little Explorer Days are both fun and educational and encourage active learning through discovery.**

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## Little Explorer Days

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**Little Explorer Days** are held monthly during term time for children aged 5 and under.

These are themed days where the centre's activities are focused specifically on early years STEM Learning.

**Our little explorers** will investigate **STEM concepts** through a variety of activities; including shows, hands-on investigations, interactive stories, discovery trails and crafts.

Children also have time to explore the hands-on interactive exhibits. **Little Explorer Days** are both fun and educational and encourage active learning through discovery.

### Little Explorer Day Programme

Theme	School/Group Date	Public Date	CfE Link
Plants 	Tuesday 19th April 2016	Wednesday 20th April 2016	SCN 0-03a
Weather 	Wednesday 18th May 2016	Thursday 19th May 2016	SCN 0-05a / SCN 1-05a
Senses 	Tuesday 21st June 2016	Wednesday 22nd June 2016	SCN 0-12a
Sound 	Tuesday 20th September 2016	Wednesday 21st September 2016	SCN 0-11a
Day & Night 	Wednesday 26th October 2016	Thursday 27th October 2016	SCN 0-06a
Minibeasts 	Tuesday 22nd November 2016	Wednesday 23rd November 2016	SCN 0-01a
Snow Science 	Wednesday 14th December 2016	Thursday 15th December 2016	SCN 0-05a / SCN 1-05a
Dinosaurs 	Tuesday 24th January 2017	Wednesday 25th January 2017	SOC 0-01a
Colour & Light 	Wednesday 22nd February 2017	Thursday 23rd February 2017	EXA 0-02a
Weather 	Tuesday 21st March 2017	Wednesday 22nd March 2017	SCN 0-05a / SCN 1-05a
Senses 	Wednesday 26th April 2017	Thursday 27th April 2017	SCN 0-12a
People Who Help Us 	Tuesday 16th May 2017	Wednesday 24th May 2017	SOC 0-16a
Technology 	Wednesday 21st June 2017	Thursday 22nd June 2017	TCH 0-09a/ TCH 1-09a

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## Cost

**Discounted education rates apply, starting from £3.75 (including VAT) per pupil.** Supplementary workshops or shows are available, at an additional cost.

There is no charge for teachers and group leaders at a ratio of 1:3 for nursery to P3 and 1:6 for P4 and up. Additional adults will be charged at £4.50 (including VAT).

Outreach visits to your school or community centre cost £250 + VAT (£300) for a half day and £450 + VAT (£540) for a full day, plus travel costs.

**NB** If you are booking an outreach visit on behalf of a community group you may qualify for funding to help with the cost of your STEM activity. Please enquire when booking.

## Planning Your Visit

**Our STEM Learning Team is eager to help you book your visit.**

**Entry to the centre is £3.75 (including VAT) per pupil** which includes, a show or workshop of your choice, time to explore the exhibition floor and a science on the spot demonstration OR planetarium show. Science on the spot is a 15-20 minute interactive general science demonstration which takes place on the exhibition floor.

You will be provided with a teacher's timetable upon your arrival, this is a rough guide of your class's booked activities.

**A few things to have in mind when you call to book:**

Have ready a selection of appropriate dates and an idea about how long you would like your visit to last. We recommend **two hours** as a minimum to fit in one show or workshop, time to explore the exhibition floor and the science on the spot demonstration/planetarium show.



If you wish to include snack or lunch time during your visit please let us know so we can provide space and plan accordingly.

Advise us, in advance, if any children have specific needs that we can make arrangements for.

Your school or community group may qualify for travel funding provided by the Scottish Government, please enquire.

We do have a STEM shop with many pocket-money educational items; if you would like to include a visit to the STEM shop please inform the member of staff who welcomes your group and they will help to facilitate this.

All correct at time of printing but is subject to change.

Please 'click' link below visit our website:  
[www.aberdeensciencecentre.org](http://www.aberdeensciencecentre.org)

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# Aberdeen Science Centre

SC014922

## Contact

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☎ 01224 640340

✉ [education@ASC.scot](mailto:education@ASC.scot)

← [CLICK TO EMAIL US!](mailto:education@ASC.scot)

## Support

Aberdeen Science Centre is a recognised Scottish charity and relies on external funding to sustain the provision of STEM Learning experiences that are stimulating, valuable, relevant and high quality. We are always extremely grateful to receive support and would welcome hearing from individuals, groups or companies to discuss options for supporting the STEM Learning Team and STEM Learning programmes. Charity No. SC014922.

[www.aberdeensciencecentre.org](http://www.aberdeensciencecentre.org) ← [CLICK HERE](http://www.aberdeensciencecentre.org)