

EDINBURGH INTERNATIONAL
SCIENCE FESTIVAL

**generation
science**

Visiting Scotland's schools



Part of the Edinburgh International Science Festival

Schools Programme 2013

TOURING JANUARY TO MAY

SCIENCE SHOWS AND WORKSHOPS – HELPING YOU DELIVER THE CURRICULUM FOR EXCELLENCE



**WONDERFUL WORLD
OF WATER** page 5



COSY COSY CHALLENGE
page 5



GOOD VIBRATIONS
page 7



**MARVELLOUS
MAGNETS** page 7

BOOK NOW: 0131 553 0321

www.generationscience.co.uk

WITH SPECIAL THANKS TO ALL OUR PARTNERS

As a registered charity, we simply couldn't deliver Generation Science without our partners. In 2012, their support allowed us to reach a quarter of all Scottish primary school pupils – a total of 55,000 children.

				
				
				

BINKS TRUST • EDINBURGH AIRPORT COMMUNITY FUND • EQUITABLE CHARITABLE TRUST • GANNOCHY TRUST • IET EDUCATION FUND • ROBERTSON TRUST

	Edina Trust is a charity registered in Scotland that supports science education projects, particularly at primary school level. It seeks to support initiatives that encourage more children to develop a keen interest in science.		Funding provided through the Office of the Chief Science Advisor for Scotland to open up the world of science to our young people and inspire our next generation of scientists.
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We would like to thank Generation Science Club members for their support of the Edinburgh International Science Festival's schools touring programme. Generation Science Club is a network of individuals and companies dedicated to engaging the next generation in science and technology. Members of the club donate funds to help ensure our school shows and workshops can be enjoyed by all pupils – wherever they are and whatever their financial background. With particular thanks to:

GENERATION SCIENCE CLUB MEMBERS

MEMBERS

- Dugdale Bradley
- Alex and Rhona Callander
- Edina Trust
- Sandy Finlayson
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- Prof Jack Jackson, Strathclyde University
- Heather Reid OBE
- Walter Whitelaw, Midlothian Council



WELCOME

Hello and welcome to the Edinburgh International Science Festival's schools touring programme for 2013.

Generation Science shows tour all over Scotland, bringing educational and entertaining performances, and hands-on activities to your classroom. We have an incredible 21 years' experience of bringing science to life for school pupils – since we started, we've reached more than a million pupils.

This year, we're presenting revised versions of some of our most popular shows, Good Vibrations and Power from the People. And, after listening to feedback from teachers, we've also reworked our home insulation workshop, Cosy Cosy Challenge, to give pupils even more interactive learning on the subject of energy conservation. You can find all these shows, plus regular favourites, such as Little Giants and Fizz Boom Bang, over the next few pages.

We constantly develop our shows to meet the needs of teachers in line with the Curriculum for Excellence and, with generous support from our sponsors and funders, we remain committed to keeping costs as low as possible. Last year, we received great reports from the 55,000 pupils and teachers we visited. We look forward to receiving more feedback in 2013 – why not view it or post online at our GLOW site?

So, why should you book?

- We make learning and teaching science simpler
- We help deliver the Curriculum for Excellence
- We constantly update and improve our programme to ensure every school enjoys an **experience of the highest quality**
- **We come to you**, making your life easier
- We make science **fun**

We can work together on science weeks, transition projects or individual science days in this, the year of Natural Scotland. Please get in touch with us to discuss your needs.

Book early to ensure you get your first choice of dates. Call us now on 0131 553 0321.

Best wishes

Joan

JOAN DAVIDSON
Generation Science Manager

AT A GLANCE GUIDE

Curriculum for Excellence strand

Show/Workshop name

P1-3

P4-7

PLANET EARTH

Pages 4-5

Little Giants

✓

Day or Night

✓

Future Earth

✓

Fur, Feather, Skin and Scales

✓

Rainforest Rangers

✓

Brilliant Bugs

SUITABLE FOR EARLY YEARS

NEW

✓

Wonderful World of Water

✓

Cosy Cosy Challenge

REVISED

✓

Body Builders

✓

Make a Move

✓

Lego Mindstorms Challenge

✓

Fizz, Boom, Bang

✓

Ready, Teddy, Go!

REVISED

✓

Ella's Wobble

SUITABLE FOR EARLY YEARS

✓

Power from the People

REVISED

✓

Good Vibrations

REVISED

✓

Marvellous Magnets

SUITABLE FOR EARLY YEARS

NEW

✓

BIOLOGICAL SYSTEMS

Page 6

TECHNOLOGIES

Page 6

MATERIALS

Page 6

FORCES, ELECTRICITY AND WAVES

Page 7

WONDERS OF THE WORLD

CURRICULUM FOR EXCELLENCE STRAND: PLANET EARTH

LITTLE GIANTS THE SHOW ABOUT BEES



Learn how bees and flowers work together to make seeds, and make giant pollen trail patterns for the classroom. Buzzy, the giant honey bee, will lead you into the wonderful world of bees in this highly interactive show. Learn how a bee's body is different from our bodies, join our Bee Keeper on a magical mystery tour of a bee hive, follow Buzzy on a trip to our giant flowers, and suck up nectar – just like a bee.

CfE links: Biodiversity and interdependence

Max: 30 pupils • Duration: 1 hour

P1–3

£160 per show, £295 for 2, £435 for 3

DAY OR NIGHT? THE SUN, MOON AND EARTH SHOW



An entertaining storytelling introduction to night and day that looks at the Sun, Moon and Earth. Join Benny and Jack on a journey of discovery as they learn what children in different places around the world are doing at exactly the same time. Why is one child getting up just as another goes to bed? Mind-boggling questions answered in a colourful and interactive show.

CfE links: Space

Max: 70 pupils • Duration: 1 hour

P1–3

£160 per show, £295 for 2, £435 for 3

FUTURE EARTH THE MATERIALS AND RECYCLING SHOW



Many years from now, the world has run out of resources. Alu is here on a rescue mission for future generations. Join her on a magical journey through time and space to discover what things are made of and how we're using too much too fast. Learn about recycling, reusing and reducing.

CfE links: Energy sources and sustainability

Max: 70 pupils • Duration: 1 hour

P3–5

£160 per show, £295 for 2, £435 for 3



Supported by:

FUR, FEATHER, SKIN AND SCALES THE CLASSIFICATION WORKSHOP WITH WILD ANIMALS



Discover the differences between the five vertebrate groups in an interactive and hands-on experience. Pupils will be supported to explore and discuss the diversity of life through real-life investigation. They will discover how groups differ by looking at the four Bs: Body covering, Blood temperature, Breathing and Babies. This is classification with real animals!

CfE links: Biodiversity and interdependence, Topical science

Max: 30 pupils • Duration: 1 hour

P1–7

**£295 for 2 workshops, £435 for 3,
£570 for 4 (minimum 2 workshop booking)**



Delivered by:



Generation Science shows and workshops encourage hands-on participation and bring science to life, helping improve young people's knowledge and linking it to the real world, outside school.

PROFESSOR MUFFY CALDER
CHIEF SCIENTIFIC ADVISER
FOR SCOTLAND



RAINFOREST RANGERS ENVIRONMENT DISCOVERY WORKSHOP



Journey through the layers of a tropical jungle and meet some of the animals that live there. From the dark forest floor to the tall branches of the emergent layer, join us to explore a truly

tropical world. Learn how the inhabitants survive and protect themselves from the dangers of the rainforest.

CfE links: Biodiversity and interdependence, Topical science

Max: 30 pupils • Duration: 1 hour
£295 for 2 workshops, £435 for 3, £570 for 4
(minimum 2 workshop booking)

P1-7



Delivered by:

BRILLIANT BUGS THE MINIBEASTS WORKSHOP

NEW

**SUITABLE FOR
EARLY YEARS**



This expert-led exploration of the amazing world of minibeasts is perfect for younger pupils. Why is a spider not an insect? How many legs does a millipede have? This hands-on workshop looks at invertebrates up close as pupils investigate these crawly critters and discover the differences between bugs and why they belong in different groups.

CfE links: Biodiversity and interdependence, Topical science

Max: 30 pupils • Duration: 45 minutes
£260 for 2 workshops, £380 for 3,
£500 for 4 (minimum 2 workshop booking)

Nurseries & P1-3



Delivered by:

WONDERFUL WORLD OF WATER THE WATER CYCLE AND WEATHER SHOW



Join Walter and Wilbur, our wacky weathermen, on their intrepid journey through the water cycle. Brave

snowstorms, downpours and thick fog to discover how water changes from one state to another. Pupils can participate in some seriously fun water chemistry – with hilarious results.

CfE links: Processes of the planet

Max: 70 pupils • Duration: 1 hour
£160 per show, £295 for 2, £435 for 3

P4-7

REVISED

COSY COSY CHALLENGE THE HOME INSULATION WORKSHOP



Energy-saving experts, Toasty Tim and Thermal Thelma, are hot under the collar with news of the overconsumption of energy that's happening across the country. In this pupil-led challenge, we investigate the ways that heat travels, explore initiatives on how we could stop it escaping, and discover how this equates to saving energy, money and the planet.

CfE links: Energy sources and sustainability

Max: 30 pupils • Duration: 1 hour
£160 per show, £295 for 2, £435 for 3

P4-7



Supported by:

INSIDE OUT

CURRICULUM FOR EXCELLENCE STRAND: BIOLOGICAL SYSTEMS

BODY BUILDERS THE BONES, ORGANS AND BODY SHOW



Learn how the body is put together in this fast-paced, funny, interactive show, and discover why it's so important to keep it in good shape. In the Teaching Hospital, meet Dr Watson and Nurse Treat It Better, who will illustrate common ailments and show you how to stay healthy.

CfE links: Body systems and cells

Max: 70 pupils • Duration: 1 hour
£160 per show, £295 for 2, £435 for 3

P4-7

Supported by:



MAKE A MOVE THE BODY UNLOCKED



Explore the amazing biology behind human coordination in this engaging workshop as we demonstrate exactly how a move is made. Discover how scientists developing prosthetic limbs are making use of some of the most exciting new robotic technologies around to understand and replicate human movement. Using simple robotics, pupils will learn about the current challenges in mimicking this natural motion and the science surrounding evolving technologies.

CfE links: Body systems and cells, Technologies

Max: 30 pupils • Duration: 1 ½ hours
£160 per show, £295 for 2, £435 for 3

P4-7

GET TECH

CURRICULUM FOR EXCELLENCE STRAND: TECHNOLOGIES

LEGO MINDSTORMS CHALLENGE THE FUN PROGRAMMING WORKSHOP



Learn how to programme your robot to follow commands and navigate its way around our obstacle course. Bring Lego to life in this fun and engaging hands-on introduction to programming and robotics. The session will end with the ever-popular hip-hop dancing robots!

CfE links: Technologies

Max: 30 pupils • Duration: 1 ½ hours
£160 per workshop, £295 for 2, £435 for 3

P4-7

IN THE MIX

CURRICULUM FOR EXCELLENCE STRAND: MATERIALS

FIZZ, BOOM, BANG THE CHEMISTRY WORKSHOP



Come and meet our potion specialists! Pupils will explore the mysteries of mixtures and learn about colours, changes and solutions. Developed to meet the aims and outcomes of the CfE with a fizz, a boom... and a bang!

CfE links: Properties and use of substances

Max: 30 pupils • Duration: 1 ½ hours
£160 per workshop, £295 for 2, £435 for 3

P1-7

FEEL THE POWER

CURRICULUM FOR EXCELLENCE STRAND: FORCES, ELECTRICITY AND WAVES

READY, TEDDY, GO! **REVISED** THE FORCES AND MOTION WORKSHOP



The teddy bears' team is coming to your school. Investigate the relationship between forces and movement in a series of fun and engaging activities. How can teddy's car move faster and further? Who will win in a contest between push and pull?

CfE links: Forces

Max: 30 pupils • Duration: 1½ hours P1–3
£160 per workshop, £295 for 2, £435 for 3

ELLA'S WOBBLE **SUITABLE FOR EARLY YEARS** THE MAKE & KEEP SOUND WORKSHOP



Join Ella on her rhyming journey into the wonderful world of sound. This interactive show allows even the youngest pupils to build their own instruments and become an integral part of the story, discovering how sounds are made and how they move.

CfE links: Vibrations and waves, Materials

Max: 30 pupils • Duration: 1 hour Nurseries & P1–3
£160 per workshop, £295 for 2, £435 for 3

POWER FROM THE PEOPLE **REVISED** THE WORKSHOP ON GENERATING GREEN ELECTRICITY

Pupils will discover the secrets of electricity first-hand in this stimulating, interactive workshop. Can a greener source of energy be generated from people? Pupils explore what electricity is and how it can be stored. They will investigate the key roles and properties of magnets in the generation of power using our specially designed generators. The pupils then take on the challenge of converting energy from inside the body into electricity to charge some special guests designed to do battle around our dedicated track.

CfE links: Electricity, Energy sources and sustainability, Technologies

Max: 30 pupils • Duration: 1½ hours P4–7
£160 per workshop, £295 for 2, £435 for 3



GOOD VIBRATIONS **REVISED** THE SHOW ABOUT SOUND



Back by popular demand and revised for 2013! Come on an amazing journey to discover how noise works. Our noise team knows a lot about music but needs help to make sounds using weird and wonderful instruments. This is an engaging, fast-paced show packed with technology, sound and, of course, music!

CfE links: Vibrations and waves

Max: 70 pupils • Duration: 1 hour P4–7
£160 per workshop, £295 for 2, £435 for 3

MARVELLOUS MAGNETS **NEW** THE MAGNET WORKSHOP **SUITABLE FOR EARLY YEARS**



Our storyteller will take younger pupils on a journey through the wonderful world of magnets in this engaging hands-on workshop. Marvellous Magnets is a great introduction to concepts such as magnetic attraction and repulsion, fields and poles, while interactive supported play allows pupils to explore magnetic forces and their effects on the world around us.

CfE links: Vibrations and waves, Materials

Max: 30 pupils • Duration: 1 hour Nurseries & P1–3
£160 per workshop, £295 for 2, £435 for 3



BOOK NOW

The best way to book is to call us on **0131 553 0321**. We can advise on when the tour is near you, and answer any questions you may have about the shows and workshops.

You can also contact us by email:
generationscience@scifest.co.uk

There is more information, including downloadable resource packs and an email enquiry form, online:
www.generationscience.co.uk

Our opening hours are:
Monday–Friday, 8.30am–4.30pm

glow

Look out for the Generation Science Glow group in your My Glow groups and add it to your favourites. Get teachers' notes and web-links, give us feedback and post examples of any work you've been doing with your class that's related to our shows.

TOURING DATES

SPRING TOURING DATES 28 JANUARY–22 MARCH

SUMMER TOURING DATES 15 APRIL–17 MAY

We come to you, when you want us to. We are trying to lighten our carbon footprint so we may suggest dates when a show is in your area.

AT THE READY

Before calling us, you might find it useful to have the following information:

- Title of show/workshop
- Number of performances required
- Number of pupils
- Class (e.g. P1–7)
- Preferred dates
- Dates that are not suitable
- Email address (preferably a class teacher)

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The shows and workshops complement the school's science curriculum by reinforcing class-work, and providing pupils with first-hand experiences of innovative and exciting science activities, as well as allowing them to use equipment, resources and expertise that are not normally available in schools.

PROFESSOR JACK JACKSON
HM INSPECTORATE
OF EDUCATION

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WHO WE ARE

Generation Science is the Edinburgh International Science Festival's schools touring programme. As an organisation, the Festival's mission is to inspire, encourage and challenge people of all ages and backgrounds to explore and understand the world around them – and to communicate the educational, social and economic benefits of science and technology.

The next Edinburgh International Science Festival will take place from **23 MARCH – 7 APRIL 2013**. To find out more about what we do, visit our website **www.sciencefestival.co.uk**

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Scottish Charity
Registration No:
SC003790

TOURING ALL
OF SCOTLAND