

**IOP****Institute of Physics****Education** *Supporting Teachers*

Supporting Science in the North

Saturday, 6 November 2010

10:00 - 15:15

refreshments from 09:30

Fortrose Academy

Three workshop sessions: (please indicate your 1st and 2nd choice for each session in the boxes below). Details of the content of each workshop are available on www.asescotland.org.uk.

10:00-11:00

- The Great Plant Hunt: Janette Kean, ASE
- Scotland Rocks!: Peter Craig, ESEU
- Cracking Tracking - motion analysis using video: Gregor Steele, SSERC

Curr. Stage

EY & lev.1&2
EY & lev.1&2
Sec. Phys

11:05-12:05

- The Appliance of Science: Lucienne McCallum, Timstar
- Renewable Energy Toolkit: STEMnet Highland
- Deep Space Resources: Royal Observatory Edinburgh
- Real Graphs with Real Data: Stuart Farmer, IOP
- Investigating Renewable Energy: Brian Redman, IOP

EY & lev.1&2
EY & lev.1&2
Lev. 3&4+

Lev. 3&4

13:10-14:10

- Primary Science Outdoors: Juliet Robertson, Creative STAR Learning
- Renewable Energy Toolkit: STEMnet Highland
- Tackling Climate Change Through Earth Physics: Peter Craig, ESEU
- Illumination and Communication: The Optoelectronics College

EY & lev.1&2
EY & lev.1&2
Lev. 3&4+
Lev. 3&4

14:15-15:15

- Discovery Sacks: Janette Kean, ASE
- Teaching the Physics of Sound: Neil Taylor, IOP
- Dragsters: Nick Forwood, IOP

EY
EY & lev.1,2 & 3
Lev. 3&4+

09:30-15:15

Exhibitions to include: Timstar, PASCO, BrightRed, djb microtech, JJM Electronics, Scientific and Chemical, Instruments Direct (Services), Yorkshire Purchasing Organisation

Name _____

ASE or IOP membership number _____

School _____

Address for correspondence _____

Email _____

Telephone _____ Fax _____

Conference fee: **FREE** thanks to sponsorship by IOP, BP and the Scottish Government

Bookings should be sent to arrive before **29 October 2010**.

Please send to: Stuart Farmer, 27 Deeside Crescent, Aberdeen, AB15 7PT

Email: stuart.farmer@yahoo.co.uk



Supporting Science in the North, Fortrose, 6 November 2010, Workshop Descriptors

The Great Plant Hunt: Janette Kean, ASE

This workshop will demonstrate how one small rural Primary School used 'The Great Plant Hunt' and Science and Plants for Schools 'Primary Plants' materials to develop a whole school topic on Plant Science, making cross curricular links where appropriate. Attendees to this workshop will be given a CD of resource ideas to help them get started on a similar topic.

Scotland Rocks!: Peter Craig, Earth Science Education Unit

This cross-curricular workshop introduces ways of helping children to study rocks in the world around them and begin to recognise the amazing stories they can tell about Scotland's geological past. Various hands-on activities develop children's understanding of the properties of rocks and how Scotland's wonderful variety of physical environments is directly related to the diversity of the rocks that underlie them.

Cracking Tracking - motion analysis using video: Gregor Steele, SSERC

A hands-on workshop that introduces video analysis of motion using existing resources and the free software, Tracker.jar. Existing users of Tracker can explore rotational motion and spectral analysis.

The Appliance of Science: Lucienne McCallum, Timstar

An exciting Primary Science Workshop delivered by Timstar covering a wide range of fun and topical Science which is guaranteed to inspire: Forensics, Smart Materials, Science Toys and Renewable Energy!

Renewable Energy Toolkit: STEMnet Highland

This workshop is based on the toolkit dealing with seven types of renewable energy types which was commissioned by Highlands and Islands Enterprise. The toolkit, worth several hundreds of pounds, includes user guides, posters, fact sheets, games, equipment and activities and will be supplied to schools represented at this workshop.

Deep Space Resources: Royal Observatory Edinburgh (half session)

A workshop based on real data from ROE research into galaxies and exoplanets. The activities link to resources available on-line and with inspirational Big Telescopes.

Real Graphs with Real Data: Stuart Farmer, IOP (half session)

In this workshop delegates will explore innovative methods of teaching graph drawing concepts and data analysis. Issues including uncertainty, reliability and lines of best fit will be covered through hands-on activities using extremely low cost resources even cutting away the unnecessary complications of measurement, scales and graph paper! The topics covered relate to the CfE Numeracy E&O as well as skills needed in science investigations.

Investigating Renewable Energy: Brian Redman, IOP

Will Scotland become a big wind farm? This workshop looks at wind power and investigations using wind turbines.

Primary Science Outdoors: Juliet Robertson, Creative STAR Learning

The world beyond the classroom is waiting to be explored and discovered. In this workshop participants will be outside and considering the potential of school grounds as a place for extending and building upon science concepts. Be prepared to share your thoughts and ideas and try some simple science activities outside. Participants should come wearing suitable clothing and footwear to be outside whatever the weather during this workshop.

Tackling Climate Change Through Earth Physics: Peter Craig, Earth Science Education Unit

How does climate change work and what can be done about it? This workshop introduces a range of hands-on activities and computer simulations/presentations that explore the physics of climate change. Pupils investigate methods of generating power that have low greenhouse gas emissions before being asked to decide which power source would be most appropriate for their location.

Illumination and Communication: The Optoelectronics College

The Optoelectronics College has developed innovative teaching resources and equipment for S1/2 science with sponsorship from the Rank Prize Funds. The Illumination and Communication materials include hands-on experiments allowing pupils to investigate LEDs, photodiodes and optical fibres. Schools represented at this workshop, and not previously supplied with an OEC I&C kit, will be provided with a class kit of equipment worth around £500 thanks to sponsorship from the Scottish Government.

Discovery Sacks: Janette Kean, ASE

This workshop will explore how practitioners can create and use Discovery Sacks to support young learners in Nursery and Early Years classrooms in develop their scientific understanding. Attendees to this workshop will be given a CD of resource ideas created by practitioners in West Lothian Council.

Teaching the Physics of Sound: Neil Taylor, IOP

This workshop seeks to illustrate and clarify the basic physics principles relating to sound generation and transmission. Attendees will be given guidance on teaching strategies and methodology coupled with engaging practical work. The workshop will look at the development of the concept of sound from Early Years to Level 3.

Dragsters: Nick Forwood, IOP

Convert your IOP rocket launcher to launch two dragster cars simultaneously. Horizontal racing fun! The parts required are supplied by IOP.