



Full STEM Ahead

The newsletter of the RAiSE Team

Issue 3

November 2017

Check out the [Full STEM Ahead](#) site

Support and inspiration at a click of your mouse!

Click here for the printer friendly version of our newsletter



Save the Date

On the CPD Directory ...

- Building Cyber Resilience—27 Nov 2017
- Getting the Most from Glow/Office 365—27 Nov 2017
- Outdoor Chemical Reactions—27 Nov 2017
- Building Cyber Resilience—28 Nov 2017
- Green Screen / Serif Movie Plus X6—28 Nov 2017
- Green Screen / Serif Movie Plus X6—29 Nov 2017
- Getting the Most from Glow/Office 365—7 Dec 2017
- Getting the Most from Glow/Office 365—12 Dec 2017

Also look out for ...

- [Computer Science Education Week](#) (including [The Hour of Code](#)) —4-10 Dec 2017
- [Big Garden Bird Watch](#)—27-29 Jan 2018
- [Safer Internet Day](#)—6 Feb 2018
- [Careers Hive](#)—26 Feb – 3 Mar 2018
- [British Science Week](#)— 9 – 18 Mar 2018—Theme: 'Discovery and Exploration'. Activity packs: available from January

Road Dhal—Teach the Stories

Check out these great lesson plans from [Roald Dahl](#). There's something for all areas of the curriculum, but when it comes to teaching STEM through Literacy we particularly liked: [Danny, the Champion of the World: The Secret Methods](#); [The Enormous Crocodile: The Crocodile Trap](#); [Esio Trot: Tortoise](#); [Matilda: Arithmetic](#); [Matilda: Bruce Bogtrotter and the Cake](#); [The Twits: The House, The Tree and the Monkey Cage](#); [The Twits: The Furniture Goes Up](#); and, [The Twits: The Monkeys Escape](#).



We are also grateful to Janey Irving, Primary Science Development Officer for Moray Council, for sharing some work she has done on Teaching Inquiry & Investigative Skills – Roald Dahl Experiment Ideas from STEM Learning. You'll find a copy of it on our [General Support & Reference](#) page.

What's New Online

This month we've added a new page within Developing the Young Workforce for Gender Balance. This is a significant challenge in STEM careers; 50% of the workforce are women yet they represent only 8% of engineering occupations. In addition, we have tidied up the [General Support & Reference](#) page by adding pages specifically for: [Case Studies](#), [D&G Risk Assessments](#); [Dumfries & Galloway](#) documents and links; [Education Scotland & Scottish Government](#) documents and links; [Other useful sites, document & apps](#); and a page for printer friendly copies of our [Newsletters](#).

We have also added links to: [Developing the Young Workforce Career Education Standard \(3-18\)](#); a number of links to [funding sources](#); [Royal Society of Biology](#); [Careers HIVE](#) video channel; [The Brilliant Club](#); [Education Scotland's Moderation Hub](#); [Education Scotland's National Technologies Community](#) (excellent source of resources); [UK Mathematics Trust](#); [OPAL \(Open Air Laboratories\)](#); [The STEM Education and Training Strategy for Scotland \(October 2017\)](#); [Internet safety for children and young people: national action plan \(April 2017\)](#); [Plickers](#); [Topical Science Updates](#); [Science on the Web](#); [Reach Out CPD](#); [Reach Out Reporter](#); [Really Small Science](#); [Early Years Science Ideas](#); [Terrific Scientific](#); [STEM Learning](#)

Why not take a few minutes to check them out now – it could save you hours of planning time in the future!

Don't forget to [Contact Us](#) and share your favourites!

"Our current expectations for what our students should learn in school were set fifty years ago to meet the needs of an economy based on manufacturing and agriculture. We now have an economy based on knowledge and technology."

Bill Gates

[pre the refreshed Technologies Outcomes!]

Dumfries House

You may have heard of Dumfries House, the stunning and recently renovated 18th century country house near Cummnock, and may even have visited it. But, did you know they have an amazing educational programme to support STEM education? This month the RAiSE Team visited the centre and were very impressed with the range and quality of their facilities. As well as educational visits of the house itself, there are six different training centres located on the estate providing learning experiences in: engineering; traditional and craft skills; hospitality and catering; gardening and food production; art and drawing; and, a residential outdoor centre. With programmes suitable for both primary and secondary pupils they are worth a visit. You can take part in a day of activities for only £3 per pupil, and they may be able to help with transport. Find more information at their website [here](#), or download their education flyer [here](#).

Digital Parenting

The 6th edition of Digital Parenting has now been published. View it [here](#) and order your FREE copies to share with parents.

Wow!

If you're looking for a teaching example that hits sustainability, enterprise, technology and engineering in a really cool way then you need to check this out – [Gravity Lights](#).

[Sign up for Full STEM Ahead on Yammer](#)



STEM Strategy Published



The STEM Education and Training Strategy for Scotland, which plans for "Scotland to forge a future of excellence and equity in science, technology, engineering and mathematics (STEM)" has been published. "The strategy, spanning 2017 to 2022, outlines actions designed to inspire enthusiasm for STEM among all sectors of society. Key measures include strengthening the delivery of STEM education, addressing unconscious bias and gender stereotyping, and ensuring the development of skills that meet employers' needs." You'll find it on our [Education Scotland & Scottish Government](#) page.

Up for a Challenge?

Then why not try ...

The 2017-2018 [Talent 2030 National Engineering Competition for Girls](#). Sponsored by PepsiCo, Rolls-Royce and Centrica, girls aged 11-18 have until 15 December 2017 to show how they can use engineering to solve any twenty-first century problem. Winners receive up to £1000 and all shortlisted finalists are invited to showcase their ideas to thousands of people at the Big Bang Fair in March!

Applications are also open for two Young Engineers and Science Clubs Scotland competitions:



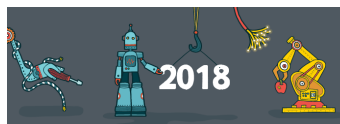
Don't Waste A Drop! is their annual STEM challenge for 2017-18. Suitable for both primary and secondary schools, teams have to design and build a pump and pipeline to transfer water from a reservoir at ground level to a container positioned on a platform ... while minimizing any leakage! There is a small free starter kit and guidance notes available (one per school). Schools will be invited to test their model at one of the Regional or National Celebrations of STEM, where prizes will be awarded.

Another computer for both primary and secondary is [Knots to Watts](#), which aims to inspire schools to research



innovative offshore wind technologies and use this knowledge to design, build and test a floating wind turbine which generates electricity. Schools will be invited to present their research portfolio and test their models at their National Celebration of STEM which will be at the Glasgow Science Centre on 8 June 2018.

You can find out more about both of the competitions and register [here](#).



If you have P5 or P6 pupils, you may also be interested in the Glasgow Science Festival: [Creating Engineers Challenge 2018](#). (You may know this one better as the K'nex Challenge.) Applications are now open and the closing date is Friday 12 January 2018. Find out more and

Sharing Good Practice

We are great believers in not 'reinventing the wheel', and will shamelessly steal good ideas when we find them. From time to time we will be sharing examples of good practice via case studies; we hope you'll find them a source of ideas and inspiration. You'll find them on the [Case Studies](#) page of our site, and also in the Files tab of our Yammer group 'D&G Full STEM Ahead'. This month's case studies are: [Case Study - STEM in Action at Shawmhor Early Years Centre](#); [Case Study - Code Club](#)

Reach Out

Tig Tag, in partnership with Imperial College London, have developed Reach Out Reporter and Reach Out CPD. These are free to use and don't depend on you having an account with TigTag/Twig. [The Reporter](#) is a weekly e-bulletin that share topical science updates along with suggested activities; and, [Reach Out CPD](#) is a free online resource to help primary school teachers with the science curriculum.

Lastest SSERC Bulletin

The [Winter 2017 bulletin](#) is now available from SSERC. This month's focus is on the reflection of light and the activities included will support not only science at second level, but also maths from early to third level.

Christmas Shopping STEM Style

Looking for the perfect gift this Christmas for a budding young engineer ... then how about some Lego celebrating the [Women of NASA](#). Nice to see a toy company addressing the gender gap in STEM. Why not see if Santa will bring some for your classroom this Christmas?



[Subscribe to the Blog @ Full STEM Ahead](#)

This Will Make You Think!

If you are looking for an example to share with your 2nd/3rd level pupils to highlight science skills and scientific method then [take a look at the experiment done by a group of Dutch pupils](#) . It's really quite remarkable and has attracted the attention of universities who are now planning to replicate their work. It would be very simple to try it with your own class, and it will certainly make you look at your phone and modem in a whole new way!

Topical Science

This month why not share the following with your class: [Drones being used to search for water leaks](#)

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