



# Full STEM Ahead

The newsletter of the RAiSE Team Issue 10 March 2019

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Support and inspiration at a click of your mouse!

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## CPD coming soon

Book now through CPD solutions.

- 4 Mar 19 - Computer Aided Design (CAD) & Digital Graphics Media - Douglas Ewart High School
- 4 Mar 19 - Astrobiology - Dalbeattie Learning Campus
- 7 Mar 19 - Computer Aided Design (CAD) & Digital Graphics Media - Annan Academy
- 11 Mar 19 - Astrobiology - The Bridge, Dumfries
- 18 Mar 19 - Raising STEM Capital - Glenluce PS
- 18 Mar 19—Microsoft OneDrive—Dumfries HS
- 19 Mar 19- Raising STEM Capital - Castle Douglas PS
- 19 Mar 19—Microsoft OneDrive—Moffat Academy
- 27 Mar 19 - Mission Moon with FIRST Lego League - Lockerbie PS
- 27 Mar 19—Outdoors: Nature & Literacy—Troqueer PS
- 28 Mar 19—Outdoors: Nature & Literacy—Hecklegirth PS
- 28 Mar 19 - Raising STEM Capital - The Bridge, Dumfries
- 1 Apr 19—Outdoors: Nature & Literacy—Glenluce PS
- 2 Apr 19—Outdoors: Nature & Literacy—Springholm PS
- 2 Apr 19 - Raising STEM Capital - Moffat PS
- 2 Apr 19—Microsoft Teams—Dumfries HS
- 3 Apr 19—Microsoft Teams—Moffat Academy
- 29 Apr 19 - Chemical Changes and Carbon Dioxide - Glenluce PS
- 30 Apr 19 - Chemical Changes and Carbon Dioxide - Castle Douglas PS
- 30 Apr 19 - Technology to Enhance Literacy - Gretna PS
- 1 May 19 - Technology to Enhance Literacy - Kirkcudbright PS
- 1 May 19 - Chemical Changes and Carbon Dioxide - Lochmaben PS
- 1 May 19—Microsoft Teams—Annan Academy
- 2 May 19 - Chemical Changes and Carbon Dioxide - The Bridge, Dumfries
- 2 May 19—Microsoft Forms—Lockerbie Academy
- 7 May 19 - Technology to Enhance Literacy - Rephad PS
- 8 May 19 - Technology to Enhance Literacy - Closeburn PS
- 13 May 19 - Assessing STEM - The Bridge, Dumfries
- 13 May 19—Microsoft OneDrive—Wallace Hall Academy
- 14 May 19 - Assessing STEM - Lockerbie PS
- 14 May 19—Microsoft OneNote Class Notebook—Moffat Academy
- 16 May 19—Microsoft OneDrive—St Joseph's College
- 21 May 19 - Assessing STEM - Glenluce PS
- 22 May 19 - Assessing STEM - Castle Douglas PS
- 28 May 19—Microsoft OneNote Class Notebook—Lockerbie Academy
- 29 May 19—Microsoft Teams—St Joseph's College
- 30 May 19—Microsoft Teams—Wallace Hall Academy
- 10 Jun 19—Microsoft Forms—Moffat Academy
- 11 Jun 19—Microsoft OneNote Class Notebook—St Joseph's College
- 12 Jun 19—Microsoft Forms—Wallace Hall Academy

## Save the date

22 January - 6 May—[Dippy the Dinosaur on Tour @Kelvingrove Art Gallery and Museum, Glasgow](#)

March—[Waste Week](#)

8-17 Mar—[British Science Week](#)

14 Mar—[Pi Day](#)

**26 Apr—D & G STEM Conference**

11 Apr—[D&G Science Festival @ The Crichton](#)

18 Jun - [Great Science Share Day](#)

## As featured on Yammer

Did you spot the following on Yammer?

**Updates** from: Scratch who have launched a new and improved version 3.0; Scottish Maritime Museum; Dippy the Dinosaur; RSPB; ParentZone; Education Scotland—new Cyber Resilience & Internet Safety badge



**Opportunities** from: New York Academy of Sciences—1000 Girls, 1000 Futures; Woodland Trust—Natures Calendar; Royal Society of Chemists—Inspiring Young Chemists funding; D&G DYW—S1-S3 Big Bang event; Scottish Mathematics Council—2019 conference; Education Scotland—Python training events;

**Challenges and competitions** from: Dumfries House; 100 years of The Women's Engineering Society; Astro Pi—Mission Zero; SSPCA—Schools Film Competition; First Lego League Junior—Mission Moon;

**FREE Resources** from: Medical Mavericks; The Children's Commissioner; Story Jumper; The Lost Words; ParentZone—Be Internet Legends pack; Maths Through Stories; Founders4Schools—industry visits;

Missed it?! You can still catch up; just search the group to

## Friday Post

We are constantly getting updates on new STEM resources, ideas and initiatives that we want to share with you, but we appreciate it can be annoying if your email inbox is constantly filling up with posts.

To help minimise that but still keep you updated, we have recently started to save all our routine Yammer posts for one big update on a Friday.

## What's new online

We've added links to the following pages:

Body Systems & Cells - [Medical Mavericks](#) (also in DYW General Resources)

Processes of the Planet - [The Met Office](#); [Bottle Gardens](#) (also in Biodiversity & Interdependence)

Risk Assessments - [Education City Registering Personal Info on Websites Parental Permission](#); [Education City Privacy Risk Assessment](#)

Engineering, Craft & Design - [Engineering Development Trust \(EDT\)](#)

## Royal Society of Chemistry

Dr Stephen Henry, Education Coordinator from Royal Society of Chemistry, will be visiting the region from 29th April to 2nd May to assist with delivery of CLPL to Primary Teachers.

He will also be available to visit secondary (or primary) schools and engage with staff during the school day - please contact Karen Creighton, if this of interest to your school.

Stephen will have limited availability so get in touch soon and ensure you don't miss out.

*"Computer science is no more about computers than astronomy is about telescopes"*

*Edsger Dijkstra,*

*Early pioneer of computing science*

## Edina Trust

As Dumfries & Galloway near the end of their 3 year cycle of Edina Trust funding, we were delighted to welcome representatives of the Trust on a tour of schools to see how their funding has benefitted our pupils.

The team were also able to share with us the fact that 33 primary schools have applied for funding this session, but that still leaves 70 who have not yet claimed their £600! What are you waiting for?! It is the easiest form to fill in and you are GUARANTEED to receive £600 for your school to spend on science. If you are not sure what to apply for, take a look at the pre-filled forms using the link below. You could get:

- new general science cupboard resources
- kits to support outdoor investigations
- programmable devices to support computing science

including Lego WeDo 2.0

- Electricity and magnetism kits
- Forensics and the human body resources
- Data Loggers
- and a new addition, a full set of STEM Day in a Box ... and Beyond! from The Curiosity Box - they are offering a special offer for Edina Trust where you can buy all seven of their kits for the price of six. Great if you are planning a STEM or science event.

If you need any further help in applying for your grant you can also contact Edina Trust representatives Hester Binge, [hester@educationguru.co.uk](mailto:hester@educationguru.co.uk), and Bill McLarty, [mclarty.household@btinternet.com](mailto:mclarty.household@btinternet.com), who will be happy to visit you and help put your application form together.

## Bang Goes D&G

Developing the Young Workforce (DYW) DG is once again working with partners, Energy Skills Partnership, Food and Drink Federation Scotland, DG College and the Crichton to present a follow up to last year's hugely successful 'BIG BANG DG' STEM event, this year called 'BANG GOES DG!'

Last year's event involved over 40 businesses and saw over 350 young people from 12 schools attending. Feedback from businesses, students, Teachers, organisers and other visitors was incredible, and this year's event will be even bigger.

'BANG GOES DG!' will be held at Easterbrook Hall, Dumfries on WEDNESDAY, MAY 8th and like last year, DYW would like to offer an open invitation to all S1/S2/S3 students and Teachers.

As with last year, their aims include not only informing young people about what Science, Technology, Engineering, Mathematics and Mechanics actually are and how they are involved in numerous sectors, but also to showcase the many opportunities that exist around them in D&G.

More information will be sent out to secondary schools over the coming months, but we would highly recommend you put this one in your diary. It really was a great event.

## If you do just one thing ...

... sign up from some **citizen science**.

Citizen science is defined as 'the collection and analysis of data relating to the natural world by members of the general public, typically as part of a collaborative project with professional scientists'.

It is a great way to give real purpose to your science, and there are so many opportunities you can join in with. For example, you could take part in The Woodland Trust's [Nature's Calendar](#) to help track the effects of weather and climate change on wildlife near you.

[Open Air Laboratories \(OPAL\)](#) are all about citizen science, and offer a wide range of projects you and your class can get involved in. Everything from air quality, to how healthy your local pond is, to biodiversity surveys.

And the advantage of taking part is that not only do your pupils learn get to take part in real scientific research, they are also a great context to apply numeracy and data handling skills.

If you do take part, remember to share it with us.

## D&G STEM Conference

After the success of last year's conference, we are delighted to announce that the D&G STEM Conference will return again this year on Friday 26th April. And it's going to be bigger and better than before.

This year in addition to our keynote speakers and our market place, we will also be having a programme of workshops including presentations from schools and their pupils showcasing the great STEM work happening across the region.

We appreciate it isn't always easy to get along to these events, so this year the market place will be open until 5.00 pm to allow staff to pop in after school. And as it will be in The Bridge this will also be a great opportunity to take a look at the fantastic facilities available there.

To allow everyone to access the conference, we are also investigating live links and recordings of the events.

It's shaping up to be a great day and we hope we'll see you there.

## The Lost Words

*"Once upon a time, words began to vanish from the language of children. They disappeared so quietly at first almost no one noticed - until one day they were gone."*

*"But there is an old kind of magic for finding what is missing, and for summoning what has vanished. If the right spells are spoken, the lost words might return..."*

We don't often have freebies to give away at our twilights, so you won't want to miss out on the Outdoors: Nature & Literacy sessions where each school will receive a copy of The Lost Words.

This stunning book (the original artwork was painted on gold leaf) was created in response to the fact the many words about nature were being lost from children's dictionaries to make way for more 'modern' vocabulary.

The book is described as a 'spell' book, with acrostic poems designed to be read aloud. But there is so much more to it. It can be used as a context for much wider learning about literacy and nature, and The John Muir Trust have created a range of activities around each of the poems.

In our twilight you will find out more about the incredible story behind the book, and be introduced to a range of learning activities.



## Feedback

It has been great to see so many colleagues at our twilight CPD sessions. We hear so many positive comments at the end of the sessions, but could we ask you to put that in writing too?

Following a session Karen Creighton will be send you an evaluation form by email. This is important to us as your feedback gives us an opportunity to improve future sessions. We will also send you a follow-up survey approximately 6 months later. This helps us to understand how useful the training has been and what impact it has had for your class.

As well as helping us to improve and develop our training, we are also required to submit evaluation information as part of our funding agreement, so it is really important to us.

Please don't ignore the email—it only takes a few minutes to complete and return the form.

## Mission Moon



Following the success of the First Lego League Junior (FLL Jnr) pilot earlier this session, we know than many of you are signing up to take part in the latest challenge—Mission Moon.

FLL Jnr challenges encourage pupils to Explore, Create, Test and Share while embodying the core values of discovery, innovation, impact, inclusion, teamwork and having fun. The challenge culminates with an expo; either in school or at Dumfries and Galloway College on Thursday 13th June.

To take part you need to already have Lego WeDo 2.0, which we know many of you have been purchasing with your Edina Trust money. You can then either buy individual Mission Moon inspire kits at £35 each, or purchase a Micro Expo set of five kits for £125 (saving £50). The Micro Expo kit is designed for you to run your own in-school expo and also comes with 30 certificates and 30 medals.

For more information and to register visit: <https://firstlegoleague.theiet.org/junior/>

## Creating Engineers

Formerly and possibly better known as the K'Nex challenge, the Creating Engineers annual competition is a chance for P5/6 pupils in the West of Scotland to apply their teamwork, construction skills and imagination to various engineering based challenges using K'Nex kits.

Organised by the Glasgow Science Festival, pupils work in pairs to take part in their classroom heats. The winning team from each school then progresses to a cluster challenge, then on to a regional challenge. The winner of the regional challenge will then go on to represent D&G in the West of Scotland final.

Karen has been busy supporting the XX participating schools and has been helped by some of our new local STEM Ambassadors. Keep an eye on our Yammer feed to see the amazing creations our young engineers have come up with.

Good luck to all the teams!

## Free Training @ Dumfries House

Based across six bespoke training centres situated on the Dumfries House Estate near Cumnock, Dumfries House Education offers a unique selection of education and training programmes that have been designed to support learners in Primary and Secondary education with experiential, hands-on activities linked to the Curriculum for Excellence.

They have recently published a programme of free teacher training events throughout March, April and June. See the full programme on the D&G Full STEM Ahead Yammer group, or visit [dumfries-house.org.uk](http://dumfries-house.org.uk) for more information and to register.

## Primary Engineers

Teachers from schools across Annandale and Eskdale spent their INSET taking part in a one-day practical CPD delivered by trainers from the Primary Engineers project. Hosted by Dumfries & Galloway College, teachers had the chance to learn and practise the skills they will, in turn, be delivering in the classroom.

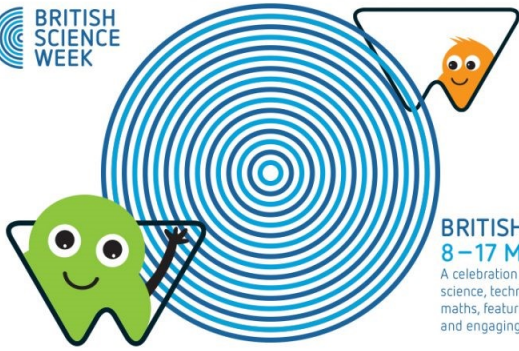
With the support of industry engineers, their classes will create their own engineering projects, and will return to the College in June to showcase what they have achieve.



**Primary Engineer®**  
*...the first step*

A key focus of the training is also to facilitate practitioners to identify the STEM learning and extensions they can pull out from our projects to support further learning.

# British Science Week



**BRITISH SCIENCE WEEK  
8-17 MARCH 2019**

A celebration of the best of British science, technology, engineering and maths, featuring fascinating, entertaining and engaging events across the UK.

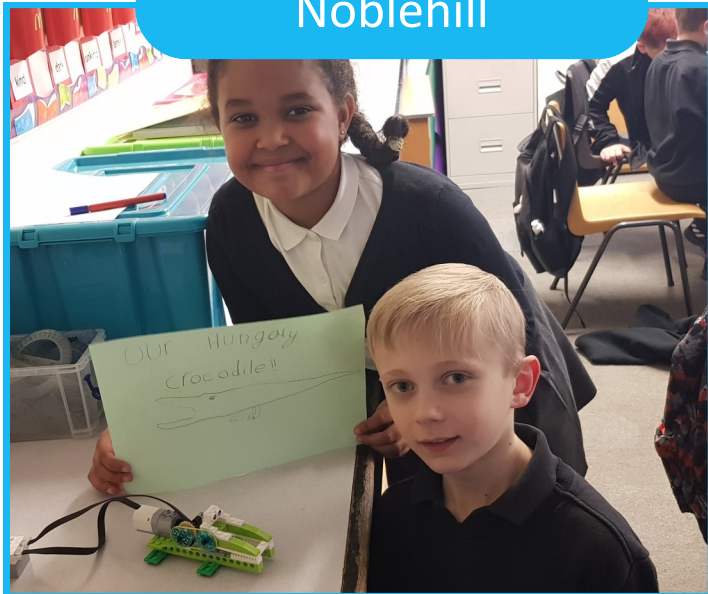
What are you doing to celebrate British Science Week this year?

It's only a couple of weeks away, but it's not too late to register at [www.britishscienceweek.org](http://www.britishscienceweek.org). They have fantastic activity packs for early years, primary and secondary, this year on the theme of journeys, that are free to download. Not to mention lots of advice on how to plan and run your week.

Even if you are only having a science day, do get in touch and let us know what you're up to.

## School Showcase

### Noblehill



Samantha Stewart borrowed Lego WeDo from the RAiSE team a few weeks ago. She led a very successful teacher training session following which many classes are enjoying the kits. She really challenged her class last week to create a moving Fantastic Beast as part of our Living Things topic - the results...WOW!

Check out the Yammer post to see a video of the crocodile and other models in action. Plus, how Samantha has been using green screen techniques to enhance learning.

### Dunscore



Samantha Wallace said: "We had a two great sessions with Carol Moyes this week introducing Lego WeDo. I have a P1-4 with 23 pupils and the other class in the school is P4-7 with 24. All of our pupils took part and were all engaged and motivated. The pupils didn't want to stop and asked if we could incorporate this into our timetable every week!

These were some of the quotes from pupils..... "It flashed....it must be magic!" "This is amazing" "I'm so excited to try this" "I wonder what's going to happen" "I didn't know Lego could do this" "We are so lucky having this".

We are definitely going to use this frequently to cover not only Science but lots of other outcomes across the curriculum, it is something that can be used right through the school. Thank you again Carol for coming in and leading the session."

## Amisfield



Ms Proudlock's class at Amisfield Primary School were recently given the challenge to 'Design a circus tent of the future'. The children had previously worked on designing strong structures and as a holistic assessment for their Circus topic they designed and built a modern circus tent. One of the designs was also inspired by the ringmaster top hat!

Great contextualised Construction Engineering STEM work!! Well done Ms Proudlock and class.

## Hollywood



Lots of great STEM work going as a part of Hollywood Primary's Big Thursday; the day when teachers each teach one curricular area to all the pupils in school. This session they have added coding to their programme.

## New Abbey



P5 and P6 at New Abbey absolutely loved taking part in the activities leading up to the Classroom K'Nex Challenge.

The P4s in New Abbey and Kirkbean are now going to have their own wee K'Nex Challenge too!

## Hecklegirth



Hecklegirth Nursery have a fantastic blog where almost every post is a wonderful STEM activity.

Recently, they were using UV light to investigate how germs can be hiding on their hands even though you can't see them.

Have a look at their blog here: <https://blogs.glowscotland.org.uk/dg/HecklegirthNursery/>

## Kelloholm



Last term, P1 and P2s have been doing some Christmassy STEM activities at Kelloholm Primary. They use a child led learning approach so each one has been designed and built to the child's own specification.

## Kirkcudbright

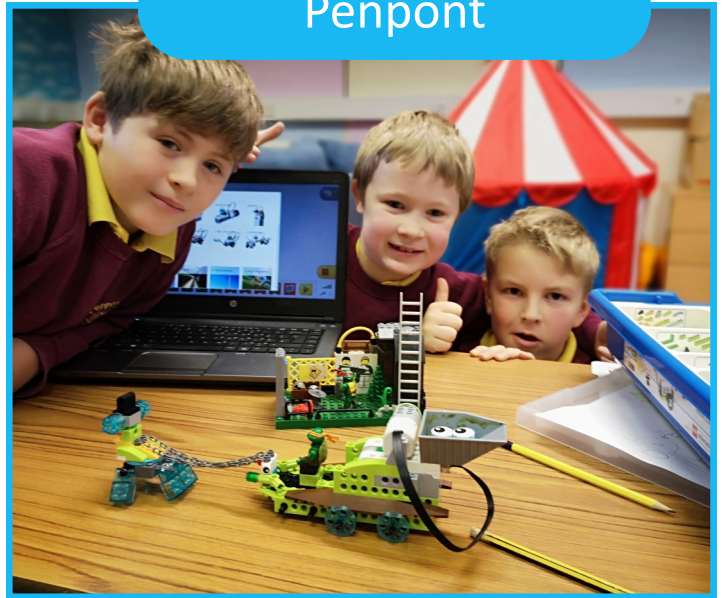


Great coding happening at Kirkcudbright Primary P7.

*Are you running an afterschool club, have entered a competition or just have some great STEM curricular work? Have it showcased in the Full STEM Ahead newsletter.*

*Don't be shy! If you have a piece of work or activity you would like us to share with fellow practitioners across Dumfries and Galloway, then send a photograph and short description (no more than 150 words) to gw08moyescarol@ea.dumgal.sch.uk and look out for yourself in next month's issue! Even better, upload it to our Yammer group.*

## Penpont



Last term Carol Moyes had a fabulously festive day of design and engineering with P1-4 and P5-7 at Penpont Primary doing a Santa's Sleigh challenge with Lego Wedo. They came up with some fantastic models, and some teams were able to film them against a green screen background.

## Eastriggs



As part of our IDL work on 'Conservation', Eastriggs P5 have been learning how the extraction and transportation of crude oil comes with the risk of accidents that can result in serious oil pollution. We discussed significant oil accidents including those of the Exxon Valdez and the BP platform in the Gulf of Mexico.

We undertook an experiment evaluating 4 different methods of 'cleaning up' water that has been polluted with oil (cooking oil) under scientific conditions. We compared containment/absorption using sponges and cotton, direct removal using pipettes as well as chemical dispersal using detergent (dish soap).

Unfortunately, none were particularly effective. We discussed that how sadly, this is also reflected in real life when real oil spills occur.