ISSUE 01 • AUTUMN 2015

primary stem LEARNING

Science LEARNING NETWORK

in this issue

Blast off

This December British astronaut Tim Peake will fly aboard the International Space Station

NATIONAL STEM CENTRE

Get in touch...

We would welcome your feedback on our new magazine: feedback@slcs.ac.uk

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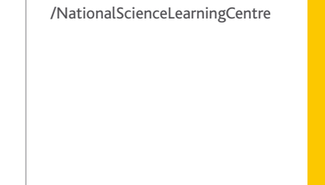

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The National Science Learning Network is a joint initiative by the Department for Education and the Wellcome Trust.

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Welcome

Welcome to the first edition of the Primary STEM Learning magazine.

STEM education has never been more in the news or more crucial to young people's future options and careers. Hardly a day goes by without some mention of STEM subjects in the news, and we know that all young people need the best possible STEM education whether they are to move into STEM-related careers, or simply participate fully in an increasingly technological world.

As teachers of STEM subjects, the National Science Learning Network and National STEM Centre is here to help you inspire, excite and engage the young people with whom you work. This new magazine brings together lots of useful information, ideas and resources into one place to help make it easier for you to find the support you need. That may be identifying resources to help teach some of those tricky bits of STEM, highlighting professional development opportunities for you and your colleagues (and how Impact Awards and ENTHUSE bursaries can support you getting involved), providing some inspiration on how to bring STEM careers to life, or simply providing you with different perspectives on these exciting, dynamic areas which never stand still.

We do hope you like the new approach to letting you know about the support available. We would love to hear your feedback, especially ideas on how we can make it even more relevant and useful, and also areas you'd like to see covered in future editions. And if you'd like to contribute an article or idea – well, you only have to ask!!

Happy reading and our very best wishes
for a successful 2015-16 school year.

YVONNE BAKER. CHIEF EXECUTIVE
NATIONAL SCIENCE LEARNING NETWORK AND NATIONAL STEM CENTRE

Features

CPD LISTING

Articles

Project **ENTHUSE**

Supporting state funded schools across the UK with access to high impact professional development.

Project ENTHUSE is a unique partnership of government, charities and employers that have come together to bring about inspired STEM teaching, through the continuing professional development of teachers, technicians and support staff across the UK. The ENTHUSE Partners are the Wellcome Trust, the Department for Education, BAE Systems, BP, Institution of Engineering and Technology, Institution of Mechanical Engineers, Rolls-Royce and the Royal Society of Chemistry.

ENTHUSE AWARDS

Bursaries available to all state funded schools and colleges in the UK to support participation in professional development through the National Science Learning Centre and partners in Scotland, Northern Ireland and Wales. See our full CPD listing on page 18.
■ **www.slcs.ac.uk/mp/enthuse**

ENTHUSE PARTNERSHIPS

£12,000 for groups of between four and eight primary schools located in England, wishing to work together to address local issues of underachievement in science/STEM subjects.
■ **www.slcs.ac.uk/mp/enthuse-partnership**

INTENSIVE ENTHUSE AWARDS

£5,000 bursaries to support in-school, consultant led professional development for state schools in England that have not participated in Project ENTHUSE supported professional development in the last five years.
■ **www.slcs.ac.uk/mp/intensive-enthuse**

TEACHER & INDUSTRIAL PARTNERS' SCHEME

IMechE and IET supported two week placements with local employers to help teachers expand their knowledge of engineering and technology careers to help inspire the next generation of scientists and engineers.
■ **www.slcs.ac.uk/mp/tips**

Join the celebration

A world-leading STEM education for all young people across the UK

2005 was a big year: Facebook launched in the UK, the first videos were uploaded to YouTube, the first iPod Shuffle was released, Tony Blair became the longest serving Labour Prime Minister, and Labour was re-elected for their third consecutive term. A young, previously little-known, MP, David Cameron, was elected head of the Conservative party. Crazy Frog dominated the pop charts, Batman Begins and Brokeback Mountain were released in cinemas. And, of course, the National Science Learning Centre ran its first course.

Funded by the Wellcome Trust, the National Science Learning Centre was built to provide transformative, residential professional development for teachers and technicians of science in UK schools to reach its vision of 'a world-leading STEM education for all young people across the UK'.

Since its launch, the National Science Learning Centre has supported over 20,000 teachers and technicians, reaching 84% of state funded secondary schools in the UK.

In 2008, Project ENTHUSE was launched to allow for greater access to professional development by providing bursaries for professional development activities open to all state funded schools and colleges. Now supporting all STEM subjects and working with partners in Northern Ireland, Scotland and Wales, the National Science Learning Centre has gone from strength to strength, and we are commemorating its anniversary with a range of events:

- ten great experiments from ten great years – 'experiment' along with us in November
- firing fireworks – live near York? Then all the family are invited to the anniversary of our first course on 1 November 2015
- the art of science – we're unveiling a new piece of art at the National Science Learning Centre
- a new website – bringing together the free resources in the National STEM Centre eLibrary with the range of professional development activities on the National Science Learning Network website

PROJECT ENTHUSE

Project ENTHUSE offers ENTHUSE Award bursaries to all state funded schools and colleges in the UK to help teachers, technicians and support staff access STEM focussed professional development through the National Science Learning Centre.

Project ENTHUSE is a unique partnership of government, charities and employers that have come together to bring about inspired science teaching through the continuing professional development of teachers of science and technicians across the UK.

The ENTHUSE Partners are the Wellcome Trust, the Department for Education, BAE Systems, BP, Institution of Engineering and Technology, Institution of Mechanical Engineers, Rolls-Royce and Royal Society of Chemistry.

■ www.slcs.ac.uk/mp/enthuse

USEFUL LINKS:

- ten great experiments for ten great years: **www.stem.org.uk/mp/ten-experiments**
- firing fireworks open day: **www.slcs.ac.uk/mp/openday**
- National Science Learning Network: **www.slcs.ac.uk**
- National STEM Centre: **www.nationalstemcentre.org.uk**
- Project ENTHUSE: **www.stem.org.uk/mp/project-enthuse**

HOW COULD YOU GET INVOLVED?

FOLLOW TIM ON TWITTER

Tim will have access to the internet from the International Space Station, and he'll regularly be sending updates, videos and messages at @astro_timpeake

ASTRO PI

UK students of all ages have designed a fantastic range of experiments for a specially designed Raspberry Pi called an Astro Pi! The Astro Pi computers will run the coding for these experiments aboard the International Space Station and will be sending data down to Earth for students to analyse.

MISSION X

Mission X is an international project led by the UK Space Agency, NASA and ESA that gives students the chance to train like a real life astronaut! Mission X participants learn about healthy eating and exercise, complete training modules, and get excited about the human space exploration.

ROCKET SCIENCE

The Royal Horticulture Society has teamed up with the UK Space Agency to create an educational opportunity that is really 'out of this world'! During Tim Peake's mission thousands of rocket seeds will be sent to the International Space Station, and will then be returned to Earth. Packets of these seeds will be distributed to schools across the UK to use in a mass experiment.

Blasting off this December

by Tom Lyons ESERO Teacher Fellow, ESERO-UK
@space_tom

This December Tim Peake will become the first British European Space Agency astronaut to fly aboard the International Space Station. His long duration mission will see him living and working in micro gravity for six months.

In 1961 humankind defied gravity. Yuri Gagarin, a Russian cosmonaut, was blasted into the darkness of space aboard Vostok I. In 1969 Neil Armstrong stepped from Apollo 11's lunar module onto the face of the Moon. In 1991 the first Briton, Dr Helen Sharman, flew aboard the Mir space station. Then in 1998 construction began on an audacious project: the International Space Station (ISS). Since the arrival of its first crew in 2000, the ISS has been continually staffed by Earth's best and brightest.

Tim has engaged the British public, and especially schools, since his mission was first announced. Tim's mission name, Principia, was chosen from among thousands of public suggestions. After careful deliberation, Tim chose Principia to honour Isaac Newton's revolutionary text on physics, Naturalis Principia Mathematica.

Blue Peter helped Tim to launch a competition for children to design the patch for his mission to the ISS. The winning patch was designed by 13 year-old Troy Wood,, and references the famous story about Newton 'discovering' gravity as he sat under an apple tree.

Tim will continue to involve students with his mission and communicate with Earth once he has arrived on the ISS. He will be undertaking experiments designed by students in Britain, tweeting his experiences and contacting a few lucky schools directly from the ISS via radio. This inspiring mission is a unique opportunity to excite students in human space exploration.

ESERO-UK, the UK Space Education Office, is offering free support and resources around this mission to inspire pupils.

SPACE EDUCATION QUALITY MARK

The Space Education Quality Mark is an award given to schools that have shown significant use of the context of space in STEM subjects, have worked with other organisations, shared resources and used space to enrich the curriculum. Bronze, silver and gold awards are available and is totally free for schools to apply for.

TIM PEAKE PRIMARY PROJECT

ESERO-UK will be running the Tim Peake Primary Project over two years, which starting in September 2015. Our Space Ambassadors will help one thousand schools take part in a range of space activities that have been created to support Tim's mission to the International Space Station. From free resources, continuing professional development and in-classroom support to deliver inspiring space lessons, the Tim Peake Primary Project has so many exciting activities to get involved with. Applications are now open for year two – so sign up today!

For more information about all these exciting opportunities visit **www.esero.org.uk/mp/timpeake**.

Louise Stubberfield has a background in microbiology and started her science career with with industry. After answering a call to help a local primary school with a science week, a desire to teach was ignited. Louise retrained and taught in primary schools for 20 years, leading primary science for most of that time and concluding as a headteacher. Now leading on primary science for the Wellcome Trust Education and Learning Team, Louise remains passionate about children enjoying inspiring science lessons from the start of formal education.

Primary science matters

by Louise Stubberfield
@WTeducation
Wellcome Trust, Education and Learning

Imagine what could happen if all primary school children experienced wonderful science teaching that inspired them, and made them eager to investigate and understand the world around us. Think of the skills that these children would develop, how that would help them in other areas of learning and prepare them for the future.

Although many children do receive excellent imaginative science teaching, for others the experience could be much better and we can engage pupils in science from a young age.

Primary science has been squeezed out in recent years with less time given to teaching, less money being provided for resources and a trend for continuing professional development (CPD) to be in-house or generic. One thing that teachers themselves say would improve their teaching of science is having access to subject specific CPD. Many teachers are nervous about getting science concepts wrong, especially in areas perceived as challenging such as physics, or they worry about assessment. It's hard to assess pupils' progress in science if you are not sure yourself about the subject itself.

Research shows that when teachers take part in CPD that addresses their science subject knowledge and pedagogical skills, they gain confidence, enjoy teaching science and improve pupils' outcomes. Learning in science strengthens learning in other subjects such as maths, and provides real contexts for developing communication skills. Science CPD is a very worthwhile investment and, for science subject leaders, it is essential.

But, to really see a difference where all pupils experience amazing science teaching, we need more. We need school leaders to commit to ensuring that science subject leaders have the resources and support they need to implement change, and to make sure that science has a clear focus in school improvement planning.

The science education community knows that primary science matters and is drafting a shared statement on the value of primary science.

'Science at primary school supports every child as they explore, investigate and understand the world. A strong primary science education will':

- enable pupils to progress their understanding about science concepts and phenomena and generate a sense of wonder and curiosity about the world
- develop transferable skills, including numerical and communication skills, problem solving, reasoning and enquiry
- support children to understand the purpose of science
- help pupils to make informed decisions that will affect their futures in an increasingly technological world
- provide an essential base for future economic prosperity

It is the moral and professional duty of school leaders to provide a broad balanced curriculum which reflects the status of science as a core subject.

Confident and inspiring primary science teaching will ensure that children understand why science matters, to all of us. Ultimately, our futures depend on it.

Hiding science in plain sight

by Helen Minnikin-Spring Professional Development Leader, National Science Learning Centre
@HMinnikinSpring

While most of us aim for the mythical two hours of science teaching a week, we all know that in reality the focus in primary schools is English and mathematics. Let's face it, if we have to give up a lesson for that play rehearsal or Christmas concert, then science loses out before English and mathematics. Science really is the poor relation, especially given that officially it's still a 'core' subject...

As science is of such importance, is there a way we can sneak it into the odd maths or English lesson? It is definitely possible, but make sure the science links add value to the lesson, rather than take away from it.

GETTING SCIENCE INTO MATHEMATICS

Keep it simple

Mathematics is often referred to as the 'language of science'. It's important to be aware of the mathematical concepts children need to know in order for science learning to take place. This doesn't need to be overcomplicated, in fact a simple link with science could be more effective. For example, for a child to research the temperature at which changes of state happen, it would be useful to have a working knowledge of negative numbers. It really can be that straightforward!

Don't lose the plot

There are a lot of mathematical objectives, particularly those relating to statistics and measurement, which could be achieved through science teaching. In the Year 3 plants topic, an investigation would give children the opportunity to measure quantities of water, as well as the height to which a plant grows. It would also give children the opportunity to plot and present their data in a bar chart, pictogram or table.

Apply skills and knowledge practically

Measurement is one of many skills that children need to practise time and time again. How often have we seen the Year 6 pupil who scores 100% in a written test, but doesn't actually know how to read a thermometer, or which container to choose when measuring out 100ml for a science investigation? Children need to be able to apply the skills that they learn in mathematics lessons, and science provides the perfect opportunity for this.

GETTING SCIENCE INTO ENGLISH

Communication

So what about teaching science with English? Surely there aren't as many objectives that clearly link together? Communication is the key here. Science can be the content of many lessons, with English as the process of communication.

Get creative

There are so many ways of linking English and science together, regardless of how daunting it may seem initially. A few examples include: writing a newspaper article about the results of a science investigation, writing instructions for how to carry out investigations and even writing a poem about plants and animals.

The possibilities are endless

Every pupil is different. By bringing aspects of other subjects into your lessons, you can enable pupils to start enjoying and even excelling in subjects that they are naturally less confident with.

When it comes to linking science with other core subjects, the methods of doing this really are endless. Not only will it help to raise the status of science in schools, but could also give mathematics and English a new lease of life, enabling children's enthusiasm for these subjects to continue growing for many years to come.

For bespoke support visit:

- Improving mathematics and English through science
  www.slcs.ac.uk/NY036
- Linking the core subjects: mathematics and science
  www.slcs.ac.uk/RP113
- Linking the core subjects: literacy and science
  www.slcs.ac.uk/RP114

Five spooky STEM activities

by Rachel Jackson Primary Specialist, National STEM Centre • @JacksonR141
Helen Minnikin-Spring Professional Development Leader, National Science Learning Centre
@HMinnikinSpring

Halloween offers some fantastic opportunities for STEM activities. We've got a few ideas to get the autumn term off to a spooky start.

Witches brew

Dress your class as witches or wizards and try out this great problem solving activity, complete with bats, spiders, vampires and witches.

Challenge the children to design a potion which will turn some unlucky individual (probably the class teacher!) into a toad. Each recipe needs 24 legs to complete the potion. Using a combination of bats, spiders and frogs, how many different varieties can they make? The answer could be 12 bats, or 8 bats and 2 frogs, or 2 spiders, 1 frog and 2 bats... Giving out pictures of bats, spiders and frogs can support less able children, whilst the more able can be tasked with creating their own system to record various potion recipes.

Creepy coding

Try linking Halloween to computing by using Scratch to create games and stories. Pupils could create characters which change costume to become a skeleton or a ghost when they are caught by the witch or vampire. Children could also experiment with changing the backgrounds and creating spooky noises. They could even produce animated Halloween greeting cards using Scratch.

Sweet treats

Halloween biscuits are a classic - these could be made out of pumpkins, shaped like ghosts, or decorated with with cobwebs made out of sugar icing. Don't forget, children need the opportunity to plan, make and evaluate their biscuits. I've also seen some fantastic examples of no-cook cookery making Halloween fruit salads or witches' hats out of icecream cones.

Electrifying

Cookery isn't the only area of design and technology where Halloween can provide a stimulus. Children could use their knowledge of electric circuits to make scary ghosts, vampires and zombies. Use LEDs to make eyes that light up, or use motors that could spin heads round or open coffin lids. They could also make Halloween greeting cards with moving parts.

Glorious goo

Halloween wouldn't be Halloween without slime and goo! This provides many opportunities to teach about solids and liquids in science, or even exploring different materials in early years. How about making a spooky lava lamp, or learning about density by creating layers of creepy liquids (some oil based, some very dense and some water based) – you could even float Halloween objects in different layers to prompt scientific discussion.

Monster mix

Use irreversible reactions to create a monster with coloured foam. All you need is a small bottle filled a third of the way up with vinegar and food colouring, wrap a teaspoon of bicarbonate of soda in a scrap of tissue drop it into the bottle and watch the monster froth and foam. Let imaginations run wild, and get kids to decorate the bottles first with eyes, claws, feet and a spiky tail.

Have a happy Halloween and make sure you tweet us a photo of your scary STEM inspired creations! @NtlSTEMCentre

For these and many more ideas, please go to: www.stem.org.uk/mp/halloween

The start of something special

by Dave Gibbs Computing and Technology Specialist, National STEM Centre
@adgibbs

Computing education has seen massive changes over the past few years, with Michael Gove waving goodbye to an ICT curriculum that was, in his opinion, "unambitious, demotivating and dull".

2014 saw the release of a new Computing National Curriculum which went live in schools last September. Huge alterations to content were made, and while some teachers were already bringing computing to the classroom, most were totally unfamiliar with terms such as 'algorithms', 'sequencing', 'debugging', and 'computational thinking'.

I have witnessed the full spectrum of reactions to these new terms, from outright fear and a desire to flee, to an enthusiastic embracing of change and palpable excitement at the deepening of academic rigour and expansion of opportunity.

One year down the line, and the commotion appears to be calming. Most teachers have now taught some elements of computing although Year 2 and Year 6 teachers in England, seeing through the old curriculum, may have yet to experience it. Confidence has increased hugely across the board, and teachers' wings are spreading, taking computing teaching to new heights!

Making sandwiches like a robot, delving into Scratch, creating games with Kodu, playing electronic musical instruments made from bananas... These are just a few of the exciting activities that have arrived in mainstream classrooms in recent months. High-quality support is available from the Computing at School Barefoot and Quickstart CPD projects, the BBC's new online content and through an ever-increasing number of resources in the National STEM Centre eLibrary.

This really is the start of something special for computing education.

JOIN IN THE DISCUSSION

Join our primary resource community group and drawn on the expertise of others, we have thousands of like-minded teachers willing to share ideas and support as well as **www.stem.org.uk/mp/computing-group**

VISIT OUR ELIBRARY

Browse the quality assured selection of primary computing resources from concept cards to teacher guidance at **www.stem.org.uk/mp/computing**

SIGN UP

Leading the new primary computing curriculum: **www.slcs.ac.uk/TY010**

by Yolande Ifold Primary Specialist
Allie Beaumont Primary Specialist

Primary practicals: how to design an experiment from recycled shopping

Practical work lies at the heart of primary science. We can see the benefit of hands-on investigations that engage our pupils and make them curious especially when they can see how activities link to everyday life. Good practical work provides excellent opportunities for engaging children in discussions and understanding of the world around them.

Practical primary science work does not require extensive and expensive equipment; the simplest of resources from the supermarket can provide excellent activities that are guaranteed to capture the attention of pupils.

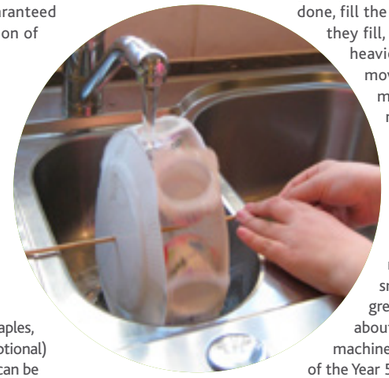
One of our favourite activities created by a pupil and tried and tested with classes is 'How to make a waterwheel'.

What will you need?

For this experiment all you will need are some recycled yogurt pots, staples, paper plates, a straw (optional) and water, all of which can be purchased at your local supermarket.

How does the experiment work?

To create the waterwheel, staple the recycled yogurt pots to the paper plate and pin the paper plate upright into a waterwheel position, whether that be using a straw or upright object. Make sure the pin is loose, enabling the plate to move. Once this is done, fill the pots with water. As they fill, the pots will become heavier causing them to move downwards and make the wheel spin, replicating the actions of a waterwheel.



What do the pupils learn?

This helps the class investigate that some mechanisms allow a smaller force to have a greater affect and learn about the effects of simple machines on movement as part of the Year 5 forces unit.

For bespoke support visit: **www.slcs.ac.uk/mp/bespoke**

It is always hard starting a new role in any line of work. It is hindsight that later shows us what would have been nice to know when you first started. This list will hopefully give any newly qualified teachers an extra bit of guidance going into their new role.

Remember one day you will be the experienced teacher who can pass on the knowledge of being in the shoes of an NQT and help them thrive with the many attributes and qualities they can bring to the school team.

Top ten things I wish I'd known as a newly qualified teacher

by Colette Burrows Primary Regional Development Leader, National Science Learning Network, North West
@CSpeaksci

1 IT'S NOT ALL GLAMOUR

Be prepared to work hard. It quickly becomes evident that the glamorous long holidays and early finishes are not quite what people believe.

2 BE EFFICIENT AND ORGANISED

Be efficient and organised with your time. Create yourself a work timetable and stick to it.

3 DON'T PANIC, REMAIN FOCUSED

You won't feel you have scratched the surface of what you need to do despite working a 50+ hour week. Don't worry, this is normal. Remain focused and stick to your timetable.

4 LEARN TO SWITCH OFF

You'll find you are more affective when you switch on again.

5 BE PROFESSIONAL

Children are so aware of, and sensitive to, what is going on around them. They see and hear more than you know. Be completely professional always, especially with social media. It is good to take the kind but strict approach.

6 BE A TEAM PLAYER

Help out and be enthusiastic as you will be pulled in lots of directions in school; prioritise teaching and learning above all else.

7 YOU CAN'T PLEASE EVERYONE

Not every parent, child or colleague will like you - be satisfied with most.

8 LEARN FROM YOUR MISTAKES

You will make mistakes, everyone does; own up to them and people will respect you more. Learn from your mistakes and improve with experience. Teaching cannot be done perfectly; self-reflection and a desire to improve are essential qualities, but go gently with yourself too. Remember you're always learning.

9 HAVE FUN AND BE FUN

Keep your interests alive! It might be hard after an exhausting day, but you bring your personality and interests into the classroom with you, making you a better teacher. Whatever your thing is - keep doing it and share it.

10 KEEP HEALTHY

Without wishing to sound like your mother, eat well, exercise, and get some fresh air every day (not as easy as it sounds and playground duty does not count).

Our top picks for you to put in the calendar...

OCTOBER 2015

NAHT EDUCATION CONFERENCE 2015
16 OCTOBER - 13 NOVEMBER

Held in both Manchester and London the NAHT education conference for school leaders offers a valuable programme of events on the theme of, 'catch the energy – release the potential'; the potential that exists in ourselves, our staff and our children. Look out for us at the Manchester conference.

- **For more information about attending this event, please visit www.naht.org.uk**

NOVEMBER 2015

OPEN DAY FOR 10TH ANNIVERSARY
1 NOVEMBER

This year, the National Science Learning Centre will be celebrating ten years since the first course took place. To celebrate this, we're hosting an open day at the beginning of November. This event will be revolved around the chemistry of fireworks, involving a number of different bonfire night related activities for all the family to enjoy.

- **www.slcs.ac.uk/mp/openday**

MANAGING BEHAVIOUR FOR LEARNING
2 NOVEMBER

Transform your classroom by making small shifts in your own behaviour. This free, online course will be led by Paul Dix, a leading voice in behaviour management in the UK and internationally.

- **Sign up today: www.slcs.ac.uk/behaviour-management**

DECEMBER 2015

TIM PEAKE LAUNCH
15 DECEMBER

The first ever British European Space Agency (ESA) astronaut to ever go the International Space Station, Tim Peake, is due to launch on his mission in December. There are lots of activities and events happening to celebrate his mission.

- **For more information about Tim Peake and his mission, visit www.esero.org.uk/mp/timpeake**

JANUARY 2016

ASE ANNUAL CONFERENCE
6 JANUARY

The Annual ASE Conference will be held in January 2016 at the University of Birmingham. Over 300 science education sessions will be available to visit, and we too are attending. We are planning on hosting a number of sessions and activities during this conference, making this an event well worth attending.

- **For more information about attending this event, please visit www.ase.org.uk/conferences/annual-conference**

BETT SHOW 2016
20 JANUARY

The Bett Show will be taking place from 20-23 January 2016 in London. This event has been successfully running for over 30 years and we will be attending for this event in 2016. We may also be running sessions and activities as a part of this event, so make sure you keep informed.

- **For more information about attending this event, please visit www.bettshow.com**

The last few months have seen plenty happening. The National Science Learning Network, National STEM Centre and Project ENTHUSE continue to work tirelessly to support great STEM teaching and learning. Here is a brief round up of the latest news:

Amanda Phillips (left) stood with Yvonne Baker

Award win

The First Women Awards were established in 2005 to celebrate senior professional women. We were delighted when our Chief Executive, Yvonne Baker, won the 2015 First Women Award for Science and Technology at a glittering ceremony in London, hosted by the television presenter and journalist Clare Balding..

ENTHUSE celebrations

The 2015 ENTHUSE Celebration Awards were held this June at a prestigious ceremony at the Wellcome Trust, London. Now in its third year, the Awards were created to celebrate exceptional educators who have made a significant impact on science teaching in their schools. This year's primary winner was Kathryn Horan won ENTHUSE Primary Science Leader 2015. Could you be this year's winner? Enter the Teacher and Support Staff Recognition Scheme to find out.

- **www.slcs.ac.uk/mp/staff-recognition**

Rolls-Royce Science Prize

The Rolls-Royce Science Prize is an annual awards programme that helps teachers implement science teaching ideas in their schools and colleges. This year's winners include: Kate Greenaway Nursery & Children's Centre; Chesterton Community College; and St Mun's Primary School. Why not enter your school in this year's competition?

- **www.slcs.ac.uk/mp/rolls-royce**

Impact Awards deliver better value for primary schools

Our Primary CPD now delivers even better value, with Impact Awards now covering 70% of the fees. Whether its tailored support for your school, a twilight session or one day course, we cover 70% of the fees with our Impact Award for the majority of our primary activities.

- For more information on our impact awards or how to claim yours please visit: **www.slcs.ac.uk/mp/impact-awards**

SOCIAL MEDIA

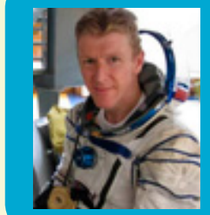
Let's take a peek at what people have been tweeting:

@NtlSTEMCentre
Followers: 13.9K

@ScienceVoice
Followers: 4524

@ProfRalphEarly Excellent information source which aids good understanding. Interesting for people of all ages. #STEMresources @ NtlSTEMCentre ow.ly/PTold

@MerseySTEM The @NtlSTEMCentre community resource area now holds over 100 resources – contribute and WIN! #STEM #RT



@MattDavey Our Icknield primary school to speak to UK astronaut Tim Peake on ISS @Space_Station @astro_peake @NtlSTEMCentre esero.org.uk/timpeake

@RobertsNiomi Reflecting on how engagement in Science has developed this academic year @scuttscience @ priscigeeks @ NtlSTEMCentre

@educationgovuk @ScienceVoice delivered 100k+ science CPD to 14,000+ teachers/ technicians between Aug 2013 to Mar 2015 ow.ly/PlmG6 #TeachStem

@keeleslc Top five tips for teaching primary science – especially appropriate for NQTs wp.me/pwb9j-M5 via @sciencevoice

Follow us **@NtlSTEMCentre** and **@ScienceVoice** and let us know what STEM related things you're up to!

Welcome to the STEM CPD listing

The National Science Learning Network is the largest UK provider of subject-specific Continuing Professional Development (CPD) for teachers, technicians and support staff working in STEM subjects covering computing, design and technology, mathematics and science.

The Network comprises of 50 Science Learning Partnerships (SLPs) in England, the National Science Learning Centre in York and partners SSERC, the Education Authority (NIEA) and Techniquest in Scotland, Northern Ireland and Wales.

The Network offers a diverse programme of research–led STEM CPD with proven impact on teacher development and student outcomes.

Our high quality CPD is also very affordable. Generous bursary funding from the Department for Education (DfE) and through Project ENTHUSE means all state funded schools, academies and colleges can benefit from Impact Award and ENTHUSE Award bursaries.

You can access our CPD online, face to face locally through SLPs and our partners and on longer residential activities at the National Science Learning Centre. We can also tailor our CPD to meet the individual needs of your department, school or network through our bespoke support.

Bursary support for all state schools and colleges funded schools

ENTHUSE Awards

ENTHUSE Awards contribute towards the costs of attending world-class professional development provided by the National Science Learning Centre.

ENTHUSE Awards are provided by Project ENTHUSE which is a unique partnership of government, charities and employers that have come together to bring about inspired STEM teaching through the professional development of teachers, technicians and support staff across the UK.

www.slcs.ac.uk/mp/enthuse-awards

Impact Awards

Impact Awards are equivalent to 70% of the CPD fee and are available for many of the CPD activities offered through the Science Learning Partnerships across England.

Impact Awards are provided by the Department for Education (DfE).

www.slcs.ac.uk/mp/impact-awards

All fees and award values are valid for state funded schools and are correct at the time of print (September 2015). See **www.slcs.ac.uk** for fees for non-state funded schools and the latest information.

COMPUTING

DELIVERING THE CODING ELEMENTS OF THE NATIONAL CURRICULUM AT KS1

Any teacher or teaching assistant involved in supporting the computing curriculum, with no or little experience of using coding will benefit from this course.

- 21 Jan 2016 York (residential)
- Activity fee: £551 (ex VAT)
- Bursary: £578 (ENTHUSE Award)

www.slcs.ac.uk/TY022

DELIVERING THE CODING ELEMENTS OF THE NATIONAL CURRICULUM AT KS2

An opportunity to experience a number of different methods and time to develop both your skills in Scratch and the teaching techniques that you can use to make it work for you and your students.

- 11 Jan 2016 York (residential)
- Activity fee: £551 (ex VAT)
- Bursary: £578 (ENTHUSE Award)

www.slcs.ac.uk/TY016

FROM GOOD TO OUTSTANDING: MAKING LEARNING VISIBLE

Moving from good to outstanding is not just about having a wide pedagogical approach, but how you engage all your pupils. This course investigates that shift in role to facilitate truly pupil-centered classrooms by evaluating effective approaches.

- 11 Nov 2015 York (residential)
- Activity fee: £1,623 (ex VAT)
- Bursary: £1,734 (ENTHUSE Award)

www.slcs.ac.uk/NY714

GETTING STARTED WITH CREATING MOBILE APPS IN THE PRIMARY CLASSROOM

This course takes you through the principles of app design, giving you lots of hands on time to develop your skills using the software.

- 03 Mar 2016 York (residential)
- Activity fee: £551 (ex VAT)
- Bursary: £578 (ENTHUSE Award)

www.slcs.ac.uk/TY017

LEADING THE NEW PRIMARY COMPUTING CURRICULUM

Designed for computing subject leaders and teachers with a strong interest in leading computing, you will gain a deeper understanding of the aims of the curriculum, develop your own subject knowledge.

- 09 Nov 2015 York (residential)
- Activity fee: £1,102 (ex VAT)
- Bursary: £1,156 (ENTHUSE Award)

www.slcs.ac.uk/TY010

LEVEL 1 CAS PRIMARY MASTER TEACHER COURSE: DEVELOPING SUBJECT KNOWLEDGE AND YOUR OWN CPD

Designed to develop the knowledge and skills of level one CAS Master Teachers, this course will help you to design your own CPD for regional delivery and develop awareness of what makes CPD effective.

- 25 Jan 2016 York (residential)
- Activity fee: £1,102 (ex VAT)
- Bursary: £1,156 (ENTHUSE Award)

www.slcs.ac.uk/TY009

LINKING PRIMARY SCIENCE AND COMPUTING

Teachers who would like to learn how to use computing and digital technology will leave this course with the confidence and inspiration to use a range of technologies in science.

- 21 Jan 2016 York (residential)
- Activity fee: £1,117 (ex VAT)
- Bursary: £1,156 (ENTHUSE Award)

www.slcs.ac.uk/TY019

RAISING ATTAINMENT IN ENGLISH AND MATHS AT KS1 THROUGH THE EFFECTIVE USE OF ICT

This course will support you to develop a wider understanding of how ICT can be used to support learning in Maths and English, with specific focus on engaging your learners and raising attainment / progress in KS1.

- 15 Oct 2015 York (residential)
- Activity fee: £551 (ex VAT)
- Bursary: £578 (ENTHUSE Award)

www.slcs.ac.uk/TY014

RAISING ATTAINMENT IN ENGLISH AND MATHS AT KS2 THROUGH THE EFFECTIVE USE OF ICT

Helping you to develop a wider understanding of how ICT can be used to support learning in Maths and English, with specific focus on engaging your learners and raising attainment/progress in KS2.

- 12 Nov 2015 York (residential)
- Activity fee: £551 (ex VAT)
- Bursary: £578 (ENTHUSE Award)

www.slcs.ac.uk/TY020

USING FILM TECHNOLOGY TO SUPPORT PRIMARY LITERACY

Beginning with the role that film can play in the classroom, the course will explore a variety of film related skills and techniques, from film analysis and shot direction to creating content using accessible technology and software.

- 14 Dec 2015 York (residential)
- Activity fee: £551 (ex VAT)
- Bursary: £578 (ENTHUSE Award)

www.slcs.ac.uk/TY021

USING ICT EFFECTIVELY IN EARLY YEARS FOUNDATION STAGE

This unique course offers teachers of EYFS the opportunity to develop an approach to ICT, enriching classroom experiences of your learners.

- 04 Feb 2016 York (residential)
- Activity fee: £551 (ex VAT)
- Bursary: £578 (ENTHUSE Award)

www.slcs.ac.uk/TY023

USING MOBILE TECHNOLOGY TO ENHANCE LEARNING IN THE PRIMARY CLASSROOM: GETTING STARTED

A beginner's guide to using your mobile device in the classroom. It is suitable for teachers and teaching assistants who are users of iPads, Android and Windows based devices.

- 16 Nov 2015 York (residential)
- Activity fee: £551 (ex VAT)
- Bursary: £578 (ENTHUSE Award)

www.slcs.ac.uk/TY015

USING MOBILE TECHNOLOGY TO ENHANCE LEARNING IN THE PRIMARY CLASSROOM: GOING FURTHER

This course is the next step for teachers and teaching assistants who are skilled in using a mobile device themselves and have some experience of the pupils using a mobile device in the classroom.

- 08 Feb 2016 York (residential)
- Activity fee: £551 (ex VAT)
- Bursary: £578 (ENTHUSE Award)

www.slcs.ac.uk/TY018

DESIGN AND TECHNOLOGY

ELECTRICAL SYSTEMS, PROGRAMMING AND CONTROL

Learn about ways to implement ideas for teaching about circuits, including components symbols, innovative construction methods, project ideas and using simple inputs and outputs.

- 10 Mar 2016 York
- Activity fee: £551 (ex VAT)
- Bursary: £578 (ENTHUSE Award)

www.slcs.ac.uk/TY013

FROM GOOD TO OUTSTANDING: MAKING LEARNING VISIBLE

Moving from good to outstanding is not just about having a wide pedagogical approach, but how you engage all your pupils. This course investigates that shift in role to facilitate truly pupil-centered classrooms by evaluating effective approaches.

- 11 Nov 2015 York (residential)
- Activity fee: £1,623 (ex VAT)
- Bursary: £1,734 (ENTHUSE Award)

www.slcs.ac.uk/NY714

LEADING AN EFFECTIVE DESIGN AND TECHNOLOGY CURRICULUM

Gain a deeper understanding of the aims of the curriculum, develop your own subject knowledge and identify the role subject leader's play in developing a whole school approach to teaching this new curriculum.

- 14 Jan 2016 York (residential)
- Activity fee: £1,102 (ex VAT)
- Bursary: £1,156 (ENTHUSE Award)

www.slcs.ac.uk/TY011

MECHANISMS AND MECHANICAL SYSTEMS AT KS1 AND KS2

This course will reveal easy to implement ideas for teaching about levers, pulleys and mechanical systems, supporting you to develop both your scientific knowledge and a bank of physical resources for the classroom.

- 04 Feb 2016 York 551
- Activity fee: £551 (ex VAT)
- Bursary: £578 (ENTHUSE Award)

www.slcs.ac.uk/TY012

MATHEMATICS

FROM GOOD TO OUTSTANDING: MAKING LEARNING VISIBLE

Moving from good to outstanding is not just about having a wide pedagogical approach, but how you engage all your pupils. This course investigates that shift in role to facilitate truly pupil-centered classrooms by evaluating effective approaches.

- 11 Nov 2015 York (residential)
- Activity fee: £1,623 (ex VAT)
- Bursary: £1,734 (ENTHUSE Award)

www.slcs.ac.uk/NY714

IMPROVING MATHEMATICS AND ENGLISH THROUGH SCIENCE

Using curiosity and enthusiasm generated through science, this course will demonstrate how to connect, support, and enhance children's learning in maths and English and improve progress in the core subjects.

- 15 Oct 2015 York (residential)
- Activity fee: £1,162 (ex VAT)
- Bursary: £1,348 (ENTHUSE Award)

www.slcs.ac.uk/NY036

RAISING ATTAINMENT IN ENGLISH AND MATHEMATICS AT KS1 THROUGH THE EFFECTIVE USE OF ICT

This course will support you to develop a wider understanding of how ICT can be used to support learning in Maths and English, with specific focus on engaging your learners and raising attainment / progress in KS1.

- 15 Oct 2015 York (residential)
- Activity fee: £551 (ex VAT)
- Bursary: £578 (ENTHUSE Award)

www.slcs.ac.uk/TY014

USING MOBILE TECHNOLOGY TO ENHANCE LEARNING IN THE PRIMARY CLASSROOM: GOING FURTHER

This course is the next step for teachers and teaching assistants who are skilled in using a mobile device themselves and have some experience of the pupils using a mobile device in the classroom.

- 08 Feb 2016 York (residential)
- Activity fee: £551 (ex VAT)
- Bursary: £578 (ENTHUSE Award)

www.slcs.ac.uk/TY018

SCIENCE

ASSESSMENT IN THE NEW PRIMARY SCIENCE CURRICULUM... A WORLD WITHOUT LEVELS

Evidence shows that effective Assessment for Learning (AfL) leads to raised attainment. Throughout the course we will identify how you can integrate and embed assessment practices into your science teaching.

half day:

- 17 Nov 2015 Liverpool
- Activity fee: £115 (ex VAT)
- Bursary: £80.50 (Impact Award)

one day:

- 09 Oct 2015 Telford
- 23 Oct 2015 Cambridge
- 17 Nov 2015 Sheffield
- 18 Nov 2015 Altrincham
- 30 Nov 2015 North Tyneside
- 01 Dec 2015 North Tyneside
- 02 Dec 2015 North Tyneside
- 07 Dec 2015 North Tyneside
- 20 Jan 2016 Sheffield
- 26 Jan 2016 Peterborough
- 05 Feb 2016 Altrincham
- 02 Mar 2016 Milton Keynes
- Activity fee: £215 (ex VAT)
- Bursary: £150.50 (Impact Award)

www.slcs.ac.uk/RP102

DEVELOPING SCIENCE SUBJECT LEADERS

You will explore a range of strategies to audit and lead science in your school, understand your role more fully and be able to identify and promote effective primary science thus raising attainment.

one day:

- 20 Oct 2015 Milton Keynes
- 05 Nov 2015 North Tyneside
- Activity fee: £215 (ex VAT)
- Bursary: £150.50 (Impact Award)

two day:

- 02 Oct 2015 Tiverton
- 21 Oct 2015 Wimborne
- 22 Oct 2015 Keele
- 22 Oct 2015 Abingdon
- 02 Feb 2016 Sheffield
- 04 Feb 2016 Leeds
- 12 Feb 2016 Norwich
- Activity fee: £430 (ex VAT)
- Bursary: £301 (Impact Award)

www.slcs.ac.uk/RP101

EMBEDDING THE NATIONAL CURRICULUM

Our experienced primary practitioners will help you to review your provision in line with the primary curriculum guidance and offer strategies and advice for any gaps in your plans

- 23 Oct 2015 Keele
- Activity fee: £215 (ex VAT)
- Bursary: £150.50 (Impact Award)

www.slcs.ac.uk/RP104

HOW TO USE DIGITAL TECHNOLOGIES TO SUPPORT SCIENCE

Gain hands-on practical experience using ICT in science including data logging, digital microscopes, digital images and sound recording. You will explore curriculum applications and consider the best use of ICT to enhance scientific enquiry.

- 12 Nov 2015 North Tyneside
- Activity fee: £215 (ex VAT)
- Bursary: £150.50 (Impact Award)

www.slcs.ac.uk/RP115

LINKING THE CORE SUBJECTS: LITERACY AND SCIENCE

Explore the curriculum links between science and literacy and how to develop literacy skills to improve the quality of children's written explanations in science.

half day:

- 17 Nov 2015 Keele
- Activity fee: £115 (ex VAT)
- Bursary: £80.50 (Impact Award)

one day:

- 30 Nov 2015 Buckfastleigh
- Activity fee: £215 (ex VAT)
- Bursary: £150.50 (Impact Award)

www.slcs.ac.uk/RP114

LINKING THE CORE SUBJECTS: MATHEMATICS AND SCIENCE

Throughout this course, you will identify how to maximise your pupils opportunities to develop their numeracy skills and improve attainment in science by planning lessons in which children effectively handle data.

half day:

- 17 Nov 2015 Keele
- Activity fee: £115 (ex VAT)
- Bursary: £80.50 (Impact Award)

one day:

- 25 Feb 2016 Tiverton
- Activity fee: £215 (ex VAT)
- Bursary: £150.50 (Impact Award)

www.slcs.ac.uk/RP113

PRIMARY SCIENCE CONFERENCE: PRACTICAL IDEAS AND ACTIVITIES TO SUPPORT NEW PRIMARY SCIENCE

This conference is an ideal opportunity to develop your subject knowledge and skills whilst exploring the most effective strategies for assessment and elicitation in primary science.

- 09 Oct 2015 Porth
- 03 Nov 2015 Cheltenham
- 04 Nov 2015 Dorchester
- 05 Nov 2015 Liphook
- 04 Feb 2016 Wokingham
- Activity fee: £215 (ex VAT)
- Bursary: £150.50 (Impact Award)

www.slcs.ac.uk/RP830

PRIMARY SCIENCE CPD CONFERENCE

Our primary conferences always provide outstanding learning opportunities linked to topical developments in primary science teaching along side time to talk and share ideas with other primary practitioners.

- 21 Nov 2015 Bury St Edmunds
- Activity fee: £215 (ex VAT)
- Bursary: £150.50 (Impact Award)

www.slcs.ac.uk/RP124

PRIMARY SCIENCE FOR NQTS/TAS

New to science, new to teaching? This course will offer you the opportunity to develop your science teaching and subject knowledge.

- 10 Nov 2015 Liverpool
- Activity fee: £115 (ex VAT)
- Bursary: £80.50 (Impact Award)

www.slcs.ac.uk/RP851

PRIMARY SCIENCE SUBJECT LEADERS' NETWORK

These meetings are a chance for subject leaders to learn about the latest local and national initiatives in science and keep abreast of developments within the subject.

half day:

- 08 Oct 2015 Sheffield
- 08 Oct 2015 Caterham
- 21 Oct 2015 Scunthorpe
- 23 Feb 2016 Brigg
- Activity fee: £115 (ex VAT)
- Bursary: £80.50 (Impact Award)

one day:

- 14 Oct 2015 Ledbury
- 13 Nov 2015 Bristol
- Activity fee: £215 (ex VAT)
- Bursary: £150.50 (Impact Award)

www.slcs.ac.uk/RP121

RAISING ATTAINMENT IN PRIMARY SCIENCE

Identify teaching and learning strategies that will move good lessons to outstanding lessons by focussing on the learning happening in the classroom.

- 17 Nov 2015 Gillingham
- 01 Dec 2015 Hounslow
- Activity fee: £215 (ex VAT)
- Bursary: £150.50 (Impact Award)

www.slcs.ac.uk/RP103

RESOURCING THE PRIMARY SCIENCE CURRICULUM

Become more familiar with the eLibrary resources and participate in interactive workshops to create a resource package for a science topic which can be incorporated into your medium term planning.

- Activity fee: £40 (ex VAT)
- 20 Oct 2015 York

www.slcs.ac.uk/NY038

SCIENCE AS A VEHICLE FOR RAISING ATTAINMENT IN ENGLISH AND MATHEMATICS

This course will identify how to maximise your pupils opportunity to develop their numeracy and literacy skills and improve attainment in science by planning lessons in which children can communicate science ideas, knowledge and understanding and effectively handle data.

- 14 Oct 2015 Wirral
- Activity fee: £115 (ex VAT)
- Bursary: £80.50 (Impact Award)

www.slcs.ac.uk/RP845

STANDING OUT IN PRIMARY SCIENCE

By participating in this programme, good and excellent primary science teachers will be able to improve their classroom practice so that they are consistently outstanding and will feel more confident to support others in improving their teaching as well.

- 04 Nov 2015 Guildford
- 06 Nov 2015 Keele
- Activity fee: £215 (ex VAT)
- Bursary: £150.50 (Impact Award)

www.slcs.ac.uk/RP154

SUPERMARKET SCIENCE

This practical course will provide you with a bank of easy to use practical ideas that you can take away with you to enable your pupils to conduct experiments and have FUN!

- 05 Oct 2015 Devon
- 21 Oct 2015 Bristol
- 11 Nov 2015 Abingdon
- Activity fee: £215 (ex VAT)
- Bursary: £150.50 (Impact Award)

www.slcs.ac.uk/RP125

TEACHING KEY AREAS OF PRIMARY SCIENCE KS1 - KS2

This course focuses on the big ideas in primary science, which will help you make a difference to children's learning by identifying and challenging misconception whilst reinforcing your own subject knowledge.

half day:

- 07 Oct 2015 Scunthorpe
- 18 Nov 2015 Hull
- 10 Feb 2016 Hull
- 01 Mar 2016 Hull
- Activity fee: £115 (ex VAT)
- Bursary: £80.50 (Impact Award)

one day:

- 15 Oct 2015 Sheffield
- 16 Oct 2015 Bury St Edmunds
- 06 Nov 2015 Birmingham
- 12 Nov 2015 Norwich
- 12 Nov 2015 Guildford
- 17 Nov 2015 Bedford
- 11 Dec 2015 Altrincham
- 02 Feb 2016 Birmingham
- 03 Feb 2016 Keele
- Activity fee: £215 (ex VAT)
- Bursary: £150.50 (Impact Award)

www.slcs.ac.uk/RP112

TEACHING SCIENCE IN EYFS AND KS1

Try out ideas for practical science that can be used with young children to develop a range of scientific skills and explore the opportunities these activities offer to promote children's social skills as they work in small groups.

- 09 Feb 2016 Bedford
- Activity fee: £215 (ex VAT)
- Bursary: £105.5 (Impact Award)

www.slcs.ac.uk/RP109

THE EARLY YEARS: SCIENCE IN THE STATUTORY FRAMEWORK

This course will increase your confidence in using a range of approaches and assessment strategies to meet children's needs in Early Years.

- 24 Nov 2015 Sheffield
- 14 Jan 2016 Durham
- 08 Mar 2016 Leeds
- Activity fee: £215 (ex VAT)
- Bursary: £150.50 (Impact Award)

www.slcs.ac.uk/RP120

THINKING AND TALKING IN PRIMARY SCIENCE

On this course you will consider the key elements of thinking, talking and communicating in science. From this you will take part in activities to develop these skills and create an effective learning environment in your classroom.

- 12 Oct 2015 Birmingham
- Activity fee: £215 (ex VAT)
- Bursary: £150.50 (Impact Award)

www.slcs.ac.uk/RP116

WORKING SCIENTIFICALLY IN THE NEW PRIMARY CURRICULUM

Effective teaching of scientific enquiry is central to developing children's ideas, skills, knowledge and understanding in science. You will be able to implement strategies for enquiry in order to improve children's outcomes.

half day:

- 24 Nov 2015 Keele
- Activity fee: £115 (ex VAT)
- Bursary: £80.50 (Impact Award)

one day:

- 09 Oct 2015 Norwich
- 14 Oct 2015 Canterbury
- 11 Nov 2015 Hertford
- 18 Nov 2015 Wimborne
- 23 Nov 2015 Hounslow
- 24 Nov 2015 Milton Keynes
- 03 Dec 2015 Wirral
- 08 Dec 2015 Oldham
- 12 Jan 2016 Hull
- 19 Jan 2016 Keele
- Activity fee: £215 (ex VAT)
- Bursary: £150.50 (Impact Award)

two day:

- 10 Nov 2015 Cambridge
- Activity fee: £430 (ex VAT)
- Bursary: £301 (Impact Award)

www.slcs.ac.uk/RP107

RESIDENTIAL

ASSESSING, MODERATING AND TRACKING PRIMARY SCIENCE

Ideal for teachers who want to familiarise themselves with the current expectations around assessment and children's progress in science.

- 21 Sep 2015 York (residential)
- Activity fee: £1,162 (ex VAT)
- Bursary: £1,348 (ENTHUSE Award)

www.slcs.ac.uk/NY032

ASSESSMENT WITH NO LEVELS

Explore strategies which will enable you to lead your colleagues in embedding Assessment for Learning (AfL) practices in science.

- 02 Nov 2015 York (residential)
- Activity fee: £1,322 (ex VAT)
- Bursary: £1,445 (ENTHUSE Award)

www.slcs.ac.uk/NY703

DEVELOPING AN OUTSTANDING PRIMARY SCIENCE CURRICULUM

This course will give you either a starting point or springboard to practical advice and a range of approaches for developing a primary science curriculum that best meets the needs of your pupils.

- 09 Nov 2015 York (residential)
- Activity fee: £801 (ex VAT)
- Bursary: £861 (ENTHUSE Award)

www.slcs.ac.uk/NY044

DEVELOPING THE EXPERIENCED SCIENCE SUBJECT LEADER

For experienced science subject leaders who want to explore best practice and interact with research at local, national and international levels in order to get the best out of their staff and pupils.

- 13 Oct 2015 York (residential)
- Activity fee: £3,246 (ex VAT)
- Bursary: £3,707 (ENTHUSE Award)

www.slcs.ac.uk/NY003

EFFECTIVE CLASSROOM MANAGEMENT IN PRIMARY SCIENCE

This practical course will provide you with the skills and confidence to plan and facilitate learning with opportunities to discuss a range of practical organisational strategies that ensure appropriate behaviour for learning.

CPD LISTING

- 26 Oct 2015 York (residential)
- Activity fee: £551 (ex VAT)
- Bursary: £440 (ENTHUSE Award)

www.slcs.ac.uk/NY027

ENRICHING THE PRIMARY CURRICULUM USING SPACE AND ASTRONOMY

Using the inspirational elements of space and astronomy, you will engage in activities to extend pupil's knowledge, gain an understanding of our solar system, and look at cross-curricular links with numeracy and literacy.

- 03 Mar 2016 York (residential)
- Activity fee: £581 (ex VAT)
- Bursary: £674 (ENTHUSE Award)

www.slcs.ac.uk/NY017

EXTENDING THINKING AND LEARNING IN PRIMARY SCIENCE

Develop a clear understanding of progression, differentiation and assessment in science as well as effective questioning aimed at stimulating curiosity, discussion and higher order thinking skills.

- 28 Sep 2015 York (residential)
- Activity fee: £1,102 (ex VAT)
- Bursary: £1,156 (ENTHUSE Award)

www.slcs.ac.uk/NY001

FROM GOOD TO OUTSTANDING: MAKING LEARNING VISIBLE

Moving from good to outstanding is not just about having a wide pedagogical approach, but how you engage all your pupils. This course investigates that shift in role to facilitate truly pupil-centered classrooms by evaluating effective approaches.

- 11 Nov 2015 York (residential)
- Activity fee: £1,623 (ex VAT)
- Bursary: £1,734 (ENTHUSE Award)

www.slcs.ac.uk/NY714

IMPROVING MATHS AND ENGLISH THROUGH SCIENCE

Using curiosity and enthusiasm generated through science, this course will demonstrate how to connect, support, and enhance children's learning in maths and English and improve progress in the core subjects.

- 15 Oct 2015 York (residential)
- Activity fee: £1,162 (ex VAT)
- Bursary: £1,348 (ENTHUSE Award)

www.slcs.ac.uk/NY036

KEEP IT PRACTICAL DEVELOPING PUPILS' SUBJECT KNOWLEDGE

Improve your subject knowledge and leave feeling motivated and inspired to teach enquiry-driven science lessons, confident in your own subject knowledge.

- 07 Dec 2015 York (residential)
- Activity fee: £852 (ex VAT)
- Bursary: £861 (ENTHUSE Award)

www.slcs.ac.uk/NY040

KEEP IT PRACTICAL: EMBEDDING WORKING SCIENTIFICALLY

Practical science is essential for inspiring children and teachers alike, you will develop practical strategies to enhance learning in primary science.

- 16 Nov 2015 York (residential)
- Activity fee: £1,102 (ex VAT)
- Bursary: £1,148 (ENTHUSE Award)

www.slcs.ac.uk/NY030

NEW AND ASPIRING PRIMARY SCIENCE SPECIALISTS

This course will help you develop the skills, knowledge and confidence to become a primary science specialist changing the way science is taught in your school.

- 05 Oct 2015 York (residential)
- Activity fee: £3,478 (ex VAT)
- Bursary: £3,731 (ENTHUSE Award)

www.slcs.ac.uk/NY010

NEW TO LEADING PRIMARY SCIENCE

We'll help you identify areas for the development of science in your school, help with assessment strategies and provide effective enrichment ideas.

- 16 Sep 2015 York (residential)
- Activity fee: £846 (ex VAT)
- Bursary: £861 (ENTHUSE Award)

www.slcs.ac.uk/NY037

NEW TO TEACHING EARLY YEARS SCIENCE

Aimed at science subject leaders and Early Years practitioners, this very practical cpd course will help you identify and demonstrate good teaching and learning.

- 19 Jan 2016 York (residential)
- Activity fee: £1,162 (ex VAT)
- Bursary: £1,348 (ENTHUSE Award)

www.slcs.ac.uk/NY012

PLANNING SCIENCE WEEKS AND CHALLENGE DAYS

A perfect opportunity to explore some of the activities which you could do during science weeks with something for every budget.

- 01 Dec 2015 York (residential)
- Activity fee: £852 (ex VAT)
- Bursary: £861 (ENTHUSE Award)

www.slcs.ac.uk/NY045

REAL SCIENTISTS

You will be equipped to plan lessons which explore the life and work of prominent scientists, linking to practical enquiry-driven lessons, helping you to cover one of the key aims of the primary science curriculum.

- 25 Jan 2016 York (residential)
- Activity fee: £801 (ex VAT)
- Bursary: £867 (ENTHUSE Award)

www.slcs.ac.uk/NY049

SCIENCE AND THE CREATIVE ARTS

Develop creative approaches to primary curriculum planning and delivery in schools intended to raise both children's and teachers' aspirations and achievements.

- 03 Nov 2015 York (residential)
- Activity fee: £1,162 (ex VAT)
- Bursary: £1,348 (ENTHUSE Award)

www.slcs.ac.uk/NY008

SCIENCE IN THE OUTDOOR CLASSROOM

Schools wanting to develop scientific approaches to primary teaching and learning in the outdoor classroom will find this course invaluable.

- 08 Oct 2015 York (residential)
- Activity fee: £1,397 (ex VAT)
- Bursary: £1,435 (ENTHUSE Award)

www.slcs.ac.uk/NY009

SUBJECT KNOWLEDGE ENHANCEMENT FOR PRIMARY TEACHERS

This hands-on, minds-on course will improve subject knowledge and develop your ability to deliver high quality science lessons and address pupil's misconceptions.

- 05 Oct 2015 York (residential)
- Activity fee: £1,653 (ex VAT)
- Bursary: £1,722 (ENTHUSE Award)

www.slcs.ac.uk/NY029

SUBJECT LEADER UPDATE

This one-off meeting will address current issues in primary science education and provide teachers with some new ideas to take back to the classroom.

- 01 Mar 2016 York (residential)
- Activity fee: £265 (ex VAT)
- Bursary: £289 (ENTHUSE Award)

www.slcs.ac.uk/NY050

SUPPORTING PUPILS IN PRIMARY SCIENCE

Focusing on how best we can support and motivate less able pupils, you will be given the opportunity to engage with current theory and best practice in the field, as well as time to action plan the best way forward for you and your school.

- 02 Mar 2016 York (residential)
- Activity fee: £1,162 (ex VAT)
- Bursary: £1,348 (ENTHUSE Award)

www.slcs.ac.uk/NY043

UNDERSTANDING AND LEADING EARLY YEARS SCIENCE

Explore the nature of teaching and learning in Early Years, identifying national and international innovation and its potential for affecting change in science.

- 11 Jan 2016 York (residential)
- Activity fee: £3,411 (ex VAT)
- Bursary: £3,707 (ENTHUSE Award)

www.slcs.ac.uk/NY002

We would welcome your feedback on our new magazine:
feedback@slcs.ac.uk

FREE ONLINE CPD

MANAGING BEHAVIOUR FOR LEARNING

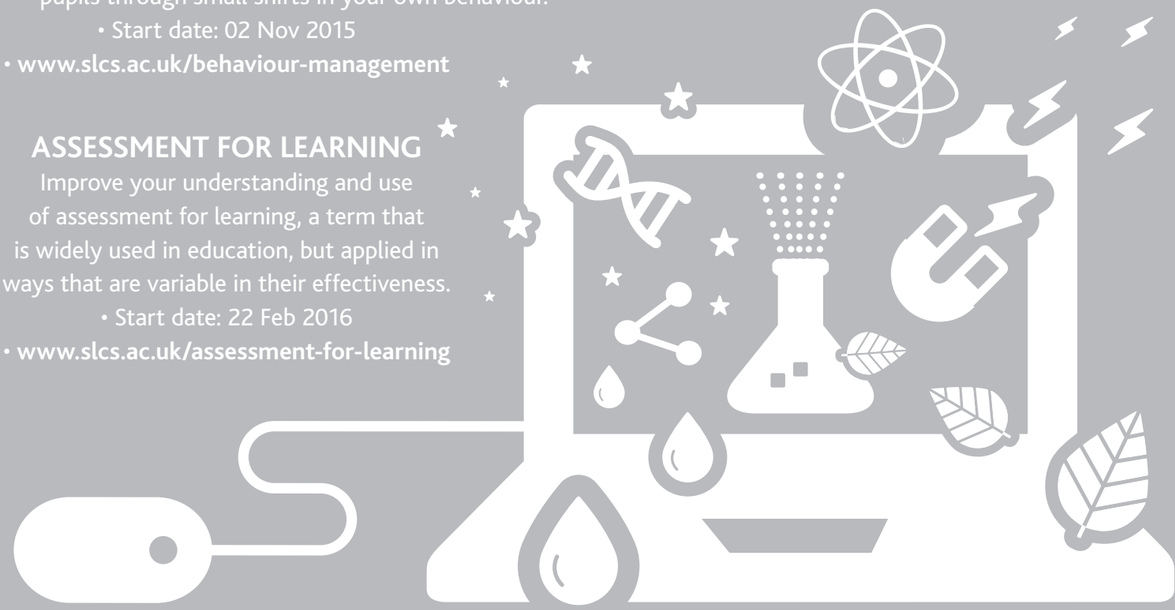
Learn how to positively influence the behaviour of your pupils through small shifts in your own behaviour.

- Start date: 02 Nov 2015
- **www.slcs.ac.uk/behaviour-management**

ASSESSMENT FOR LEARNING

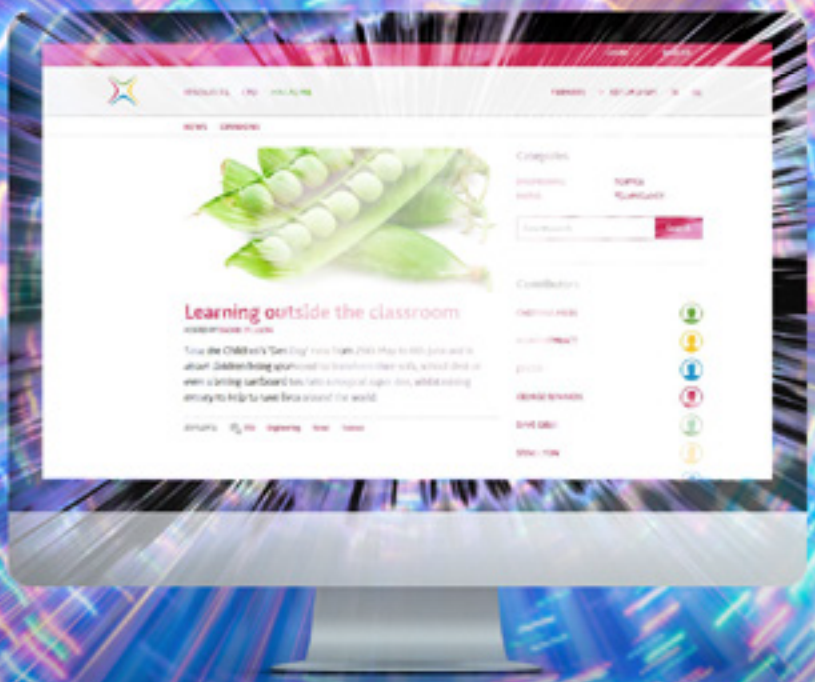
Improve your understanding and use of assessment for learning, a term that is widely used in education, but applied in ways that are variable in their effectiveness.

- Start date: 22 Feb 2016
- **www.slcs.ac.uk/assessment-for-learning**



Our new website is almost here...

We're launching a new website merging the current
National Science Learning Network, National STEM Centre and ESERO-UK websites.



Pulling together all of our classroom resources,
CPD activities, news, blogs, groups and much more.

COMING IN DECEMBER 2015