

Christmas
2011

A Merry Christmas from all at the Staffordshire STEM Centre!



STAFFORDSHIRE STEM CENTRE

Stem cuttings

FREE Specialist STEM Help

In a season associated with sales and bargains, the STEM Ambassador scheme is perhaps the best bargain of all, offering schools locally-based experts to work with students and staff absolutely free of charge.

All you need to do is identify a STEM event, activity or lesson that would benefit from an input by a STEM Ambassador and then complete the request form which can be found on our website www.staffsstem.co.uk/ambassadors.

Ambassadors can provide:

- Independent careers information, advice and guidance;
- Expert help in Science, Maths, Technology, Business and Engineering topics;
- Support for after school STEM Clubs.

They can also act as judges in school based STEM competitions.

This service is provided by Government funding (BIS) and if schools do not make use of the service then the funding is likely to be withdrawn and a quality resource will be lost.

Biddulph High School used STEM Ambassadors in their recent STEM event 'Athlete or Machine: Which is more important in the Bob Skeleton event?' Our STEM Ambassadors are very keen to get involved, so please use them!

What are your plans for National Science Week? We can help to organize, resource and deliver STEM events. Please let us know what your are planning, and if you require any assistance.

Wishing you all a Merry Christmas and a restful and peaceful holiday,

Malcolm Eyre
Director



For further information, please contact:

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ST18 0AD

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Science in Sport

Teams of 11-14 year olds have been invited to design and make a portable drug testing kit as part of The GlaxoSmithKline Scientists in Sport anti-doping challenge has launched. Prizes on offer include up to £1000 worth of equipment for your school, official London 2012 merchandise, a tour of the anti-doping laboratory and gift vouchers for pupils.

The challenge

Five new performance-enhancing drugs have been added to the banned substance list – and a portable kit needs developing to test whether or not an athlete has taken one of them.

Register your team online and receive login details to access the resources. Then follow these steps ...

1. Using the recipes provided, make up solutions of chemicals and reagents
2. Print off the test procedure instructions so pupils can start testing
3. Pupils need to create a results table so they can test and identify an unknown sample and then design and make a portable test kit with instructions
4. Send for some samples and tell pupils that they need to use their kit to identify the chemical solutions
5. Use the 'drug metabolite profiles' to work out if the athletes have taken a banned substance
6. Complete the entry form, with photographic or video evidence of the kit
7. Sit back and await the judges' decision – the top teams will be invited to a Grand Final

Go to www.scientistsinsport.com/challenge to sign-up. Schools can enter more than one team – but you will need one email address per team to receive login details.



WISE Winners

The winners of the 2011 WISE Awards were announced at a prestigious ceremony on Wednesday 19 October at London's Institute of Engineering and Technology, with Her Royal Highness The Princess Royal.

The Women into Science, Engineering and Construction (WISE) Awards, in association with the European Aeronautic Defence and Space Company, celebrate those who inspire girls and young women into the field of science, technology, engineering and mathematics.

The 2011 awards winners were:

2011 WISE Excellence Award - Claire Jones

2011 WISE Champion Award - joint winners: Unlimited Theatre & The Warwick School, Redhill

2011 WISE Advisor Award - Heather Aspinwall



We Believe in D&T

In January this year, the Government announced that it would be launching a National Curriculum Review to consult on major changes it wanted to make to the primary and secondary school National Curricula in England.

The only subjects guaranteed to remain as a statutory part of the National Curriculum are English, Mathematics, Science and Physical Education. All other subjects may become optional and therefore will be taught only at the discretion of the school.

Removing D&T from the National Curriculum would seriously undermine both the life chances of young people and the country's economic prospects now and in the future.

Help us ensure now that D&T stays firmly in the National Curriculum by signing the online petition <http://www.believeindandt.org.uk/general/sign-up.html> and writing to your local MP.

I'm a Scientist... Get me out of Here!

Exciting new projects, funded by the Wellcome Trust, are taking place throughout next year and teachers are being urged to sign up now to make the most of these opportunities.

I'm A Scientist, Get me out of here is a Free online X-factor style competition where students talk to scientists online for 2 weeks and vote for their favourite scientist, in a nail-biting science show down.

There are powerpoints to find out more about this project at

<http://imascientist.org.uk/about/powerpoints>

It's taking place on 12th-23rd March 2012 and in June 2012.

Teachers can register here: <http://imascientist.org.uk/teacher-registration>



Decipher my data is a series of projects (kicking off with the **Flu!** project) that gets scientists working with students on real research to produce better results than either could have achieved on their own. Flu! looks at whether schools can provide a valid early marker of influenza activity in the wider community, through comparing school illness absence data with national figures.

Students benefit from performing *real science using real data* in the classroom.

This project runs throughout the school year. Flu! is running until March 2012.

Teachers can register up until Christmas for the Flu! project at <http://deciphermydata.org.uk/wp-signup.php>

I'm an Engineer, Get me out of here is a brand new project launching in March 2012.

Funded by the Royal Academy of Engineering, the aim is to get Science, Maths and D&T students interacting with engineers online, to learn how their studies relate to the world of engineering.

Again, there are simple powerpoints explaining the project at

<http://imanengineer.org.uk/about/powerpoints>

It's taking place on 12th-23rd March 2012 and teachers can sign up now: <http://imanengineer.org.uk/teacher-registration>



Project organisers are also asking for teachers to help out on their Teacher panel to provide feedback and advice about I'm an Engineer.

Teachers have advised on other projects—they need Science, Maths and D&T teachers to advise on parts of the event including topics, teaching materials and design. There is more information on the teacher panel page: <http://imanengineer.org.uk/teacher-panel>

Any interested teachers should email rosie@gallomanor.com.

Run as fast as Usain Bolt?

Classroom Medics has a new exciting workshop and also a new piece of sports science equipment called The Accelerator!

Pupils will chase a series of LEDs that light up at different speeds along a 15-20m track which also records their sprint time and calculates their running speed and power output.

The speed can be set to Mr Bolt's lightening quick first 10m (1.67s!!) or a bit slower to give the kids a chance :-)

It is a one of a kind piece of kit and you can bring it to your school with the new workshop called the Sports Science Games.

Classroom Medics can run an event in every lesson of the school day, taking up to 60 pupils per event. At the end of the day there are winners for each event for each class, age group, gender, tutor group or team and more.

For costs and dates, please visit <http://www.classroommedicsblog.co.uk/your-pupils-can-race-usain-bolt-with-classroom-medics/>

A Festival of Chemistry

The [Salters' Festivals of Chemistry](#) will once again be held in partnership with [The Royal Society of Chemistry](#) in 2012. Students can look forward to hands-on practical Chemistry challenges in University labs, exciting chemical demonstrations, a Prize giving ceremony with prizes for winning schools and fun prizes and certificates for all participants.

These events are completely FREE TO ENTER (not including travel expenses) with no advance preparation required.

Schools may enter only one team of four students from:

- Year 7 and/or 8 in England and Wales
- Year P7 and/or S1 in Scotland
- Year 8 and/or 9 in Northern Ireland

Students who have participated before are not eligible to participate again



Places are allocated on a first-come-first-served basis so ensure that you enter as early as possible to avoid disappointment.

CLOSING DATE: 31 JANUARY 2012

Entries for the 2012 Salters' Festivals of Chemistry can be made online now! For further information and to apply online, please click on the link: www.festivalsofchemistry.co.uk

You are able to contact the Festivals Administrator on the details below:

Tel: 020 7628 5962 ext. 224; Email: festivals@salters.co.uk

The **SALTERS'**
Institute

A Pinch of Salt!

Volunteers Needed!

The Big Bang: UK Science and Engineering Fair is coming to Birmingham!

The NEC will welcome over 30,000 school students, teachers and families between Thursday 15th March and Saturday 17th March. The Big Bang is the largest science and engineering fair in the country, and we need hundreds of volunteers to help us make 2012 the best year ever.



The Fair will be packed with interactive activity stands, workshops, theatre shows and larger auditorium shows from the likes of Sky TV's 'Brainiac Live!'. Science and engineering from across the country will be represented, with a particular focus on local work. This is your chance to come and help show the rest of the country what Birmingham and the West Midlands can do!

Anyone with a background in science, technology, engineering or maths can volunteer, as long as you're over 18, and committed to helping our visitors get the best from all there is on offer. Whether you're an undergraduate physicist, a postdoctoral researcher, or a company director, we want to hear from you.

STEM Guides will accompany school groups and some individual teachers as they make their way around the showfloor. We are also seeking STEM professionals to take part in Career Networking – an activity in which our visitors have the chance talk to many different people with a wide range of backgrounds in science, technology, engineering and maths. In addition, volunteers will be helping visitors find their way around The Fair, recommending interactive stands and activities to those with particular interests, organising crowds, accompanying school groups, and assisting with the National Science & Engineering Competition, which is run by the British Science Association. If you have an interest in market research, we will also be seeking assistance with our evaluation project. .

Volunteers are asked to commit to one six-hour shift on any of the three days, though if you would like to attend on two or more days we would love to have you with us! Career Networkers will work shorter shifts, from 9.30am – 3pm. Food and t-shirts are provided. Training will be available online, as will all the information you need about The Fair and your role within it.

Registration opened 4th October and will remain open until late December. For more information and to register, go to www.thebigbangfair.co.uk/volunteers or contact us on volunteers@thebigbangfair.co.uk .

Useful website for teachers

Ever wanted a good quality STEM show to come into school, a group of STEM engagement providers and didn't know where to look?

Well, now you do!

A group of STEM engagement providers, who are also professional entertainers - have started a consortium website <http://www.scients.co.uk> where teachers can quickly and easily look up and book presenters. It's very simply laid out and all the presenters have a long-standing reputation in STEM. Each of the SciEnts entertainers works as a small organisation or sole presenter, each having their own methods ranging from music to laughter to spectacular live chemistry and engineering experiments. The site allows teachers quickly to select primary, secondary (or adult/corporate) and also gives guidance for teachers about booking and making their STEM engagement day run well.

CREST Awards and the Expansion Project

Recent conversations with teachers currently involved in delivering CREST projects in lessons and/or clubs makes clear just how useful CREST award projects can be in motivating pupils. They are clearly not just suitable for small groups as an extra curricular activity. Preparation for GCSE Practical science assessments, development of more independent learning and problem solving, adding structure to enterprise activity etc. The British Science Association are also working with other STEM activity providers to add CREST as an optional way of accrediting their activities. The DFE are funding CREST to help expand the use of Crest awards by schools meaning we can give you support and guidance to get things started.

If you would like to know more check out our STEM Centre website and/or give us a ring to discuss your needs.

Food Factor Regional Final

The regional final of this years FIRST LEGO League competition 'Food Factor' took place at the Stafford Rangers FC Social club on the 29th November.

A team from Thomas Alleynes High School—Quigley's Angels, won and will attend the national final, which is being held on 28th January 2012 at Loughborough University. Good luck to them!



Below are a few photos, taken by Codsall High School, from the regional final:



STEM Ambassadors—670 and Rising!

Are you suffering by trying to be an expert in everything? Do your pupils see you as someone remote from the 'world of work'? Why not get some expert help? We have 670 STEM Ambassadors with acceptable CRB Disclosures, Public Liability insurance and training. Fill out a short and brief request form found on our website www.staffsstem.co.uk/ambassadors at least two weeks in advance of the activity and we will try to match your request with a suitably experienced/ qualified ambassador.

If you already have volunteers over 18yrs old coming into school to support what you do in Science, Technology, Engineering and Maths why not get them to sign up as STEM ambassadors? They do not have to do anything more it just adds some quality assurance to the interactions. The STEM programme is a national programme funded by the UK Governments DFE and BIS.

STEM Centre / Regional Science Learning Centre

Apply now for the popular CPD courses for Science and D&T —Smart Materials: Collaborative Learning in Science and Design Technology.

Smart Materials: Collaborative Learning in Science and Design Technology

27th February 2012—Venue TBC

This course provides an opportunity for teachers of design and technology and science to work together, to explore and develop understanding of the key processes and concepts in each others subjects.

To register or to find out more visit www.slcs.ac.uk/wm or call 01782 734429.

More opportunities will be available in the New Year.

STEM Centre—Practical Workshops for your pupils

We can offer you a free help and advice service and will do our best to link you up with free and charged services from other STEM support providers. We also offer a wide range of half day and full day practical workshops. We do have to charge for these workshops to cover costs (we are a not for profit organisation) at £200.00 for a half day session and £375.00 for a full day. That is all you pay however, we do not charge travel, preparation or VAT. Costs are per member of staff involved and are usually for up to 20 pupils to take part. Details of most of our workshops are detailed on our website and booking forms are also on the website www.staffsstem.co.uk

National Science and Engineering Week

National Science and Engineering Week takes place from 9th-18th March 2012, with the theme of 'Our World in Motion'.

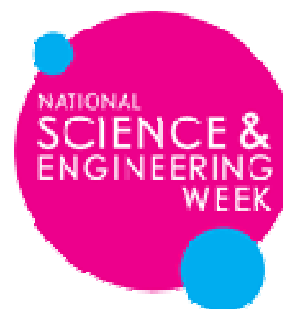
Coordinated by the British Science Association, the 10-day event has a host of activities, visits and competitions targeted at all ages and abilities.

There are lots of ways to get involved and resources, activity packs, marketing materials and competitions are all available to schools. Don't miss out!

Visit the website www.nsew.org.uk to register for competitions or events. There are also activity packs and quizzes to download.

If you are running your own event, you can register it online to become part of the programme of events.

If you want more information, email nsew@britishscienceassociation.org.



www.staffsstem.co.uk

Staffordshire STEM Centre operates as your Regional Stempoint. We can put you in contact with National, Regional and Local initiatives around the STEM agenda.



We provide a point of information, advice and guidance as well as STEM curriculum enrichment for pupils, students, teachers, lecturers and industry. We support students from 5 to 19 years in STEM courses and activities. Currently Staffordshire STEM Centre is managing over 40 projects in Staffordshire and Stoke on Trent. All schools, both state, independent and special (where appropriate) are invited to take part in these activities. We can provide free active industrial support for your school through the STEM Ambassador Scheme which can have an impact on both developing the curriculum and student experience

Staffordshire STEM Centre is a not for profit organisation providing enrichment and enhancement of the STEM (Science, Technology, Engineering and Maths) curriculum.

We design and deliver an evolving range of innovative activities for schools and colleges that are curriculum focussed. These activities reflect changes in society and the future skills agenda. In supporting STEM across the 5 to 19 year age range we work closely with industrial partners.

If you would like any information to support your school in developing the STEM curriculum please contact our office or check out our website.

STAFFORDSHIRE STEM CENTRE

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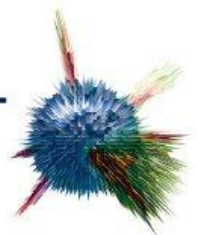
Fax: 01785 353363

Web: www.staffsstem.co.uk; E-mail: stempoint@staffs.ac.uk



STEMNET

Contractor 2011-2015



Booking Information and Further details

For further information and booking details for any of the articles mentioned in this newsletter, please contact Rebecca Dickinson at the Staffordshire STEM Centre (details as above) who will be happy to assist.

Pre booking is essential and we recommend that you book early to avoid disappointment.

Any cancellations will be charged at the standard penalty rate as advised in the written confirmation which will be forwarded to you after your booking has been processed.

Inspiring Tomorrow's Generation