



Do you know about **Kent & Medway STEM?**

Canterbury Christ Church University announced in July that we were the new STEMNET contract holder, for the Schools STEM Advisory Network and STEM Ambassadors Programme in Kent and Medway Region.

Our remit is to work with schools and colleges in Kent and Medway, helping young people and their teachers access a range of STEM Enhancement & Enrichment opportunities including STEM Clubs, links with STEM Ambassadors and activities featured in the STEM Directories.

Teachers can contact Kent & Medway STEM for free advice on STEM Enhancement & Enrichment (E&E), and assistance in identifying what STEM E&E can most benefit them and their students. By working with local experts, Kent & Medway STEM can provide tailored advice and assistance quickly and easily to schools and colleges across the region. For more information please visit:

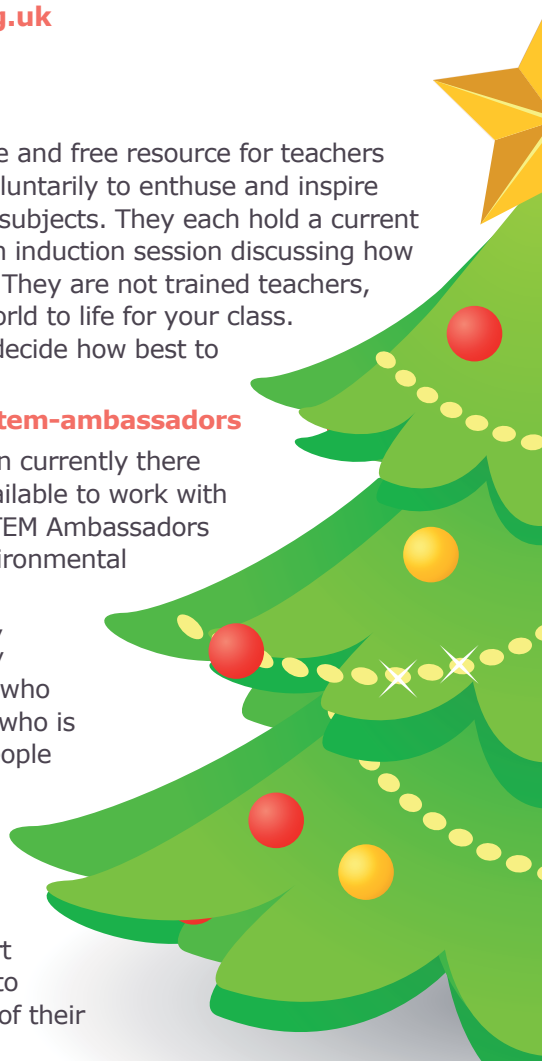
www.kentandmedwaystem.org.uk

STEM Ambassadors

STEM Ambassadors are an invaluable and free resource for teachers and schools. They offer their time voluntarily to enthuse and inspire students within schools about STEM subjects. They each hold a current CRB certificate and have attended an induction session discussing how to approach volunteering in schools. They are not trained teachers, but people who can bring the real world to life for your class. Kent & Medway STEM can help you decide how best to employ an Ambassador.

www.stemnet.org.uk/content/stem-ambassadors

In the Kent and Medway STEM region currently there are more than 800 Ambassadors available to work with young people. The occupations of STEM Ambassadors are very wide ranging, including environmental scientists, chemists, civil engineers, marine biologists, medical physicists, pharmacists, apprentices and energy analysts to name but a few. Anyone who uses STEM in the world of work and who is willing and able to enthuse young people about STEM subjects, can apply to become a STEM Ambassador. The Programme is funded by the Department for Business, Innovation and Skills and is already supported by employers in every part of the UK who encourage their staff to become STEM Ambassadors as part of their outreach activities.



Date for the diary:

STEM Conference 6th July 2012

After the successful conferences of 2010 and 2011, the 2012 conference will continue to provide opportunities for teachers to learn about enrichment and enhancement activities in Science, Technology, Engineering and Mathematics.

There will be separate Primary and Secondary Workshops run by nationally recognised speakers on ways to engage students in exciting and interesting ways. There will also be a number of sessions focused on the New National Curriculum.

More details coming soon:

www.kentandmedwaystem.org.uk

National Science and Engineering Week: Our world in Motion.

This popular event takes place this year between 9th – 18th March 2012 explores “our world in motion.” Please check for ideas and activity packs of how you could get your club or school involved on www.britishtscienceassociation.org/nsew

You might like to run a STEM Fair at your school during NSEW, to showcase your club or in-class projects to the rest of the school, parents or local community (a great way to get extra publicity for your activities!). The STEM Fairs Toolkit (www.stemfairstoolkit.co.uk) is great for helping you do this.

Kent & Medway STEM will be running a material challenge please contact us if you would like to take part in this event.



The New AppSkool Competition

Appskool is an exciting new competition on O2 Learn aimed at giving schools and students the chance to design a mobile "app" with an educational or learning theme.

The competition, designed in partnership with a leading app design agency, will see the winning school have their app developed and launched live on a mobile platform. A prize worth up to £50,000!

If you like the sound of designing an educational app and are between 13 and 18 years old, you just need to send through your application to enter by **Saturday 31st December 2011**.

If you would like your school to take part in this exciting competition and learning experience, please go to https://www.o2learn.co.uk/o2_appscool.php where you will find more information on the competition and the modules.

IET Education Funding up to £5000 available.

Applications between 1st Jan 2012 - 9th March 2012.

The institution of Engineering and Technology is committed to promoting enthusiasm and understanding of STEM subjects in young people. The IET Education fund is an annual fund supporting local education projects, involving more than one educational establishment.

They will be accepting bids for projects taking place between 1st May 2012 to 30th April 2013. Awards up to £5000 can be offered. For more information and an application pack go to:

www.theiet.org/education

In The Zone: Olympic Inspired Science Kits for Schools

The Olympic and Paralympic Games are an opportunity to witness countless extraordinary feats of the human body.

- How do athletes move so fast or jump so high?
- How do they get In the Zone?
- And what happens inside our bodies and minds when we take part in sport, performance or dance?

The Wellcome Trust will send a free In the Zone kit to every UK school in early 2012.

These free kits will provide experimental equipment, teaching materials and resources to ensure you have everything you need to bring the science of the human body to life in your classroom. Each activity has been tailored to meet curriculum requirements for Science and PE for ages 4-19 years.

To sign up to receive a kit now, visit their website:

<http://tinyurl.com/4xc7p9w>

The Big Science Challenge Competition

Closing date for entries is February 3rd 2012

Do you teach in a secondary school in the UK? Then enter this exciting competition and you could win a trip to London or Dubai for you and your students.

It's simple – just ask your students to:

- identify local, national or global issues concerning water.
- design an innovative solution to one of these problems.

Take part in The Big Science Challenge and you will:

- get the chance to win a once-in-a-lifetime trip to London or Dubai for you and 5 students.
- help pupils put their scientific skills into practice with an engaging, real-life context.
- give your students the opportunity to work in international networks with schools across the Middle East and in the UK, just like real scientists

For more information, visit their website:

<http://tinyurl.com/cux9w5o>

Scientists in Sport Anti-Doping Challenge

The GlaxoSmithKline Scientists in Sport anti-doping challenge has launched: we'd like teams of 11-14 year olds to design and make a portable drug testing kit.

There are some fantastic prizes on offer – including up to £1000 worth of equipment for your school, official London 2012 merchandise, a tour of the anti-doping laboratory, gift vouchers for pupils ... and more!

Sign up now!

<http://tinyurl.com/co639k6>

Success Stories

Year 6 Engineering Challenge – St Mary’s Catholic Primary School

The challenge, organised and run by a STEM Ambassador – Graham Lunn, was to design and build a structure from newspaper, capable of supporting the weight of a Year 4 pupil, 30cm above the ground and bridging a towel on the floor underneath! The equipment the children used was the ‘STIXX’ engineering machine, a hand powered roller to compress rolls of newspaper into stronger ‘rods’ or ‘sticks’ which can be easily cable tied together to make structures – transforming the imagination of young minds into 3D reality in a matter of minutes!



The children were put into teams of 5 or 6 pupils, and points were awarded for teamwork, listening, good questions, quality of design drawings, a brief presentation and, ultimately, the challenge test!

The event was a complete success the children were so engaged, using their teamwork, problem solving, design, drawing, building and analytical skills, as well as learning about time management and principles of structural engineering. After the event, the feedback from the children was great.

Walderslade Girls’ School - Wind Turbine Challenge

Susana Tomaz, Head of Science at Walderslade Girls School, and Dr Nichola Coleman, senior lecturer of the School of Science at the University of Greenwich have once again combined their expertise in the project “STEM POWER”. The project gave pupils at Walderslade Primary and Walderslade Secondary School the opportunity to develop enhance their skills in Science, Technology, Maths and Engineering. The theme of the project was to apply STEM skills to real world challenges in climate change and renewable energy.

In one of the tasks, year 9 pupils competed to design, build and test a prototype wind turbine that would light a LED light and that could be used to construct a wind farm to power Walderslade Village. The winning team, The Windy Bees, were then invited as ‘STEM ambassadors’ to share their experience and guide Year 5 pupils at Walderslade Primary School through the same project at the end of the summer term. Dr Coleman and environmental researcher Nina Hughes, also from the University of Greenwich at Medway, joined in for the day offering the pupils an opportunity to interact with ‘real scientists’.



The ‘Handy Workers’ were the winners of the primary STEM Power challenge, having demonstrated great team work and problem solving skills, modifying their design along the way to improve its efficiency.

IET Faraday Engineering Challenge Days

The IET Faraday Challenge Days have begun! These have proved to be enormously popular with teachers and students alike, with 55 Challenge Days scheduled to take place this year. King Ethelbert and Tunbridge Wells Grammar School for Boys school are among the participating schools this year. The Challenge days are run by a team of STEM education professionals at the lead school.

STEM Challenges

Inspired by London 2012, STEM Challenges provide a contextual and cross-curricular approach to studying the STEM subjects at KS3. For more information about the latest challenge and to register your students, visit

www.stemchallenges.net

More Resources...

Institute of Physics - Ideas, resources and activities to occupy and entertain your STEM club, put together with help from club leaders.

<http://tinyurl.com/d7bnagw>

Explore physics the exciting way, by trying out a simple and fun experiment new ideas every month.

<http://tinyurl.com/6lby85j>

Engineering Engagement Project – Resources from the Royal Academy of Engineering are to support teaching and learning in schools and widening participation in STEM subjects.

<http://tinyurl.com/clcjhal>

NRICH – Aims to enrich the mathematical experiences of all learners, and it offers a wide range of classroom Maths activities

<http://rich.maths.org/public>

Whynot ChemEng – Top 10 Flash Bang Demos This resource has been produced to encourage the inclusion of fun, safe and relevant demonstrations to the Key Stage 4 curriculum.

<http://tinyurl.com/cf7x88u>

STEM Challenge 7 The BT App Challenge



The winning team of STEM Challenge 7 in the Kent and Medway Area was "Team Harvey" from The Harvey Grammar School. Teams were asked to design an app to provide useful information, communicated that could be accessed in the best way possible to contribute to a great games experience for all.

The Harvey Grammar team was supported by an ambassador from BT. The Team enjoyed their day at the London finals and although they did not win learnt useful presentation and group work skills, as well as having a great time.

STEM Challenge 8 The Deloitte Para sport Challenge

The closing date for entries for challenge 8 has now passed. Entries will be judged locally at the beginning of December and the top 8 teams from across the UK will be selected to compete in the National Final on Wednesday 11th January 2012 in London. Get involved in the next Challenge!

STEM Challenge 9 The Paralympic Torch Relay Challenge

The Challenge is to design a spectacular human-powered invention for creating the spark which lights the Paralympic Flame. For the Challenge entries, pupils must produce a design for their device and present this to a panel of judges.

Pupils will need to provide enough evidence to convince the judges that their invention will work. This could include working models of part, or the entire device, diagrams, calculations and results from experiments.

The deadline for team registration into STEM Challenge 9 through their website is **Monday 23rd January 2012 @ 5pm.**

Visit www.stemchallenges.net/challenges/challenge-9/

STEM Clubs Network

Whether your STEM club has been established for years, or you are only just thinking of starting a STEM club, the STEM Clubs Network is for you. Managed by STEMNET, it enables you to explore ways of making your STEM club something really special!

Through the network, club leaders get the chance to collaborate with other STEM club leaders via the web, via CPD and via other specifically tailored events.

A wealth of STEM club-related ideas and resources can be accessed, without cost, online at www.stemclubs.net To affiliate to the STEM Clubs Network.

Simply send an email to join@stemclubs.net stating: Your name (title, first name and surname); School name; School address and we'll do the rest.

Young Scientists Journal

This online science journal, written by young scientists for young scientists, is looking for articles from students (age 12-20) for the forthcoming issues and is also seeking student editors, who should be reliable about deadlines, scientifically literate and grammatically sound. They can use their contribution for a CREST award, D of E or UCAS fodder. Y11 or 12 students are ideal. Articles can be:

- Any length
- On any scientific topic: bio, chem, phys, engineering, medicine, geology, maths.
- Any 'type' eg. original research, review, web or book review, short news story
- Text, pictures, powerpoint, multimedia

For more information please visit www.ysjournal.com or email Christina Astin, cma@kings-school.co.uk

STIXX Machine

Kent & Medway STEM have three STIXX machines to be used by Schools and STEM Ambassadors free of charge.

For more information please email kentandmedwystem@canterbury.ac.uk and for project ideas please visit <http://tinyurl.com/c5sxfq4> and <http://tinyurl.com/d36boov>

SKE Courses

Canterbury Christ Church University offers a range of high quality Subject Knowledge Enhancement (SKE) courses in Maths, Physics, Chemistry and Modern Languages to help prepare applicants for their PGCE courses and for teachers who need to strengthen a second subject or who are returning to the classroom after a career break. For further details visit www.canterbury.ac.uk/education/ske