

STEM Ambassador Newsletter

Welcome to the September newsletter for STEM Ambassadors. We have lots of interesting requests for Ambassadors in this newsletter so please have a look and see where you can offer assistance. Many primary schools are hosting "My World of Work" weeks in October / November and are keen to get Ambassadors coming along to talk about their jobs, as well as providing hands-on activities when appropriate. Please remember that we have resources in our office which you can borrow (listed on our website www.scienceconnects.org) so if you are looking for a suitable activity then perhaps something like the KNEX kits or the SCubes will be useful. Both the STEM Clubs website (www.stemclubs.net/) and STEMNetworking website (<http://networking.stemnet.org.uk/>) have many good ideas for activities.

In this newsletter we are offering 5 keen Ambassadors the opportunity to join with teachers in a training session on Young Engineers and Science Clubs resources. This will give you first hand experience of various projects available to Glasgow schools within the "Determined to Engineer" project. Please see overleaf for details.

Finally can I please remind you to record any STEM related activity you undertake – whether organised by yourself, your company or by Science Connects. All STEM activities engaging pupils are important and if it is recorded in the Ambassador database, it can help us to monitor the impact and effectiveness of the programme. We want to ensure every school has the benefit of an Ambassador experience so please ensure your activity is recorded! You can record it yourself online at www.stemnet.org.uk or email us the details and we can record it for you.

New Science Connects Bulletin now available!

Our annual Science Connects Bulletin, which is printed and sent to secondary and primary schools in the West of Scotland, will be posted to schools next week. This bulletin gives teachers information on projects, schemes, resources and grants which are available to schools to enhance and enrich STEM experiences for pupils. If you are working with a school and would like to ensure a particular teacher receives a copy, please email details to Alan Kerr at alan.kerr@glasgow.ac.uk. If you would like to receive a copy yourself, again please email Alan with your details.

We are also pleased to give Ambassadors advance notice of our **Annual Ambassadors and Teachers Celebration Event**. This event will be held at the Glasgow Science Centre on **Tuesday 31st January 2012**. Please mark it in your (new) diaries now! This event is always very popular and gives Ambassadors the opportunity to meet each other and share experiences, meet teachers to discuss each others' needs and also view the many STEM providers who exhibit their offerings for schools and showcase resources. If your organisation would like to exhibit at this event please let us know and we will be pleased to discuss your involvement. More details will follow later in the year.



**News Bulletin No. 6
Autumn 2011**

**SCIENCE
CONNECTS** connecting schools to science, technology, engineering and maths

Welcome to the Science Connects Bulletin

Welcome to the 6th edition of the Science Connects Bulletin. This bulletin is for teachers who wish to know more about Science, Technology, Engineering and Maths (STEM) resources and programmes which are available to enhance pupils' understanding and confidence in the STEM subjects.

Science Connects provides free, impartial advice to schools on a wide range of STEM programmes provided by external organizations. To arrange a visit to discuss your school's STEM requirements please contact Science Connects on 0141 332 6396.

STEM Ambassadors and STEM Advisory Network

Science Connects is pleased to announce that, with effect from 1 July 2011, we remain the STEMNET contact point in the West of Scotland, to manage the STEM Ambassadors Programme and the new Scottish STEM Advisory Network. This enables us to build on the strong STEM Ambassador relationships we already have and continue to develop the fantastic work which Ambassadors are doing in schools.

The STEM Ambassadors Programme enables enthusiastic volunteers with STEM skills to inspire young people and demonstrate the possibilities of STEM subjects and careers. There are currently 25,000 Ambassadors in the UK, with 1,200 in the West of Scotland, including environmental scientists, chemists, civil engineers, marine biologists, health-care scientists, apprentices and energy analysts.

STEM Ambassadors are FREE to schools and can be used for careers talks, science club support, projects and challenges and can help teachers deliver Curriculum for Excellence experiences and outcomes.

Through the new Scottish STEM Advisory Network, we help schools in our area informed about high-quality activities they can access to enrich and enhance the STEM curriculum. Teachers can contact Science Connects for free, impartial advice and assistance in identifying what STEM activities can most benefit them and their pupils.

For more information please visit www.scienceconnects.org.uk

REQUESTS for HELP

Please see below requests from schools and STEM Providers for Ambassador help. The **requests which have additional information available are clickable** to take you directly to the appropriate section. If the school is not clickable, this is all the information we have on the request. To go to "Other information for Ambassadors" [click here](#).

If you can help please email us at stem-ambassadors@glasgow.ac.uk or phone Gail Penny on 0141 330 6396

SCHOOL / EVENT	DATE	REQUEST
GENERAL REQUESTS		
Auchinairn Primary, Bishopbriggs	ASAP	Help and ideas needed to set up a science club and also to assist with activities during NSEW 2012 to 'celebrate science'
Bellfield Primary, Kilmarnock	ASAP	Help with various science topics, see section.
Kincaidston Primary, Ayr	ASAP	Help/Talk related to topic on Energy Conversions for P7
Knightswood Primary, Glasgow	ASAP	Help with building a bike generator. The school plans to apply to the Royal Society Partnerships Grants scheme
Notre Dame High School, Glasgow	ASAP	Assistance with AH Biology, particularly HPLC analysis of cholesterol and also GC/MS of poppy seeds.
Notre Dame High School, Glasgow	ASAP	Ambassador to talk to senior pupils about science courses at University and what careers are really like. Particularly interested in analytical/forensic courses.
St Andrews Secondary, Glasgow	ASAP	Mentor for pupil's 6th year project, preferably on "why pollen causes hay fever" but any human biology project suggestions welcome
St. Margaret's High School, Airdrie	Anytime	Ambassadors with an engineering background to discuss ideas for National Science and Engineering Week events in March 2012
Cardonald College, Anniesland College, Stow College	Oct – March	Skills For Work – "Health" related talks to S3 and S4 pupils while at college.
Calderside Academy, Blantyre	October onwards Mondays (late a.m.)	Ambassadors from Science/Engineering backgrounds to talk for 15-20 minutes to groups of around 40 x S2 pupils about their career
St Peter's Primary, Partick	October onwards	Ambassadors to show the relevance of Science and Engineering in the real world. Any help at all but in particular, forensic science for P6/7 and an engineering project for P5/6.
Irvine Royal Academy, North Ayrshire	October onwards	Help with a variety of physics and chemistry topics for S3-S6 – see section
Kingcase Primary, Prestwick	Week of 3rd October	Help during World of Work Week, particularly looking for Ambassadors to give practical demonstrations relating to their work.
Glasgow schools	4 th Oct, 3-6pm	5 places available to attend Young Engineers and Science Club training session with teachers
Williamwood High School, East Renfrewshire	5 th Oct 7-9pm	Help or ideas for science activities for P7-S2 pupils (and their parents) at evening science and maths fair.
Robert Smillie Memorial Primary, Larkhall	Week of 10th October	Ambassadors to assist during school science week. Subjects include: sun, moon, earth and involvement

		with time, seasons; studying plants; electricity & renewable energy
St Monica's Primary, Glasgow (G53)	Week of 24th Oct (Tues onwards)	Ideas and support for school science week
Struthers Primary, Troon, Ayrshire	31st Oct to 4th Nov	Help/Talks during World of Work week from Ambassadors from any STEM background but particularly interested in engineering
Williamwood High School, East Renfrewshire	1 st Nov 7-9pm	Ambassadors to attend Careers Evening to represent their company/employer
Wemyss Bay Primary, Inverclyde	7-11 November 11	World of Work Week. Various activities throughout the week for nursery to P7. Any help appreciated eg for KNEX, SCube Energy boxes , careers talks etc
Eastwood High School / Crookfur Primary, East Renfrewshire	November 2011	Forensic Scientist required for talk during Young Engineer Club session. Crookfur also looking to link with local companies.
Garrowhill Primary, Paisley	November 2011	Looking for support for their Enterprise Month. Themes include: skills for learning; life and work; careers education, team building. Ambassadors' focus would be on different careers and what the job involves but open to other suggestions.
Grange Academy, Kilmarnock	18 th Jan & 9 th Feb 2012	Ambassadors from an engineering/construction background to talk about their career/subject choices etc to S5/S6 pupils
Lennoxton Primary	March 2012	Looking to discuss ideas now for National Science and Engineering Week in March, for P3 class. Theme is "Our world in motion".
Glengowan Primary, Larkhall	14th-16th March 12	STEM ambassador to help with Science week for a day to carry out Science activities across all stages.
LAB IN A LORRY		
Inverness Royal High School	25 th -26 th Oct 2011	Help with Physics Experiments on board lorry
Wallace Royal High School, Thornhill, Dumfries and Galloway	27-28th Oct 2011	Help with Physics Experiments on board lorry
BUSINESS DYNAMICS		
Hermitage Academy, Helensburgh	6 th & 7 th October 2011	Help with Business Awareness Day
Larbert High, Stirlingshire	13 th Oct 2011	Help with Business Awareness Day
Bearsden Academy, Bearsden	9 th Nov 2011	Help with Business Awareness Day
GLASGOW SCIENCE CENTRE		
Planet Dinosaur	17th - 23rd Oct 2011	Experts in Archaeology and Palaeontology to assist with the Planet Dinosaur exhibition and activities.
Fears and Phobias Weekend	29th & 30th Oct 2011	Public Engagement Halloween related activities – things that scare people!
Sustainable Science	8th, 9th March 12	Sustainable Science schools environmental event

Bellfield Primary, Kilmarnock

Bellfield Primary would like Ambassadors to help with the following science topics which various classes are covering in Sept/October:

P4-5 Water - Talk to pupils about 'How does water get to the tap'. Any other activities would also be welcome.
P1, P2, P7 Senses - any talks/activities related to this topic.
P2 My body
P6 Plants - use of plants by humans
Upper Primary classes - Space

If you would like to provide talks or activities relating to the above topics please get in touch with us. ([back to list](#))

Skills for Work "Health", various colleges

Scottish Business in the Community is working with Glasgow City Council's Vocational Training Team in terms of employer inclusion for their Skills for Work, Enhanced Vocational Inclusion Programme and Supported Vocational Programme courses. All courses run from September to April and are based in Colleges across the City.

SBC is looking for STEM Ambassadors with a "Health" bias to give a talk to S3 and S4 pupils during their time in college. The pupils are in from 9.30am to 3.00pm each day and usually the talk would be approximately 30minutes with a Q&A afterwards, all in 40minutes. SBC will confirm on an individual basis with the school/college whether AM or PM suits but in a majority of cases the schools/college are totally flexible and will work with the speakers.

The colleges looking for speakers are as follows:

College	P	Day	Year Group
Cardonald	15	Thursday afternoons	S3
Anniesland	5	Wednesday	S4
Stow	6	Thursday afternoons	S4

If you are interested in being involved please let us know. ([back to list](#))

St Peter's Primary, Partick, Glasgow

The Science Coordinator at St Peter's Primary is aiming to make pupils aware of the relevance of science and engineering in the real world. The school has a P6/7 class which is very interested in forensic science and a P5/6 class which would love to be involved in an engineering project. Both classes have wide ranging interests and the co-ordinator would be more than happy to hear about any other options available from Ambassadors.

If you would like to assist the Science Co-ordinator in any aspect of STEM please get in touch with us. ([back to list](#))

Irvine Royal Academy, North Ayrshire

Looking for help with a variety of physics and chemistry topics for S3-S6 as follows:

S3 Intermediate 1 Biology	Sep / Oct 2011	Growing Plants
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S4 Physics	Oct / Nov 2011	Energy Matters: Supply and Demand Generation of Electricity Source to Consumer
S4 Intermediate 1 Biology	Feb / Apr 2012	Biotechnological Industries Waste Management Pharmaceutical Industries Antibiotics production and action
S3 Physics	Feb / Mar 2012	Health Physics : Light and Sound ; Using the Spectrum Nuclear Radiation – Humans and Medicine
Intermediate 2 Physics (S5/6)	Mar / Apr 2012	Nuclear reactors
Higher Physics & Higher Chemistry	March 2012	Nuclear reactions

If you would like more detailed information on each topic or to be involved please get in touch with us ([back to list](#))

Young Engineers and Science Clubs CPD Session

Young Engineers and Science Clubs Scotland has been working in partnership with Glasgow City Council on the Determined to Engineer programme for the last 2 years. To date, the focus has been on primaries but they are now keen to encourage more Secondary school engineering/science clubs to start up in the third year of the project.

To progress this, YE&S Clubs is running a training session on 4th October to introduce secondary school teachers to the broad range of grants, projects, and resources available to them. We are delighted to offer places to **5 STEM Ambassadors** for this training session which will give you an insight into Young Engineers and Science Clubs as well as hands-on experience of the resources used in the clubs. This is an excellent way for Ambassadors to be confident in helping with a club and the resources they use.

The training session will include: Introduction to YESC Scotland; Science Clubbing and other projects; Hands-on session; Ideas for Science clubs for pupils in S1 or S2.

Participants will be able to review/try out the resources required to run

- The Ping Pong Triathlon (3 examples from the Tried and Tested Challenges)
- 3 Pizza Box Challenges
- Science Clubbing's 5 Particularly Popular Projects
- Spring Clean Science
- Dinosaursarus
- Charlie's Chocolate Factory
- Space for Science and Engineering
- Ice on the Moon

The training session will be held on **Tuesday 4th October, 3.00 – 6.00pm at the Ibrox Study Centre, Glasgow.**

The 5 Ambassador places will be allocated on a first come first served basis so if you would like to attend please let us know quickly! ([back to list](#))

Robert Smillie Memorial Primary, Larkhall

Robert Smillie Memorial Primary is organising a science week, beginning 10th October, and would like to involve

Ambassadors from the scientific world to make it more relevant to the pupils.

They are looking for Ambassadors to talk about the role of science in the real world. They would also be interested in Ambassadors who are prepared to work directly with pupils. There is no particular focus, each class is picking up on different strands of Curriculum for Excellence eg P5 are looking at sun, moon and earth and involvement with time, seasons etc. P6 are designing a school garden and are studying plants, P7 are looking at electricity and renewable energy.

If you can offer assistance of any sort to this school please let us know. ([back to list](#))

Eastwood High School and Crookfur Primary, East Renfrewshire

Eastwood High School and Crookfur Primary are undertaking a joint Young Engineers and Science Club, starting in November. P7 and S1 pupils will meet once per week for 6 weeks to work on a joint Forensic Science project, with Eastwood High hosting the Club. They would like an Ambassador, working in the Forensic Science field, to visit one of the sessions of the club and talk about their job and perhaps give real life experience of forensic projects. Dates will be flexible to suit Ambassador, although the club will meet on Wednesdays, 3-4pm.

In addition to this request, Crookfur Primary would like to link with any local STEM related companies to enable the pupils to meet with engineers etc and hear about their careers.

If you can help with the forensic science talk, or link with Crookfur as a local company, please let us know. ([back to list](#))

Lab in a Lorry

Lab in a Lorry is an interactive mobile laboratory, run by the Institute of Physics, which gives 11-14 year olds the opportunity to explore science through open-ended experiments. Volunteers guide the students through the experiments (oil and viscous liquids, sound and resonance, light scattering and colours, climate change and energy sources, optoelectronics) and makes sure everyone gets to be involved through hands on experience.

As an Ambassador you will oversee an experiment for the day. You receive training on the Lab beforehand and the organiser sends you all the background material in advance. Ambassadors commit to a minimum of one full school day but you are welcome to come along for as many days as you like. Please see the Requests table above for schools and dates in our area. If you would like to be involved please get in touch with us – you don't have to be a Physicist to take part! ([back to list](#))

Business Dynamics

Business Dynamics aims to bring business to life for young people. Volunteers from companies introduce pupils to the opportunities and challenges of business as well as improving their key skills in preparation for the world of work. Business Dynamics operate Business Awareness days and would like Ambassadors to help with the sessions. Ambassadors talk about their expertise and role within their company in relation to the topic, and then run a business exercise based on that topic, to help pupil participation and learning. Full information will be sent to you before the event. ([back to list](#))

The Glasgow Science Centre – Volunteering Opportunities

The Glasgow Science Centre would like to invite STEM Ambassadors to take part in events throughout the year. In the next couple of months, the following events are looking for engineers and science communicators:

Fears and Phobias Weekend 29th and 30th October

As part of the GSC's Halloween celebrations the GSC will be looking into the sorts of things that people are scared of and why they develop a fear. If you are an expert in fears and phobias or if you work with things that often scare people, they would love to hear from you. The GSC is looking for STEM Ambassadors who are keen to engage with the public via drop in activities or workshops.

In addition to the above events, the Glasgow Science Centre is also running **Planet Dinosaur between 17th - 23rd Oct 2011**. They already have STEM Ambassadors who are experts in Archaeology and Palaeontology assisting with the Planet Dinosaur exhibition and activities, but if you are interested in being involved please get in touch with us.

Sustainable Science 8th and 9th March 2012

The GSC is looking for expert volunteers to enhance their Sustainable Science schools environmental event on the above dates. If you have a demonstration and some expert knowledge on any aspect of the environment from soil science to recycling to technology they would love to hear from you.

If you would like to take part in any of the exciting opportunities above please get in touch with us and we will pass your details on to the Glasgow Science Centre. This is an opportunity to get involved with science communication to a wider audience, not only school children ([back to requests list](#))



Other information of interest to Ambassadors...

Deep Space online

The Royal Observatory Edinburgh Visitor Centre has created a new online version of its "Deep Space" resources which support work by secondary schools on Galaxies and Exoplanets. Developed with the Institute of Physics Scotland and supported by the Scottish Government, the resources are based on real research data and support active learning by students. They also support the Centre's wider "Big Telescopes" theme - galaxies and exoplanets are major research topics for most large telescopes. The Centre works with SSERC to run teacher CPD sessions based on the Deep Space resources.

Visit <http://www.roe.ac.uk/vc/education/secondary/index.html> for more details

Careers Information on the Energy Sector

Education Scotland has produced a leaflet which promotes careers in the Energy Sector. Called "Working in the Energy Sector", it is aimed at teachers and those who give advice on careers in this sector. It is a fantastic resource, outlining future jobs, skills needed etc. and could be very useful for you as an Ambassador to take into schools. It will give you something to back up your enthusiasm for the energy sector, if this is your field.

We will soon have the leaflets in our office so if you would like some sent to you please get in touch with us, with the number of leaflets you are likely to need.

The leaflet and promotional text can also be downloaded from Education Scotland's website at:

www.ltscotland.org.uk/resources/w/genericresource_tcm4671948.asp

Please feel free to link to this page or download the PDF and repost it to your blogs, websites and online communities.

Working in the energy sector

A guide for teachers and those who provide careers advice

www.education.scot.nhs.uk/highlights/energy

The energy sector is set to become a key driver in the Scottish economy, offering exciting job opportunities for people at every career stage.

It is estimated that between 52,000 to 85,000 energy related jobs will be created in the coming decade as Scotland realises its ambitions to become a world leader in wind, wave and tidal renewable technologies. In total, the transformation to a low carbon economy could generate an estimated 130,000 jobs.

The oil and gas sector continues to grow too with companies in this industry looking to recruit 19,000 employees over the next 5 years.



National Science and Engineering Week Grants

NSEW 2012 Scottish Government Grant Scheme

The Scottish Government has again provided the British Science Association with funding to allow it to deliver a grant scheme to organisers in Scotland for events/activities during NSEW 2012 (9-18 March). The theme for NSEW in 2012 is "Our World in Motion".

See www.britishecienceassociation.org/web/nsew/NSEWFunding/Scottish+Government+Grants.htm for full details of grant information.

The scheme has changed this year and provides different levels of support for schools and other organisations. Successful schools (or organisations planning to deliver activities in schools) will receive a grant of £200. Other organisations (planning to deliver events aimed at the general public, families or non-school groups) can apply for up to £350 towards the cost of their event. The Scottish Government is particularly keen to increase the number of applications from (and grants to) organisations other than schools, for public events/activities.

The closing date for submission of applications is **Friday 4 November**.

STEMNET STEM Ambassadors Awards Nominations

The nominations for The STEMNET Awards 2011 are now open! The STEMNET Awards aim to recognise the UK's most inspirational people for motivating young people in Science, Technology, Engineering and Maths.

STEMNET is pleased to announce that The Science and Technology Facilities Council (STFC) has kindly offered a day trip to CERN for the winners of each award. Winners will be announced at The STEMNET Awards 2011 Final.

Until Monday 3rd October, there will be the opportunity to nominate yourself or on behalf of others for the following awards:

- **Most Dedicated STEM Ambassador** – for Ambassadors who have made a significant contribution to the programme.
- **Most Dedicated Employer** - for employers that have supported their employees to become an Ambassador and then to actively engage through this with their local schools.
- **Most Dedicated Teacher**- for teachers who have proactively engaged with the programme for the benefit of their pupils and school
- **Most Dedicated STEM Club** - for STEM Clubs which have proactively engaged with the programme for the benefit of their pupils and school

STEMNET is excited to launch a new award for 2011: **The Most Inspirational Technician Award**, sponsored by The Gatsby Charitable Foundation. This award aims to recognise the work of a technician who can demonstrate they have inspired young people to follow technician career routes

There is no limit to the number of categories you can nominate in and all finalists will be decided by an expert panel.

The closing date for nominations is Monday 3rd October. To nominate, visit <http://www.stemnet.org.uk/awards>

Famelab is open!

The search is on for the new voices of science communication. The regional heats of FameLab UK, the UK's biggest competition for new talent to engage the public in science, will start in October 2011.

The organizers are looking to attract enthusiastic early career scientists to take part in order to identify a new generation of individuals who can engage the public. FameLab not only inspires the next generation of science communicators but excels at building the skills that will enable scientists and engineers to explain, debate, discuss and be challenged. The competition is open to contestants over 21 years old and working in or studying science, technology, engineering, medicine or maths in the UK. Contestants have just 3 minutes to prove themselves to a panel of expert judges, with only the best going forward to the next round.

Heat taking place in our area:

Glasgow, Glasgow Science Centre on 19 November 2011

Contestants who can't attend one of the regional heats will also be able to submit their entries online. The UK National Final will take place on 21 March 2012 at the Royal Institution of Great Britain.

The UK winner, chosen at the final, will win a place in the International Final and take home £1000 for themselves and up to £750 to spend on a science communication activity, whether it's attending a conference, further training or developing a new event or activity.

If you want to find out more please visit <http://famelab.org/uk>.



British Science Association Vacancy

The British Science Association is welcoming applications for the post of Regional Officer (Scotland) which is a part-time permanent job opportunity overseeing branches in Scotland. The Regional Officer will provide strategic support and expertise to seven British Science Association Branches in Scotland and also act to promote National Science and Engineering Week within this region.

The Regional Officer will also work at raising the profile of the British Science Association and undertake activities in line with British Science Association objective: 'connecting science with people: promoting openness about science in society and affirming science as a prime cultural force through engaging and inspiring adults and young people directly with science and technology, and their implications'.

Further details can be found at www.britishecienceassociation.org/web/AboutUs/CurrentVacancies/index.htm

The closing date for applications is Thursday 29th September at 5pm

Induction Training

If you have not already undertaken your induction training, the next session will be run on **Tuesday 4th October at 3:00pm** at the University of Glasgow. To register for an induction please email or call us and we will confirm your place. The training will last around 2 hours and will enable you to complete your disclosure form also. The next training after this will be Tuesday 8th November 2011 at 3pm.

Please do consider all the requests listed in the newsletter. Thank you for all your efforts and please do remember to record your activity at www.stemnet.org.uk or drop us an email with the activity and we will do it for you

Regards



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