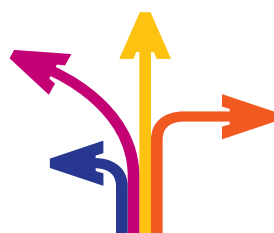


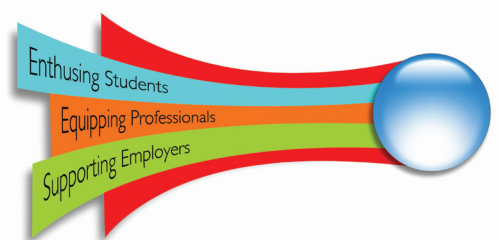


Guidance notes

for organisations delivering
STEM Careers Ambassador training



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SEE WHERE THEY CAN TAKE YOU



Acknowledgements

This guide arises from the STEM* Subject Choice and Careers Project undertaken by the Centre for Science Education at Sheffield Hallam University and VT Enterprise, on behalf of the Department for Children, Schools and Families (DCSF). It is intended to support organisations who wish to offer enhanced training for STEM Ambassadors or for role models associated with similar schemes designed to raise awareness of STEM.

The STEM Subject Choice and Careers Project would like to thank STEMNET for their support in developing the concept and materials for this resource, and for encouraging local contract holders to offer this enhanced training to their STEM Ambassadors. The project would also like to acknowledge the valuable work undertaken by other STEM role model schemes and would welcome their involvement in using this resource. Thanks are due to Kate Wright from the Centre for Science Education for her research into other schemes and for raising awareness of this new resource.

<http://www.shu.ac.uk/research/cse/stem-careers.html>

*Science, Technology, Engineering and Maths

We welcome feedback to inform the updates and supplements to this resource.
Please email us at info@careersinstem.co.uk

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Introduction to this resource

These guidance notes and associated Training Pack have been developed through the STEM Subject Choice and Careers Project. They are designed for organisations to help STEM Ambassadors enhance their skills and enable them to become even more active in their local schools and communities. After completing the training, this new bank of STEM Careers Ambassadors will not only be able to enthuse young people about the benefits of choosing a career in STEM, but will also be able to signpost them confidently to a range of information and guidance resources which can help them make informed career choices at crucial points in their lives. The emphasis within the training pack on challenging myths and stereotypes will also support Ambassadors in encouraging the broadest spectrum of young people to consider careers in and from STEM subjects.

Background and rationale

Skills shortages in the Science, Engineering, Technology, Maths and Built Environment sectors are well documented, and will continue to be an issue whether we are in a period of recession or recovery. The three year STEM Careers Action programme is one of eleven that make up the National STEM Programme, under its Director John Holman. Action Programme 8 is charged with improving the quality of advice and guidance about STEM careers to inform subject choice. The STEM Careers Action Programme (AP8) is managed by the Centre for Science Education and VT Enterprise, on behalf of the Department for Children Schools and Families (DCSF). The project is part of a substantial national investment to combat the decline in the numbers of students choosing subjects, courses and careers in the STEM field. The key message is that a decision to study STEM subjects leads to a very wide range of interesting and well paid careers, inside and outside the STEM arena.

The National STEM Careers Coordinator, Kate Bellingham, is leading and co-ordinating the campaign, working with stakeholders and the organisations involved in delivery. Kate is a former Tomorrow's World presenter and frequent science and technology broadcaster, as well as being a qualified engineer, a maths teacher and a patron of WISE.



The Centre for Science Education and VT Enterprise are developing a wide range of curriculum resources, careers workforce resources and continuing professional development over the life of the project under the theme of 'enthusing students, equipping professionals, supporting employers'.

The other strands of the campaign are

- Careers Awareness Timeline Project, led by Centre for Education and Industry, University of Warwick
- **www.futuremorph.org** - the Science Council-led STEM careers website aimed at young people
- a communications campaign involving TV and cinema advertising, aimed at young people (website - **www.scienceandmaths.net** - a specific section of the Future Morph website)

Further information

To get in touch with the National STEM Careers Coordinator or to find out more, please email **stemcareers@shu.ac.uk**. To ensure you receive news about curriculum resources and direct access for downloadable resources as they become available, please email **info@careersinstem.co.uk**

STEM Careers Ambassadors

Role models and STEM ambassadors have long played their part in the process of encouraging young people into STEM, and the power of a well-briefed role model can have a huge impact. Young people can feel overwhelmed by various option choices and the welter of information available to them, and they are often looking for support and guidance to help make sense of those resources. STEM Careers Ambassadors are not being asked to become careers advisers, however this training pack will introduce participants to some of the resources available, so that they can in turn signpost young people to the sources of information and support which can help them.

Pilot activity

The training was developed and trialled with a number of new STEM Ambassadors from the University of Sheffield. Feedback was very positive from Ambassadors and school pupils alike, and the results can be seen in a 15-minute Teachers TV programme entitled 'Role Models and Work Experience' which can be viewed on the Teachers TV website <http://www.teachers.tv/video/36674>. Some of the activities in this pack use this and other Teachers TV programmes as a supporting resource.

Who can become a 'STEM Careers Ambassador'?

To become a STEM Careers Ambassador participants will have already experienced initial ambassador or role model training with STEMNET or a similar organisation and have now expressed an interest in developing enhanced skills. The intention of this training pack is to help Ambassadors communicate more effectively with young people about STEM careers, and to provide an increased awareness of the types of support and information available to young people to help when making informed career decisions.

Benefits for 'STEM Careers Ambassadors' and their organisations

This training can contribute to STEM Ambassadors' continuing professional development. The exercises will support them in feeling more confident talking about their work or research with young people, and this in turn will have an impact on presentation skills as a whole. An Ambassador's company/professional institution /employer /university will also benefit from their enhanced skills through their ability to effectively enthuse a broader spectrum of young people about the potential of a career in and from STEM subjects.

What is covered in the training

The training aims to equip role models with the necessary skills and information which will help them in their new role as STEM Careers Ambassadors. The focus is on helping them to reflect on their own experiences, both within and outside their chosen careers, and to introduce them to the information resources that are available to young people. These guidance notes and the associated STEM Careers Ambassador Briefing Pack include all the resources and exercises that organisations will need to enable them to deliver the training. An outline of the session content is given below:

Becoming an effective role model

- Activities to enable ambassadors to reflect on own career path and consider how to communicate this to young people
- Suggestions about how to engage with young people and challenge stereotypes
- Activities to help ambassadors reflect on how young people might identify with them
- Activities to draw out young peoples' perceptions of STEM subjects and careers

Awareness of STEM careers information and support

- Scenarios linked to websites and case studies which illustrate examples of support and information available
- Introduction to the different range of information sources available and how young people might access and use them
- Appendices providing background information on careers education and guidance
- Appendices highlighting activities which can be adapted for use in schools and communities

Planning the STEM Careers Ambassadors training session

Targeting the right audience

Not all STEM Ambassadors /role models will want to access this enhanced training, preferring to stick to what they know and feel comfortable with. Those that might benefit most from the training are Ambassadors who are planning to have sustained involvement with a school or a group of young people through a Science Club or as a mentor. It would also be very appropriate for Ambassadors and role models who are supporting 'career days' in schools. For an example of an event involving Ambassadors in a STEM Careers day in Collingwood College in Surrey, see the Teachers TV programme, 'Choosing Careers', which is also part of the STEM Subject Choice and Careers Project <http://www.teachers.tv/video/31983>

Timing

The session will take between 2.5 and 3 hours and could either be delivered on the same day as the induction or a month or so later. Ideally this enhanced training should take place when the Ambassadors have an activity planned so they can put their new skills into practice quickly.

Venue and resources

The session requires the participants to have short discussions in small groups so the room layout needs to be flexible to enable this to happen. Access to the internet is also recommended so the Teachers TV clips and websites can be viewed. If the venue is very flexible and you have sufficient time, you could also provide access to a number of PCs or laptops with Internet access so the participants can access the range of STEM careers websites themselves or in small groups. If this is not possible then the facilitator should ensure that they show the websites to the group and encourage the participants to explore the information resources in their own time so they can talk about them confidently.



Pre-training information

Ambassadors will need to know how this enhanced training will help them in their interactions with young people. Please see Appendix 1 which provides a sample letter to be adapted and sent to Ambassadors prior to the training.

Experienced STEM Careers Ambassadors

If possible you could consider inviting an experienced Ambassador to attend the session to either talk informally to the group or to give a personal view of the benefits of the enhanced training. Ideally it will be someone who is familiar with the resources and has helped to signpost young people before.

Delivering the session

Practical issues checklist

- Internet access to enable Teachers TV and websites to be viewed
- Copies of the briefing pack (at the end of this document) for all participants
- Certificates of attendance completed for all participants
- Signing-in sheet and badges to help identification
- Participant evaluation to be completed after the session
- Tutor evaluation completed and returned to address on the form
- Check on CRB status in case some Ambassadors need to renew this



Session plan

Overall timing 2.5 hours

Timing	Activity - facilitator	Activity - participants	Resources
5 mins	<p>Welcome and Introductions</p> <ul style="list-style-type: none"> • Domestic (timing, fire safety etc) • Who's who • Background and rationale for STEM Careers Ambassador training • Objectives & outline of session (see above) 	<p>Participants are introduced to the facilitator and the other participants</p> <p>Gaining a clear understanding of objectives of the session</p>	<p>STEM Careers Ambassador Briefing Pack (& PowerPoint presentation if required)</p>
10 mins	<p>What is a role model?</p> <p>Brief group discussion about what constitutes a role model. Ask group to give examples where they are aware of either people they consider to be their role models or of being role models themselves.</p>	<p>The group arrives at a shared understanding of the term 'role model' and reflects on different types of activity and intervention including online mentoring</p>	<p>What is a role model grid in Briefing Pack</p>
20 mins	<p>The effective role model</p> <p>Either refer to case studies on websites of your choice or use those identified in the Briefing Pack. Ask the group to read through a number of studies and then go through the questions sheet in pairs</p>	<p>Participants reflect on how the case studies are presented and consider how they may be viewed by young people. They also begin to familiarise themselves with websites containing STEM case studies.</p>	<p>Access to Future Morph website and/or case study examples in Briefing Pack. Questions sheet - Becoming an effective role model</p>
20 mins	<p>Engaging with young people and challenging stereotypes</p> <p>Ask the group to provide a couple of sentences to explain their work/study. Then focusing on values, likes and dislikes complete the top ten things they enjoy about their job. Take some examples from the group and discuss, giving feedback as appropriate</p>	<p>Participants are encouraged to use simple language and relate their work/study to young people's experience if possible.</p>	<p>Briefing Pack - Explaining your role to young people</p>
20 mins	<p>Responding to questions</p> <p>If you have access to the Internet, the Future Morph website has 3 video clips of questions young people have asked role models. Watch some or all of these as a large group and then in pairs or small groups answer the questions in the Briefing Pack.</p>	<p>Participants have an opportunity to reflect on some of the questions they might be asked and consider their responses</p>	<p>Video clips of questions from Future Morph website OR Briefing Pack</p> <p>Questions sheet from Briefing Pack e.g. what subjects did you enjoy at school?</p>



15 mins	<p>Overcoming barriers</p> <p>Reinforce the issue with the group that many young people face huge barriers to entering careers in STEM. Ask the group to reflect individually about this and if they are willing to share their issues, feed these back to the whole group. Try to explore a range of equality and diversity issues (refer to the Equality and Diversity toolkit for support)</p>	Participants have a chance to think about the broader issues which might affect people's lives and their abilities to enter careers in STEM	<p>Briefing Pack</p> <p>Equality and Diversity toolkit website</p>
30 mins	<p>STEM Careers Information for young people</p> <p>Remind the group that the briefing pack gives a range of information resources and support. Ask them to work through the careers scenarios in small groups and feedback to the whole group following their discussion.</p>	Participants have a chance to reflect on a range of different scenarios which illustrate issues and show how signposting to the information resources might help young people make more informed choices	<p>Careers scenarios in Briefing Pack</p> <p>Access to websites</p>
10 mins	<p>Careers Guidance and Education in schools</p> <p>In small groups ask the participants to work through the quick quiz in their Briefing Pack which explores what young people experience in terms of careers guidance and education.</p>	Participants are introduced to some of the key points for young people in their experience of careers guidance and education	Careers Guidance and Education quiz in Briefing Pack
10 mins	<p>Review and action plan</p>	Participants reflect on what they have learnt and plan any action they need to take in order to become effective STEM Careers Ambassadors	Review and action plan
5 mins	<p>Evaluation</p> <p>Thanks and close</p>	Participants have an opportunity to influence future delivery	Participant evaluation: Briefing Pack for organisations

Rounding up the session

The STEM Careers Ambassador Briefing Pack contains links to a full range of information resources which will be of interest to the participants. Please encourage the group to do some follow-up research and familiarise themselves with some of what is available. This will help them feel more confident when they take on their new role. It is also likely that some STEM Careers Ambassadors might like to keep in touch with each other to aid networking so thought could be given to sharing email contacts.

Follow-up action for STEM Careers Ambassadors and for organisations

- Tutor/facilitator to complete their own evaluation form and include some reflection on the participants' experience
- Encourage ambassadors to explore the various websites listed in the briefing pack
- Highlight any forthcoming activities in which ambassadors can get involved



References

Barnes A (2008) "STEM Subject Choice and Careers Project - National Standards for Information, Advice and Guidance", Presentation to Stakeholder Advisory Group, 2008 as part of the 'STEM Subject Choice and Careers' project being delivered by the Centre for Science Education, Sheffield Hallam University and VT Enterprise on behalf of Department for Children, Schools and Families (DCSF)

Department for Children, Schools and Families (2009) "Statutory Guidance: Impartial Careers Education". DCSF Publications, Nottingham, October 2009

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Eaton D and Morton P (2007) "Built Environment Girls Day Workbook". Sheffield; Sheffield Hallam University

Future Morph website (2009) <http://www.futuremorph.org/>. The Science Council, England

Morton P and Nix C (2009) "STEM Courses and Careers - Explore the possibilities", handout for the British Science Association Festival of Science event, September 2009

Qualifications and Curriculum Authority (2008) "Framework for economic wellbeing 11–19: career, work-related learning and enterprise". London

STEM Subject Choice and Careers Project (2008) 'STEM Choices - A Resource Pack for Careers Education and Information, Advice and Guidance Practitioners', as part of the 'STEM Subject Choice and Careers' project being delivered by the Centre for Science Education, Sheffield Hallam University and VT Enterprise on behalf of Department for Children, Schools and Families (DCSF)

The Royal Society (2004) "Taking a Leading Role: A Good Practice Guide". England



Appendix 1

Pre-course information and letter

Your address etc

Dear Ambassador/Role Model

STEM Careers Ambassador Training

Date and time:

Venue:

We would like to invite you to a short training session to enhance your skills as an ambassador/role model. We recognise that you are a valuable point of contact for young people and that they may sometimes ask you general questions about STEM careers which you do not feel confident to answer. This session aims to give you an insight into the range of STEM careers information resources available so that you can signpost young people effectively. It will also help you to reflect on your own career decisions so that you can identify more closely with the issues young people may be facing.

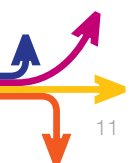
Although there is no requirement to undertake any preparatory work before the session, the following websites give a flavour of what is available to help young people make their decisions:

<http://www.futuremorph.org/>

<http://www.mathscareers.org.uk>

We look forward to welcoming you to STEM Careers Ambassador Training.

Yours sincerely



Appendix 2

STEM Careers Ambassadors Training participant feedback form

Thank you for attending the training session. To help us to improve future sessions, please complete this brief questionnaire. Your feedback is very important to us.

Name:

Employer /University:

Date of training:

Was the content of the training session (please tick where appropriate):

Too detailed About right Not detailed enough Don't know

Can you suggest ways in which we might improve the content of the induction?

Was the length of the training session:

Too long About right Too short Unsure

Did you find the practical exercises useful:

Yes No

Can you suggest ways in which we might improve the practical exercises?

How well prepared do you feel as a STEM Careers Ambassador?

Very confident Adequately prepared Not very confident



Can you suggest any ways in which we might have helped you to feel better prepared?

Overall, were you satisfied with the STEM Careers Ambassador training?

Yes No

Please suggest any further ways in which we could improve the STEM Careers Ambassador training programme:

Thank you for taking the time to complete this questionnaire.
Please hand it to your tutor/session leader before you leave.



Appendix 3

STEM Careers Ambassadors Training tutor feedback form

We would like to ensure that this training resource is helpful for your organisation and your role models/ambassadors. To help us to improve this resource, please complete this brief questionnaire and return it to the STEM Subject Choice and Careers Project (address at the bottom of this form). Your feedback is very important to us.

How useful are the guidance notes in helping you to prepare to deliver this session?

Not useful at all Partially useful Useful Extremely useful and clear

How could the guidance notes be improved?

How relevant was the content to the needs of STEM Careers Ambassadors?

Not relevant Partially relevant Relevant Extremely relevant

What should be included/left out to make the content more appropriate?

How did the participants respond to the exercises and material?

Not engaged at all Partially engaged Engaged Fully engaged

How could the training be improved to ensure greater participation?



How do you feel you facilitated the session?

Not well

Quite well

Very well

What (if anything) would you do differently next time you facilitate this session?

Please use the space below for any additional comments

STEM Subject Choice and Careers Project (DE)
Centre for Science Education
Owen 930 City Campus
Sheffield Hallam University
Howard Street
Sheffield S1 1WB

0114 225 2878

<http://www.shu.ac.uk/research/cse/stem-careers.html>
stemcareers@shu.ac.uk



STEM Careers Ambassador Training Certificate of Attendance

This is to certify that

.....
(Name of participant)

Attended a training session on

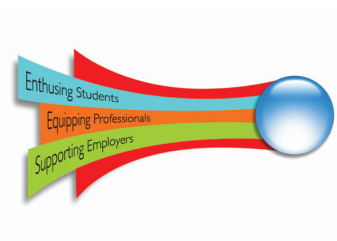
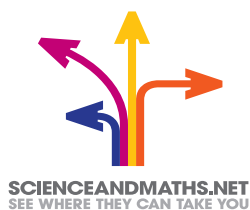
- Becoming an effective role model
- Building awareness of STEM careers information and support

Delivered by

.....
(Name of STEMPoint broker/organisation)

Signed:.....
(Tutor/scheme manager /STEM broker)

Date:.....



Appendix 5

Sources of information and support

1. STEM Subject Choice and Careers Project

If you want to know more about the project visit <http://www.shu.ac.uk/research/cse/stem-careers.html>

To ensure you receive news about the project and gain direct access to a full range of downloadable resources as they become available please email info@careersinstem.co.uk

There are links to many of the resources and websites listed below.

2. Future Morph

<http://www.futuremorph.org/>

Aimed primarily at school students, “this website is designed to show you just some of the amazing and unexpected places that studying science, technology, engineering and maths can take you”. Also has sections specifically for careers staff, parents and teachers. This is where you will find lots of role model case studies and the options presentation which you can download and adapt.

3. STEM Choices

http://www.futuremorph.org/_db/_documents/STEM-section9.pdf

The STEM Subject Choice and Careers Project team have also produced a comprehensive guide for Careers Professionals entitled ‘STEM Choices - A Resource Pack for Careers Education and Information, Advice and Guidance Practitioners’. This link takes you to the section within the resource which includes a list of websites offering very detailed information on a full range of STEM-related careers.

4. Maths Careers

<http://www.mathscareers.org.uk/>

Information for 11-14, 14-16, and Post 16 pupils as well as Careers Advisers plus sections for Undergraduates, Graduates and Employers.

5. Connexions service

<http://www.connexions-direct.com/jobs4u/>

The Connexions service website has a searchable database of careers and job families. The link below takes you to a section about careers relating to science and Maths

<http://www.connexions-direct.com/jobs4u/index.cfm?pid=35>

6. Teachers TV

The following links will take you directly to a range of Teachers TV programmes commissioned by the STEM Subject Choice and Careers Project

<http://www.teachers.tv/video/36674> Role Models and Work Placements

<http://www.teachers.tv/video/36359> Economic wellbeing

<http://www.teachers.tv/video/36358> Equality and Diversity

<http://www.teachers.tv/video/36360> STEM Information, Advice and Guidance

<http://www.teachers.tv/video/31980> - Science

<http://www.teachers.tv/video/31982> - Engineering

<http://www.teachers.tv/video/31981> - Maths

<http://www.teachers.tv/video/31983> - Choosing Careers

7. Equality and Diversity Toolkit

This toolkit has been produced as part of the STEM Subject Choice and Careers project. It can be accessed by emailing the project at info@careersinstem.co.uk

8. CRAC: The Career Development Organisation

www.icould.com

A site that provides access to the career experiences of real people through their stories. It includes many inspiring examples of STEM careers at a variety of levels, and through the stories, describes the pathways of people who used their STEM courses as a springboard into other opportunities

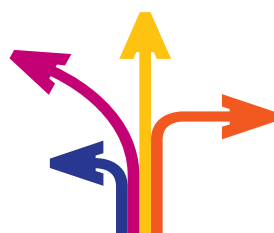


A Department for Children, Schools and Families initiative to promote subject choice and careers in Science, Technology, Engineering and Maths (STEM) delivered by the Centre for Science Education at Sheffield Hallam University and VT Enterprise

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