

Inspiring the next generation

Guidance on working with
children and young people



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Welcome

We are delighted that you are thinking of running an activity, giving a presentation or attending a careers fair to help inspire the next generation about civil engineering. If you haven't taken part in a 'Science Technology Engineering Maths' STEM outreach activity before, we hope you will find these guidance notes helpful.



Planning ahead

We assume you have been invited to attend a careers fair or to speak at a school or youth group and that they will have given you an idea of what they are looking for. Please make sure you are clear about what is required and how you will deliver your talk or activity.

We think you should consider the following practical details:



1 The **aim or purpose** of the event

(i.e. what is the teacher or youth worker hoping their students will get out of it? Do they want you to connect with the curriculum?)



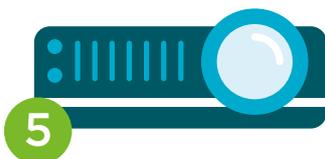
2 The **age range** you will be working with



3 The **ability range** of the students



4 How much **time** you will have



5 What **room** and what **facilities** will be available to you



6 Which **materials** you are providing and which will the school provide

If you are looking for ideas on what to say or do, please take a look at ICE's downloadable presentations and resource packs (ice.org.uk/educationresources) and let us know if you would like us to send you any careers literature by emailing us at careers@ice.org.uk.

Key messages

When you're talking about civil engineering to young people, teachers and parents, try to incorporate these key messages:



Civil engineers directly transform people's lives

- Civil engineers provide many of the things we need and take for granted every day – like clean water, transport and electricity – helping people to live safer and easier lives



Civil engineers safeguard the future for people and their families

- From designing and building flood defences to ensuring stable and sustainable energy, civil engineers work to protect people and the places where they live
- Engineers improve people's quality of life around the world



Civil engineering is a creative, rewarding and fun career

- Civil engineers are creative people who solve problems
- There are many different types of jobs within civil engineering and there's a high demand for civil engineering skills in the UK and across the world
- Civil engineering is all about helping people and shaping the world

**CIVIL ENGINEERS
ARE IN FACT
INVISIBLE
SUPERHEROES!**



Delivery on the day

As a civil engineer, we are sure you'll turn up on time, be organised and professional! You might find these top tips for making the talk or activity interesting and engaging helpful too.

- Have a confident approach and make it fun
- Tell the students something about yourself – they are often keen to find out where you started, your current job, how you got that position etc., but be careful not to give away personal details
- Use real life stories to highlight key points and make what you say more relevant
- Aim to deliver technical / unfamiliar concepts clearly and simply without patronising students
- Respect the students' potential and intelligence even if they are not well informed about business and the world of work
- Ask questions and involve the students – this keeps their attention and helps them to retain the information you want them to remember
- If possible address the students by name

And a final word on discipline – If you feel a student is behaving inappropriately and does not respond to reasonable requests refer the matter to the teacher or responsible adult. You are there to share your experience and enthusiasm for engineering; the teacher, parent or other responsible adult is responsible for disciplining the students. Above all, remain calm and confident.

Thinking about people from different backgrounds

We are talking about diversity or, to put it another way, about fairness, inclusion and respect. We want everyone to feel welcome in the world of civil engineering.

There is currently underrepresentation of women, ethnic minorities, and those from lower socioeconomic groups within the UK industry. We want to redress this imbalance by ensuring that we appeal to and interact with as diverse a group of people as possible.

ICE's activities, presentations and careers materials aim to reinforce positive and inclusive careers messaging. It would be helpful if you can talk about the breadth of engineering and wide range of opportunities that exist.

In particular, stressing the creative aspects of engineering and the fact that engineers are just as likely to work in a design office as on site can help to enthuse a wider range of young people.

We want to attract more young women to engineering and recommend you look at WISE's 'People Like Me' resources. They provide a really useful insight into the way language can affect young women's perceptions about engineering, see wisecampaign.org.uk/people-like-me.

Using personal stories about engineering and providing realistic examples of women and ethnic minorities in the profession can help as well.



Child safeguarding

While safeguarding issues are rare, and we hope you never experience them, it is important to be aware of potentially difficult situations. By following the simple guidance outlined below it should be possible to eliminate any misunderstanding and ensure that volunteers and students are working together in a secure and productive environment.

- **Do set a good example.** Address students politely and calmly, and provide a positive role model by behaving respectfully and fairly. Encourage professional boundaries and deflect personal questions
- **Do dress appropriately.** Dress practically and professionally. Young people can be sexually aware so avoid any dress (and language or behaviour) that could be misinterpreted
- **Don't share personal information.** Don't share any personal details with children e.g. phone number, Facebook, or email address. If the students request career or further guidance arrange this through their teacher. Do not offer students your business card
- **Don't touch.** Avoid physical contact at all times. In the case of an emergency, ensure a first aider is called
- **Don't be alone with young people.** Do not be on your own in an isolated or closed environment with young people, particularly with an individual. Do not offer a lift to a young person or agree to meet them outside of school or youth group sessions
- **Don't take photographs without consent.** Only take photos where you have established consent with the school, teacher and/or guardian
- **Do establish ground rules for any long-term contact.** If you are mentoring a student for a period of time, for example helping with specialist input to coursework, ensure meetings are arranged by the school/college, with parental consent, and that any emails, correspondence or drafts are sent to the student's teacher. Do not use personal email addresses, only work and teacher email

And finally, **DO ACT IF YOU HAVE CONCERNS.** If a young person discloses information to you that gives rise to concern for their physical or emotional safety you have a duty to report this to the teacher or youth worker. They will ensure that appropriate procedures are followed within the school/college/youth group.

Want to do more?

If you enjoy volunteering with schools or youth groups and want to do more, please sign up as an ICE ambassador.

In the UK, we'll ask you to sign up with STEM Learning for child safeguarding checks and training and connect you with your regional office who will invite you to take part in local initiatives. If you are really keen, you could get involved with a local ICE STEM group and represent ICE at larger events, help support new ambassadors or develop new ideas and activities.

Outside the UK, we'll keep you posted on school ambassador developments throughout the year and put you in contact with your national representative if there is an active ICE STEM group in your country.



Any questions?

Good luck with your activity. If you want more advice please feel free to contact us at:

careers@ice.org.uk

