

Make a difference – be an engineer presentation 11-14 year olds: guide for presenters

Developed in collaboration with the main Professional Engineering Institutions and the Institute of Physics, and with input from teachers and volunteers this presentation introduces 11-13 year olds to engineering inspiring them to think about a career in engineering. It covers the diversity of engineering with the central message that engineers can improve people's lives and solve problems around the world.

While delivering the presentation, add in your own experiences and consider how they resonate with a diverse audience of both boys and girls from all different backgrounds.






Here are some questions you might want to think about: What sparked your interest in engineering? What route did you take to your current job and what challenges did that present? What is your day-to-day job like? Who do you work with? What do you enjoy the most? How much money do you earn? Don't forget to pitch your talk at a level the students will understand.

It's important to address or challenge negative or outdated views about engineering so please think about the way you describe your job and avoid anything that might reinforce these stereotypes.

Involve the students as much as possible and try to make your presentation interactive as this will keep the students engaged and more likely to take in the key messages of the presentation.

Above all, have fun!

Key

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|---|---|
|  | Good point to do a short activity with the audience |
|  | Something on the slide e.g. an image, is clickable and will take you to another slide or to a webpage |
|  | Use the slide to initiate a discussion with the audience |
|  | Internet access is recommended. (The presentation can be used without internet access but using the interactive features which require internet access will enhance the session.) |
|  | Video content available, accessed via link to YouTube |

Slide 1-3 – Title slide (on continuous loop)



Have this on screen before you start the presentation. Each image is a real engineer from the Tomorrow's Engineers (TE) website. To start the presentation just click anywhere other than the image to get the first content slide.

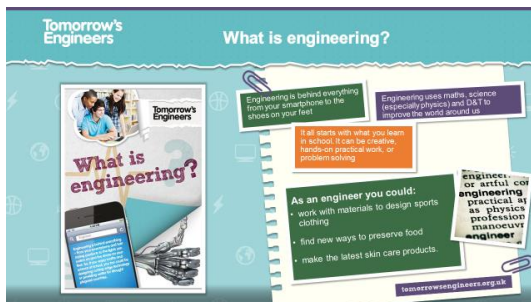
Start the presentation by introducing yourself, your employer and job title, and give a very brief summary of what you do. Bear in mind that 11-year-olds may not know the difference between a

“civil engineer”, “mechanical engineer” or “sound engineer” so use terms and words that they will understand or relate to.



Try an activity such as asking students to draw an engineer or form an ‘opinion line’ (with yes at one end, and no at the other) to show who would consider a career in engineering. Do one this at the start and end of the presentation, you can see instantly how students have had their ideas changed by the session.

Slide 4 – What is engineering?



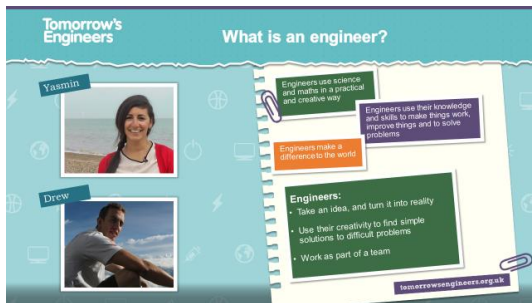
Get your audience to think about what a world without engineers would be like. The focus is on how engineering is creative, improves people's lives and solves problems around the world. Evidence shows that this is an inclusive message that both girls and boys can relate to.

The ‘What is engineering’ booklet is available to download from the Tomorrow's Engineers (TE) website to explain to children what engineering is.



Click on the leaflet image to download the full leaflet from our TE website.

Slide 5 – What is an engineer



Help students to understand what an engineer is and what they do in their job. Focus on how engineers use maths, science and Design and Technology to solve problems, make things work and improve people's lives.



The images are real engineers, click on them to see a full Q&A case study with each engineer on the TE website.

Slide 6-16 – Engineering is everywhere – in places you might not think...



You can click through the 10 images or they will automatically scroll after 8 seconds. Each image represents the sector shown in the purple box. Each sector has been chosen to show the diversity of engineering and open young people's minds to where engineering exists in their everyday lives.



All the images are on slide 16 for you to use as a conversation piece. Why not ask if they are surprised by any of these, or if they have used any today (e.g. electric car or an app)?

Slide 17 – Real engineers



These are all real engineers with their own slide that describes who they are, where they work, what they do and the route they took to their career. You can pick and choose which examples you show.



Clicking on each image will take you to the engineer's individual slide (see slides 18-29 below).

If you want to move forwards to (the optional) slide 30, simply use the forward function in PowerPoint or click on the grey background.



Ask the audience who they would like to know more about, ask them to guess which ones took the apprentice route or what job they have – they might find it's different to what they think!

Slide 18-29 – Individual real engineer (hidden slides)

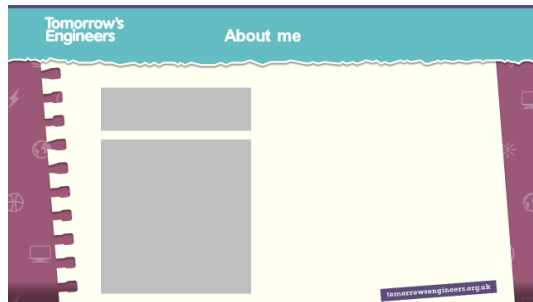


These 11 slides contain information on each of the Real engineers from slide 17. Use this information to bring the engineers to life, highlight the route they took to their career, the qualifications they achieved and what inspired them.



Click on the picture to see a full Q&A case study this engineer on the TE website. On each slide there is an orange 'back' button, if you click on this it will take you back to slide 17 so you can choose another real engineer.

Slide 30 – About me



This is an optional slide for you to add information about yourself. You can insert text and pictures of you doing your job, your colleagues, your desk, something you're currently working on, or a short video of you at work. Be as creative as you like!

If you don't want to use this slide just delete it.

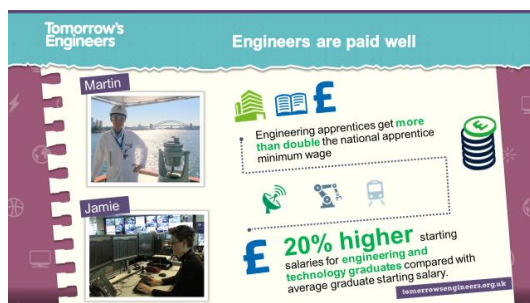
Slide 31 – We need you!



There is a demand for engineers of all types and at all levels from technician to graduate. Please emphasize that we need THEM – whatever their gender, social or cultural background.

The skills gap is real so, if they become an engineer, they will be in demand. Remember to point out that if they choose to follow engineering they will gain useful transferable knowledge and skills.

Slide 32 – Engineers are well paid



While children in the 11-14 age group understand about money and how it's earned, generally they aren't clear whether a specific salary e.g. £27,000 is high or low. So this slide focuses on how much more an engineer can earn compared to a non-engineer in both a graduate and apprentice role rather than talking about actual salaries.



The images are real engineers, click on them to go to a case study Q&A on the TE website.

Slides 33-42 – Where will the jobs be in 10 years' time?

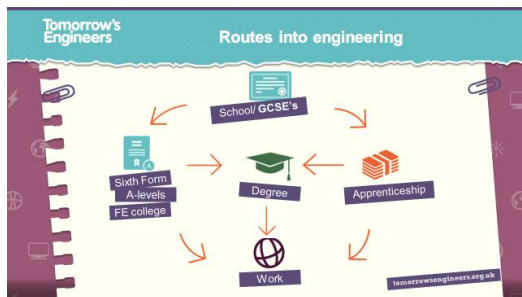


One of the most exciting things about engineering is that many of the future jobs don't exist yet. There are nine images that automatically scroll after 5 seconds or you can click the arrows to move through them more quickly.



The moving images finish with all the images on slide 43 that can be used as a conversation piece with the audience: Which are interests you the most? Which area would you like to work in? Ask for a show of hands for each area

Slide 43 – Routes into engineering



At this age they will be starting to think about the areas and jobs they may want to work in, what subjects they need to study and, in some cases, whether they want to go to university or the local FE College. This is a simplified version of the different routes into engineering to show that the graduate route is not the only option.

Slide 44 – Routes into engineering



These information booklets are available to download from the Tomorrow's Engineers website.



Each image will take you to the downloadable version on our website which can be printed.

Slide 45 – Look out for these



The TE Programme has careers materials for teachers or young people to use.

If the audience or teacher wants to download and print, or order, copies of any of these resources they can visit the Tomorrow's Engineers website.



The "Save lives as an engineer" poster image will take you to the webpage where a range of resources relating to disaster relief engineering can be downloaded

Slide 46 – Get your parents involved



Parents/carers have a huge influence on their children and our research shows that although 83% of parents with children aged seven to 14 would recommend a career in engineering to their children, only 3 in 10 parents know what people in engineering do. Students can download the guide for their parents so they can talk through a career in engineering with them at home.



The image is of our leaflet for parents, which helps them understand what an engineer does and the benefits of a career in engineering for their child.

Slide 47 – Website

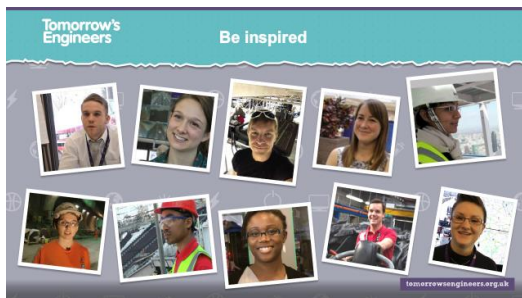


The Tomorrow's Engineers website is a great source of information on engineering careers including our new 'Career Finder' (have a play!) and a much larger set of real engineer profiles which the teacher and students might want to look at in more detail in their own time.



The iPad image takes you to the TE website. The purple career finder box takes you to the career finder on the TE website.

Slide 48 – Be inspired



This is a selection of some of the video profiles we have on the TE website. Playing a short clip of one would be a great way to finish off the presentation.

Suggest that they could watch them when they get home with their parents.



If you did the draw an engineer or opinion line activity at the beginning don't forget to do it again to see how the presentation has changed their ideas about engineering.

To Finish

At the end of your presentation thank them all for listening and see if they have any questions they want to ask you. They might be shy so encourage them to ask a question.

This is a new presentation and we really want to make sure it suits your needs and keeps the students engaged and interested in a career in engineering. If you have any feedback on any parts of the presentation or ideas for improvements we could make please email careers@engineeringuk.com.

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