British Science Week: careers in engineering

Session summary This session will introduce students to the variety of careers available in engineering, and the skills those careers require. They will challenge stereotypes they hold of engineers and understand the various route available into engineering.	**Suggested volunteers:** Engineers – particularly those in diverse fields, e.g. aeronautical, communications, robotics. If available, female engineers or those from minority backgrounds are best to involve as underrepresented demographics in engineering.
Learning outcomes: • Students will recognise the diversity of careers available within Engineering • Students will understand the skills required to be an engineer and begin to identify these in themselves.	
Resources • Presentation	
Pre-session preparation • Speak to the volunteers over the phone and let them know what to expect from the session, as well as finding out about their career pathway and how they will tell their story.	

Timings	Section content	Key objective and link to next section
0 – 2	**Welcome and introduction (slides 1 & 2)** - Introduce the session and objectives. - Mention that we have some volunteers who will be supporting the session (alumni not yet present in the room).	
2 - 5	**What do engineers do? (slide 3)** - Students discuss the skills which you might need in different engineering pathways. - Facilitate discussion around the need for communication skills, teamwork, creativity underscored by a curiosity in how things work.	**Objective:** Students understand the skills required to be an engineer. **Link:** 'Now that we have had a think about what engineering is all about, we have some real-life volunteers who are all engineers who can speak to us about their experiences.'

5 – 12	**Meet an engineer (slide 4)** - Introduce the former student(s) and ask them questions about their career pathway and challenges they have faced. - Facilitator to ensure volunteers clearly highlight what they do day-to-day. - To encourage students to ask questions if they don't have any the facilitator can ask students to come up with questions in pairs or groups, ask them to write questions on post-it notes, begin questioning themselves, etc.	**Objective:** Students gain insight into the reality of a career in engineering and challenge their assumptions. **Link:** 'We're now going to think about the different routes you could take if you think you have or can develop the skills needed to be an engineer and would enjoy a career like the ones our volunteers have.'
12 - 18	**Pathways into Engineering (slide 6-7)** - Introduce various pathways into Engineering. - Mention need for good English, Maths and Science at GCSE which can lead to either intermediate apprenticeships or courses at college or A Levels. - Both A Levels and apprenticeships can lead to higher degree-level apprenticeships or university. - **Degree-level apprenticeships are an 'earn while you learn' method.** - Highlight also the need for work experience placements – students can use their alumni networks for this! For more information on this, use the 'Year of Engineering' resource for reference.	**Objective:** Students understand the variety of route available into engineering.
18 - 20	**Final advice and resources (slide 11)** - Alumni give a final piece of advice to students, something they would say to themselves at 16/17. - Facilitator highlight resources available to students should they like to find out more about the profession and routes available.	

Comments and adaptations