

GLASGOW
SCIENCE
FESTIVAL

Imagineer

ROYAL
ACADEMY OF
ENGINEERING



Thanks for coming to 'Imagineer' – we hope you enjoyed the show and it gave your pupils something to think about.

During the show pupil's were asked to pose questions for our panel of engineers – this pack aims to answer their top questions, give them further ideas to discuss and point pupils in the right direction to find out more about a career in Engineering.

The most popular questions from pupils

How much can you get paid?

Jobs in Engineering can be very well paid.

The average UK salary is £25 000

The average starting salary of an engineering graduate is £26 536.

The average salary of an engineering graduate is £42 016.

(Source: People like me – HESA)

What are the different types of engineering?

There are many different types of engineering. Aeronautical, aerospace, electronics, biomedical, chemical, marine – to name a few. The '[My World of Work](#)' website is an excellent resource where you can browse all the different engineering fields and find out more about them and how they might be suited to you.

What do you have to study to become an engineer?

There are a wide range of further education courses you can study to become an engineer and the qualifications required for each vary. In general, Maths, Sciences (in particular physics), and English are required. Technologies subjects such as Engineering sciences or computing sciences are also useful.

Browse the '[My World of Work](#)' website where you can find out the entry routes to all the varied engineering fields.

Are female and males represented equally?

Currently 22% of engineers are women.

Pupil Questions – answered by the panel

We picked the top pupils' questions, compiled from all the Imagineer sessions, and put them to our panel of engineers. You can find the answers, on the Glasgow Science Festival Website.

<https://www.gla.ac.uk/events/sciencefestival/community/imagineer/imagineerschools/>

1. Why did you choose to be an engineer?
2. What is the hardest part of the engineering process?
3. Most interesting project you have worked on?
4. Are you ever worried your work becomes obsolete?
5. How useful do you find your engineering skills in every day life?
6. What do you consider the greatest achievement in engineering?
7. Who do you look up to most in your profession?
8. I feel some companies have closed Scottish branches and most jobs are abroad, Is the future of engineering dwindling in Scotland?
9. If you could time travel where would you go?
10. When and how will robots take over?

Inventions

We compiled the pupils' imaginative ideas for what they want to see invented in the future

Pupils' most popular inventions

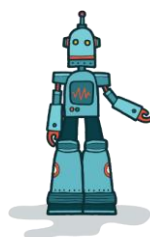
- Teleporter
- Everlasting batteries
- Flying cars
- Universal translator

Best of the rest

- Pilotless planes
- Brain access memory cards
- A machine that can animate your dreams
- A machine that regenerates materials so we don't have to take them from the earth
- 3d printed human organs
- Faster than light travel
- Interstellar travel
- Sustainable water solutions
- Robot to do the following roles: dentist/maid/pet/cook/exams/feeding the homeless
- Glasses that detect your prescription and adjust
- Selective noise cancelling for people
- Eye implants
- Ocean litter cleaners
- Weather control system
- Realistic planetarium as if you are in space

Of note

- Toaster that butters toast
- Hair growing machine
- A machine that buttons your shirt when you have acrylics on



What do you think?

During the show Alice and Blake travelled through time looking at engineering and the implications on society. Use the following discussion points to explore pupil's views on the issues raised.

Is technology making us dumb?

GPS technologies have made navigation easier than ever but are people becoming too reliant on technology and not thinking for themselves?

Would you invent the aeroplane?

Air travel has changed the world and has many uses which could be deemed both beneficial and detrimental to society.

Knowing all the uses and effects of air travel that we know today, if you were in the position to invent air travel would you, why?

Optimists or pessimists?

In the performance Alice was optimistic about how the future was looking and where new technologies were taking us whereas Blake had a more pessimistic view. What do you see the future having in store, Do you think we should be pessimistic or optimistic?

Further reading

Born to engineer is a great resource packed with advice and resources to equip your pupils for a career in engineering. <https://www.bornctoengineer.com/>

'[My World of Work](#)' is a great place to start for Scottish pupils looking to pursue an engineering career.

Royal academy of engineering <https://www.raeng.org.uk/>