We Can Be: Engineers Middlesbrough

Big Ideas Impact Report, December 2025

ROYAL AIR FORCE Youth STEM | BIG IDEAS | Middlesbrough moving forward | DOUBLE ELEVEN

Introduction

We Can Be: Engineers Middlesbrough brought young people from the town's schools together to discover the excitement of software engineering, meet a role model working in the industry and highlight local career and education pathways.

With a focus on fun, confidence building and raising aspirations, the programme demonstrated to young people that everyone is welcome in software engineering.

The Tees Valley is one of the fastest growing digital hubs outside of London with towns such as Middlesbrough becoming known for its digital and creative industries. This place-based programme was designed to connect young people with industry and post-16 education, to see available opportunities in this fast growing sector.

Designed and delivered by social impact organisation Big Ideas for the Royal Air Force Youth STEM, the programme was delivered in partnership with Middlesbrough Council, Middlesbrough College and Middlesbrough-based independent games studio, Double Eleven.

1,709 young people | 26 schools

100% of teachers agreed the events broadened their students' perceptions of engineering and engineering jobs.

After the events, 8 out of 10 teachers agreed there had been an increased interest in engineering among their class.

One month on, 8 out of 10 teachers agreed this increased interest had been sustained.

"The children realised that engineering is broader than the typical engineering jobs they initially think of. The girls loved to see that women can be engineers too."

Teacher, Newport Primary School

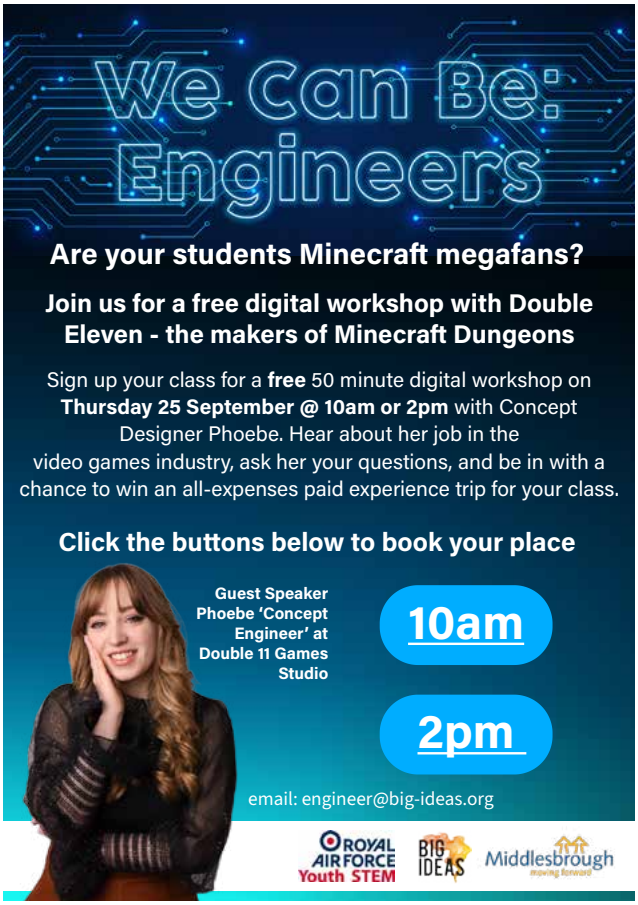
Programme overview

We Can Be: Engineers Middlesbrough ran from September to December 2025 and was exclusively open to Key Stage 2 primary and Key Stage 3 secondary school classes and teachers across Middlesbrough.

Teachers registered their classes for one of two digital events on Thursday 25 September with special guest Phoebe Francis-Aylward, concept artist at Double Eleven. During the workshops, the young people learned about Phoebe's job as a concept artist creating worlds, characters and systems and took part in a live challenge where they were led through a design engineering process to storyboard their own video game.

After the workshops, teachers were given ideas on how to take these sessions further with their classes, through expanding on their designs, building 3D prototypes or software design programmes and were asked to provide feedback one month on.

Two classes won a hands-on software engineering experience day provided by Middlesbrough College on Wednesday 12 and Thursday 13 November 2026. The young people took part in a games development workshop in the ESports suite, became broadcast engineers in the media studio and designed their own apps in the computing lab.



Impact

Digital workshops

1,709 young people from 26 schools across Middlesbrough registered for the workshops. This was made up of 63 Key Stage 2 primary school classes (8-11 years old) and ten secondary school Key Stage 3 classes (11 - 14 years old) including a SEND school supporting young people with autism.

Following the workshops, teachers' feedback was extremely positive both in terms of how much their pupils enjoyed the workshop and also how the workshop broadened their class' understanding of engineering.

"The session was really engaging and gave the children a much better understanding of what engineering is all about. It opened their eyes to the different types of engineering careers out there and helped them realise how engineers play a big role in everyday life."

Teacher, Marton Manor Primary School

100% of teachers agreed the events broadened their students' perceptions of engineering and engineering jobs.

A consistent theme was how valuable it was for both boys and girls to meet concept artist Phoebe who showed them how exciting a career in game design could be and how girls can also aspire to be engineers.

Young people loved the autonomy they were given to create their own game design and teachers shared some of the children's designs.

"It dismissed the myth that engineering is a boy's job."

Teacher, Archibald Primary School

"It was fun answering the engineer's questions and being able to ask questions to learn more."

Vinnie, aged 9

Role Play Game concept designs shared by Year 6 students at St Clare's Catholic School

"I loved being able to meet a gaming engineer."

Damilola, aged 9

"I loved how when we created the game we had to create our own rules and could create our own steps to a successful adventure game."

Ashmigaa, aged 9

Sustained engagement in engineering

Classes were challenged to continue their game designs after the workshops, with teachers invited to provide evidence of this and sustained engagement one month on.

> "Children have been looking into jobs they can have within the engineering sector and have been spending time creating and engineering their own items such as paper object prototypes or video games as shown in the workshop."
>
> **Teacher, Captain Cook Primary School**

> "There has been more focus on coding by the children during our computing lessons as we are coding a new game. We have used the storyboarding technique from the session to plan their 2-level games. Children are having conversations with one another about it and I have heard children say I want to be an engineer when I grow up."
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> **Teacher, Thorntree Academy**

After the events, 8 out of 10 teachers agreed there had been an increased interest in engineering among their class. One month on, 8 out of 10 teachers agreed this increased interest had been sustained.

Prize hands-on engineering experience

Two schools won an all expenses paid trip to Middlesbrough College with travel bursaries provided to cover travel to and from the college. The winning classes were Year 5 at Thorntree Academy and Year 5 at Archibald Primary School. In total, 59 children visited the College. Statements from the two teachers demonstrate the impact of the experience on their pupils:

> "It has given the children the opportunity to experience a range of different jobs and hands-on experiences to broaden their understanding and raise their aspirations for when they leave school."
>
> **Christine Burton, Teacher, Thorntree Academy**

> "This has inspired the children to consider different career pathways. They have had the best day and I have never seen my students so excited and engaged, they have loved every minute."
>
> **Niamh Richardson, Teacher, Archibald Primary**

"I've really enjoyed being at Middlesbrough College and not only playing games but making games. It's made me feel like a grown-up, even though I don't want to grow up too fast. If we ever have another adventure I want to come back here."

Monique, aged 10

Big Ideas and RAF Youth STEM would like to thank the following partners who supported delivery of the programme:

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Phoebe Francis-Aylward, Concept Artist, Double Eleven