

STEM WITH WINGS

**Year One Report and
Recommendations**

Big Ideas | April 2025

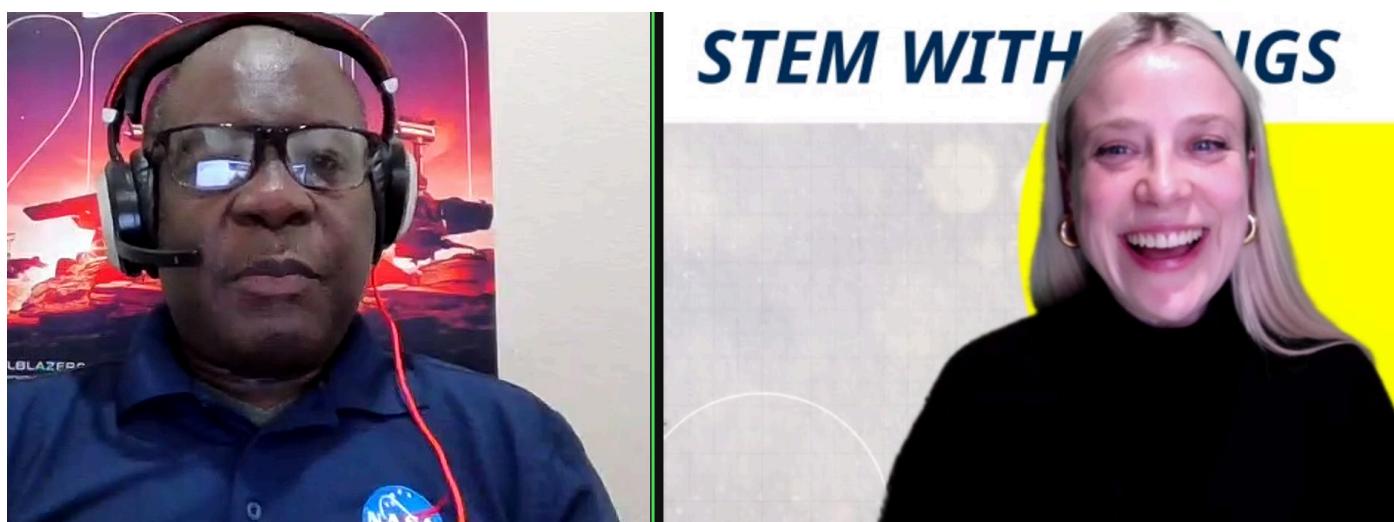
Programme Overview

STEM with Wings is a partnership between RAF Youth STEM and social impact agency Big Ideas. Commissioned in 2024, the programme ran over three terms from April 2024 - March 2025.

Run by Big Ideas, STEM with Wings brings the excitement of live STEM challenges and access to STEM role models into KS2 and KS3 classrooms every term. It provides schools with follow up STEM opportunities after participation in other programmes and will also bring new schools into the RAF Youth STEM programme family, offering a pathway for young participants to discover and/or continue engagement with RAF Youth STEM. STEM with Wings offers:

- Regular RAF Youth STEM programme available across the UK for primary and secondary schools
- Increased impact of the broader RAF Youth STEM investment by sustaining opportunity for engaged teachers, especially for recipients of in-person one-off workshops
- Flexible and accessible digital format to drive high levels of participation from teachers, especially those who report low levels of STEM confidence
- Opportunities for repeat engagement from schools driving longer term outcomes for young people - fresh topics every half term keep the programme fresh and attractive
- Strategic mechanism for driving engagement across RAF Youth STEM programmes through signposting to other programmes
- Engagement with underserved audiences through geotargeting of priority areas.

The digital event days connect young people with inspiring engineers working in fields connect to the RAF, prioritising speakers from groups underrepresented in engineering to challenge young people's perceptions of who can be an engineer.



Screengrab showing STEM With Wings digital event days in action

Programme Highlights



STEM WITH WINGS

**MEET NASA ENGINEER
ASHITEY TREBI-OLLENNU**

**HE LIVES ON EARTH,
HE WORKS ON MARS!**



The inaugural STEM With Wings ran in the Summer Term of 2023 with NASA engineer Ashitey Trebi-Ollennu. He shared his work on robotics on Mars and challenged young people to seek inspiration from nature when designing their own robots.

10,313 students took part (9,597 primary and 716 secondary) from 372 classes

123 unique schools took part

RAF Youth STEM workshops awarded to Langdon Park School, Tower Hamlets and Pennyman Primary Academy, Middlesbrough



STEM WITH WINGS

CLEANING UP SPACE

**WITH DR LUCINDA KING AND
PROFESSOR CRAIG UNDERWOOD**



The Autumn Term 2024 introduced young people to exciting engineers both working on removing space junk from in-Earth orbit. Dr Lucinda King, Mission Concepts Engineer, In-Space Missions, and Professor Craig Underwood, Emeritus Professor of Spacecraft Engineering at the Surrey Space Centre, University of Surrey led students through an engineering design process to create space junk cleaning machines.

6,756 students took part (4,488 primary and 2,268 secondary) from 271 classes

105 unique schools took part

RAF Youth STEM workshops awarded to St. Helen's Primary School - Hartlepool and St Anne's Academy - Rochdale



STEM WITH WINGS



TO THE MOON!
with NASA

WITH BRANELLE RODRIGUEZ
Artemis II Vehicle Manager, NASA Orion Programme

Spring Term 2025 concluded the first year of the programme by giving young people the opportunity to meet a lead engineer on the NASA Orion Programme, Branelle Roriguez. The students took part in a 'Mission Control' challenge developing technical communication skills as they pretended to be Artemis II Vehicle Managers or NASA engineers.

20,106 students (16,748 primary and 3358 secondary) from 719 classes

216 unique schools took part including Home Educators

RAF Youth STEM workshops awarded to Cedar Lodge Special School - Belfast and St John Ogilvies Primary School - West Lothian

Impact

Each termly programme exceeded its engagement targets in terms of young people, classes and schools - twice as many participants as the target.

The programme successfully targeted schools across the UK establishing itself as a regular national offering to schools.

Proven appeal of the programme offering to Key Stage 3 teachers in schools - with 83 secondary schools attending an event over the course of a year.

Big Ideas partnerships with Local Authority teams meant we were able to see the highest level of participation from schools serving areas of high deprivation.

Big Ideas successful track record of securing amazing guest speakers led to amazing opportunities for young people to engage in space engineering.

The programme delivered long term impact by increasing the confidence of participating teachers in teaching STEM subjects. Before the event, over a third (38%) of teachers who registered said they were confident or very confident teaching STEM, following the event, this had risen to over two thirds (69%) of teachers who responded

Recommendations

Big Ideas is delighted that STEM with Wings has been commissioned again for FY 2025/26 bringing three further terms of programming to UK schools.

Big Ideas will continue to work in partnership with Russell Barnes and Emma Brooks to develop creative content and continue to offer Key Stage 2 & 3 classes across the UK the opportunity to engage with RAF Youth STEM programming.

Our recommendations are:

1. Continue delivering the same flexible digital format based around the availability of amazing speakers to drive engagement.
2. Review evaluation data with you to see if there is anything further you would like to collect and track over time given this a regular opportunity to collect impact data from teachers across the UK.
3. Strengthen mechanism for programme signposting to and from other RAF Youth STEM programmes.
4. Continue to invest engagement resource in strategic relationships with local authorities across the UK offering opportunity where it is needed most.

Find out more www.big-ideas.org