

# Creative Tuition Collective & British Antarctic Survey & British Geological Survey

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# Virtual Work Experience Week **2025** Report

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**British  
Antarctic Survey**  
NATURAL ENVIRONMENT RESEARCH COUNCIL

**ZEBERA.**

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## **Angus Aldis**

*Science Programs Manager CTC*

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**Angus** is an Astrobiology PhD student where he researches the icy moons of gas giants. He also works at CTC where he regularly creates and delivers STEM and career development events to younger students from historically excluded and SEND communities. With this, he has five years' experience in mentoring and assisting >500 students. Angus also has learning difficulties and autism. His passion to help students comes from wanting to show others that even if you find STEM tricky, you can succeed in it.



## **Dr. Lara Mosunmola Lalemi**

*CEO and Co-Founder, Creative Tuition Collective*

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**Lara** has over 10 years' experience in science and equity, diversity, and inclusion, developing programmes for leading companies that train and upskill early-career talent. As CEO of Creative Tuition Ltd. for the past five years, she has reached more than 5,500 individuals through talks, workshops, and experiences, making a lasting difference across her local community and university.

# Week Overview & Report Summary

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Between October 27th – 31st, students (aged 14–19) from historically excluded communities participated in the Creative Tuition Collective (CTC) & British Antarctic Survey (BAS)/British Geological Survey (BGS) work experience event alongside our delivery partner, Zebera Ltd.

Over the course of the week, students engaged in sessions that emphasised skill development, networking with BAS/BGS science and assuring them that a STEM career – no matter the circumstances in which they were born – is possible and enjoyable. The first two days featured a variety of sessions enabling students to develop their interests, skillset and passions. The final three days were ran by Zebera, where students undertook a ‘Design Sprint’ working through a challenge set by either BAS/BGS staff, and presented their solutions in a final showcase.

## The event aims presented to students participating at the program were:

- **Learn about alternative careers**, and the benefit of unconventional career paths from researchers from a variety of backgrounds and subject areas.
- **Network with**, and ask questions to, **real scientists** in different careers focussing on geology/geography, engineering, biology, environmental science, chemistry, space sciences.
- **Develop essential career skills**, such as networking, communication, career planning, design and CV writing.
- **Engage with BAS & BGS science** as you collaborate to design a theoretical solution a real-world STEM issue.
- **Understand the importance of inter-disciplinary research** by conducting a design sprint with Zebera.

## Report preface

This report assesses the success of the programme, with strong emphasis on feedback analysis and student/staff case studies. Later it is discussed how the content addressed the above aims and recommend changes for future programmes are suggested.

# Executive Summary

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## The key findings of this report are:

- Students felt safe, supported and comforted during the week, and were reassured when tackling unfamiliar challenges or tasks.
- The week achieved an overall 100% recommendation rate from participants.
- All students believed they gained/developed a set of skills that equips them for their future short and longer term ambitions.
- A significant rise in student confidence before and after the event.

## Post-week analysis of feedback provides insightful suggestions for improvement:

- Expanding the program to potentially six days (Weds – Weds) rather than Mon–Fri.
- Delivering more icebreakers.
- Increasing time for presentations (Days 1 & 2).

## Post-programme engagement

Following their graduation from the programme, students have the opportunity to enrol in an optional **Skills Accelerator Programme**, designed to support development of both soft and hard skills such as revision techniques, Python coding and financial literacy.

# Bite Sized Impact Statistics

67%

of participants identified as 'Female'



49%

of participants were 'First Gen in STEM'



18%

of participants on 'Pupil Premium'



9.2 /10

Average overall score for the week



43%

of participants were from a global majority ethnic background



100%

of students felt this event reassured their concerns about entering a STEM career



100%

recommendation rate from participants.



# Participant Demographics

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**43%**

of participants  
were from a global  
majority ethnic  
background



Defined as the percentage of students that listed their ethnicity as non British-White. Below is a list of which groups make up the 43% of participants. It should be highlighted that the below are exactly how the students listed their identity, rather than us sorting them into broader identities:

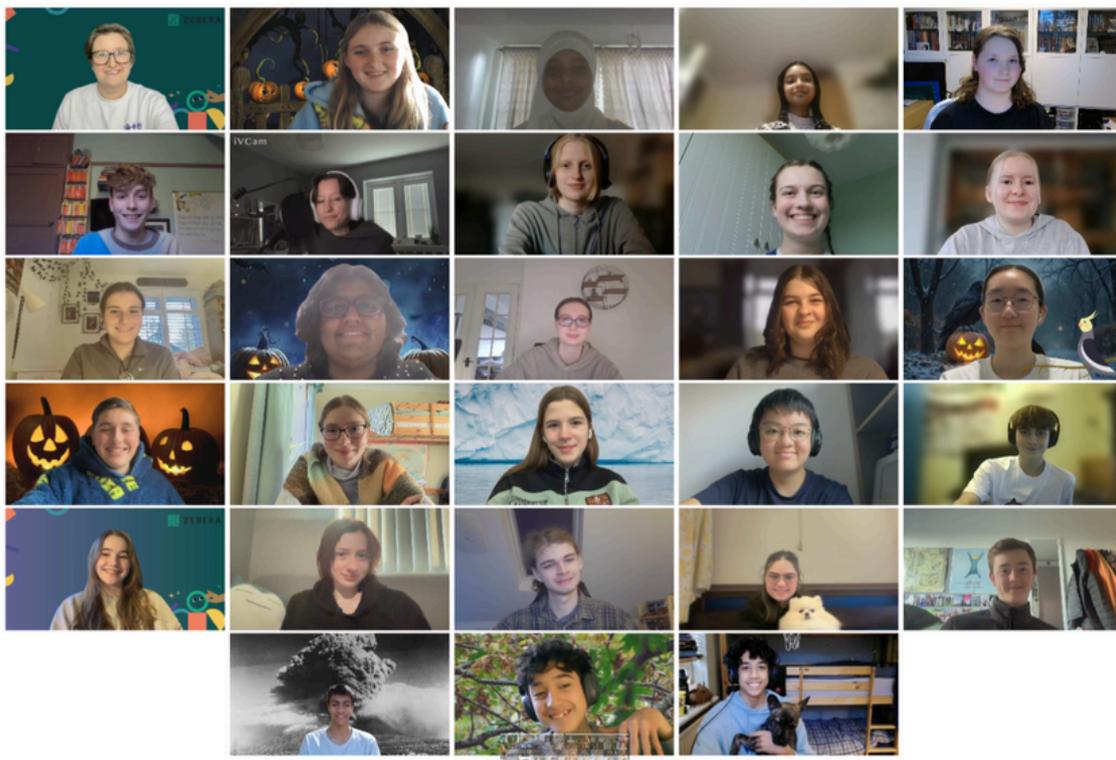
- Asian British
- Bengali
- Black African
- British Asian Mixed
- British Chinese
- Indian
- Chinese
- Chinese (Hong Kong)
- Mixed - Black Caribbean & Punjabi
- Pakistani
- Somali
- Tamil
- Mixed Eastern European

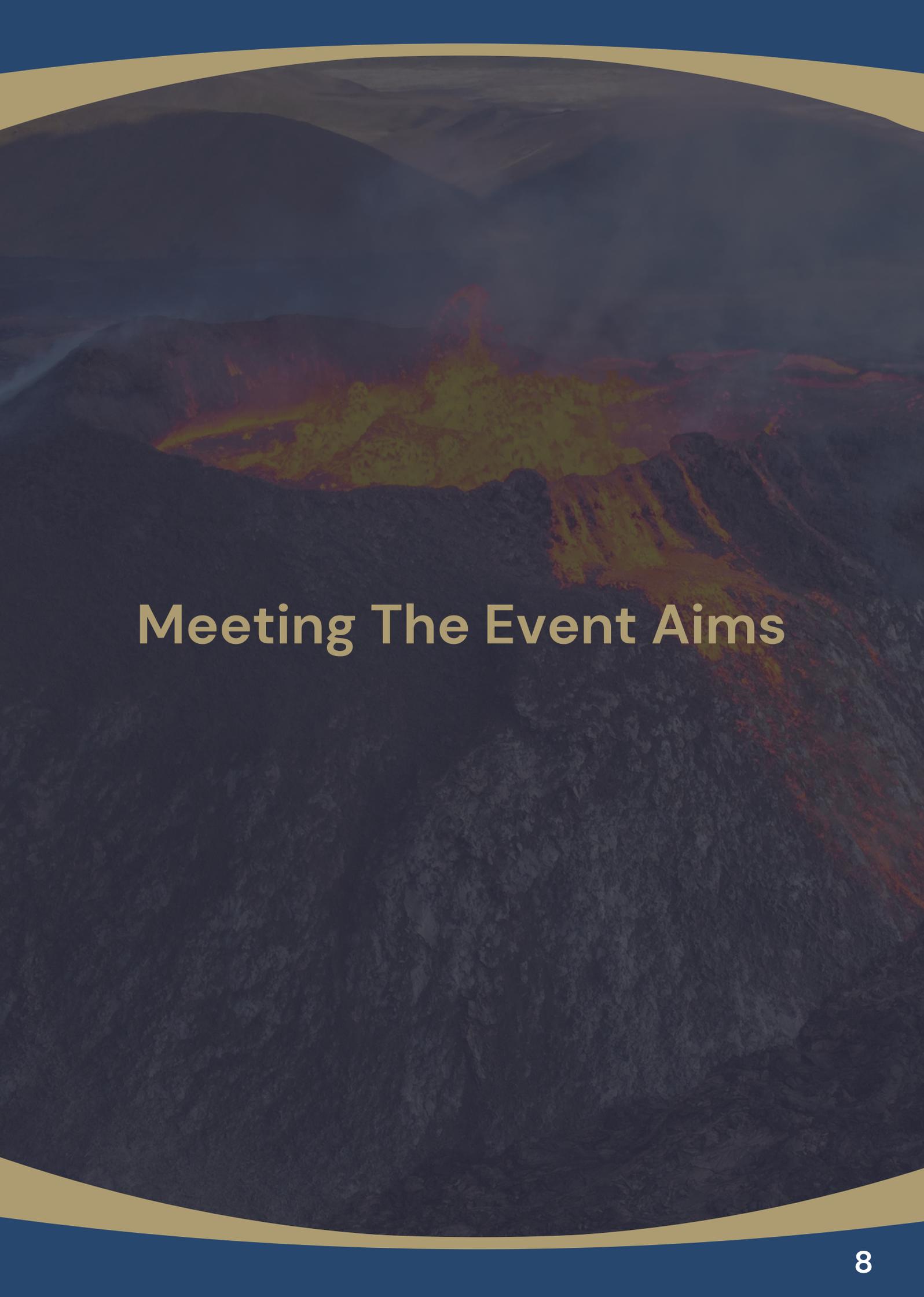




# Programme Testimonials

- “[The event] was **welcoming**, flexible and a low pressure environment that **made me want to participate** and try my best and learn a lot!”.
- “I **had more freedom** in researching and designing my own projects rather than being restricted to content taught at school, and the **organisers are super encouraging** and helpful”.
- “I skipped pre exam week to do this experience and it has 100% been worth it! This week I **learnt more than I normally do in a month**, and I have **had so much fun** as well.”.
- “This event **helped me destress** from my upcoming mocks”.
- “This work experience **beats all of the virtual work experiences** I have done so far”.
- “**There is much more freedom** in what you want to do and the 'teachers' are so much more chill!”





# Meeting The Event Aims

# Aims 1 & 2: Career Development and Networking

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1) **Learn about alternative careers**, and the benefit of unconventional career paths from researchers from a variety of backgrounds and subject areas.

2) **Network with**, and ask questions to, **real scientists** in different careers focussing on geology/geography, engineering, biology, environmental science, chemistry, space sciences.

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To address aims one and two, bespoke sessions that took place on Days one and two (October 27th & 28th) placed a large emphasis on networking and career development.

To ensure **students learnt about alternative careers** the keynote talk and smaller career talks featured speakers from varying backgrounds, research areas and identities. This enabled students not just to understand and critically analyse a wide range of perspectives and experiences, but also **feel validated** seeing an individual like them in a career they wish to enter. This **de-mystifies STEM** and makes it less intimidating for students to plot their career journey.

Students networked and engaged directly with hired speakers (across the event), asking questions with a **vast majority of students verbally contributing to the conversation**. The diversity amongst all hired speakers/challenge setters created a safe environment where students felt **comfortable** to ask questions on a range of topics, with particular emphasis on how to navigate STEM whilst being from an underrepresented community. Such questions enabled students to foster a sense of belonging and gain confidence in understanding safety and representation both in the field, and academia in general.

# Aims 1 & 2: Career Development and Networking

## Activity Review: Keynote Talk

20 minute talk, 40 minute Q&A

Summary: Students experienced their first keynote talk. The speaker was Dave Stone a Chief Scientist at JNCC. Dave specialises in evidence-based decision-making and integrating scientific findings across national policy, reviews and conservation/public health legislation.

Dave covered:

- Who they are, their interests, background and hometown
- Their unconventional career journey
- Experiences in STEM
- Advice they would give to students

This session received an average rating of **8.3** /10. 

### Testimonial from Dave Stone:

"[The students] seemed like a great group of students, and I am pleased that they found our conversations helpful. **I quite enjoyed the experience myself made me reflect a bit on life and my career.** I look forward to perhaps offering one of them [the students] a role in future years. I would be happy to come back again. There is something about getting to the twilight of my career that makes me want to share with the people coming behind me".

# Aims 1 & 2: Career Development and Networking

## Activity Review: Short Career Talks

45 minute talks, 45 minute Q&A

Summary: Two speakers each gave ~20 minute talks, then participated in a 45 minute Q&A.

### Speakers:

- Speaker 1 – Angus Aldis, CTC Science Programs Manager & Astrobiologist/Biogeochemist/Geothermal scientist
- Speaker 2 – Dyess Harp, Fullbright Scholar & Polar Ecologist

### Speakers covered:

- Who they are, their interests, background and hometown
- Their unconventional career journey and research
- Experiences in STEM as individuals from historically marginalised communities, and how hardships can be positive
- Advice they would give to students on navigating STEM, building communities and next steps for them.

This session received an average score of **7.8** /10. 

### Student testimonials:

- “I really felt **my future career goals are taken into account**”.
- “**It was interactive and engaging**, it was especially engaging as it delved into topics that I’m interested in pursuing”

## Aim 3: Boosting Employability

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3) **Develop essential career skills**, such as networking, communication, career planning, design and CV writing.

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To address aim three, days one and two (October 27<sup>th</sup> & 28<sup>th</sup>) presented students with mini-challenges (one set by BAS, one set by BGS and one set by CTC) that were designed so students developed skills such as communication, team work, graphic design and presentation.

Ensuring student employability was boosted **activities targeted the development of key skills required in STEM**. Often these tasks provide brief insight into the 'bread and butter' of being a scientist in addition to teaching students skills that they can use in both their **short and long term development**. These activities offered students a chance to **work under time limitations** and in groups to conceptualise a design and present it. This prepared them for the Zebera Design Sprint also.

Additional optional drop-in sessions were ran at the end of days one and two where students could share their CVs, personal statements and seek advice on how to structure and write these. An optional drop in session on day one also featured two past BAS & BGS interns who have studied geoscience related degrees. Students were given the opportunity to have a Q&A with them.

# Aim 3: Boosting Employability

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## Activity Review: BAS & BGS Mini Challenges

*120 minute session*

Summary: Students were set two mini challenges (one set by BAS, the other by BGS). Student selected one, then worked in groups to design a solution and present it to the BAS/BGS staff challenge setters.

### The challenges and setters:

- BGS: Dr. Maria Kariuki, Dr. Eleanor Dunn and Penelope Reeves – **“Geology for Urban Planning: Creative Thinking Challenge”**
  - *Students were tasked with creating a one-minute Instagram Reel about the geology of an urban location of their choice thinking about land use, risk assessment, infrastructure design and resource availability.*
- BAS: Dr. Hua Lu – **“How Arctic warming is changing weather, wildlife and our lives”**.
  - *Students were tasked with creating a presentation, report or poster about how Arctic warming is affecting wildlife behaviour and/or sea-ice decline and how this is further impacting geopolitics and/or scientific endeavours.*

This session received an average score of **8.5** /10. 

# Aim 3: Boosting Employability

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## Activity Review: Poster Design and Showcase

*150 minute session*

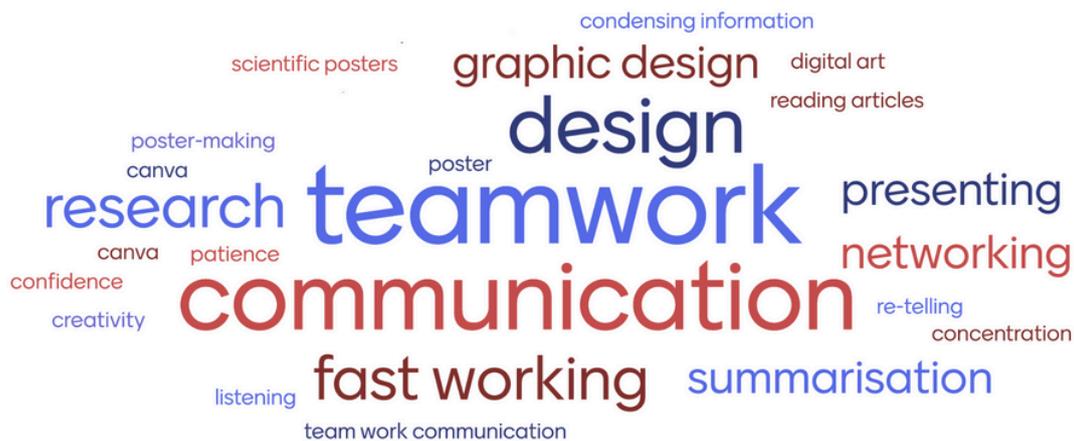
**Summary:** Firstly, students were taught how to read a scientific paper, what each section meant, how to get the most out of it and what order to read it in. Following on from this, they were given two scientific papers, or could find their own to read. Using these papers they then were tasked with making a scientific poster outlining that paper. Once done, a virtual conference was held where student read each other's posters and then received feedback from CTC and BAS/BGS staff members.

This session received an average score of **8.6** /10. 

### Student Testimonials about the poster session:

- "I was **able to collaborate** with a group of like minded people on interesting topics."
- "In a span of such a short time, **I've learnt so much about presenting** and teamwork!"
- "I loved making posters and **working creatively with science which motivated me** a lot more!!".

## Aim 3: Boosting Employability



**Figure 2.** Student reflections using a word cloud. The question asked: 'What skills did you develop?'

It is reassuring to observe that students felt their general confidence and communication were developed (Figure 2). For some it is often the first opportunity they may have to present so it is affirming to hear the majority of the cohort felt this was a skill they spent time gaining familiarity with. This is of particular importance as some students may not be as extroverted, or perhaps more nervous than others.

Other skills such as 'summarisation', 'graphic design' and 'fast-working' align with the intentional pacing of set challenges. These challenges ensure that students are able to feel less intimidated about learning technical skills and can increase personal development in a way that is advantageous irrespective of the student's career ambitions. As such students gain take-away skills which can be applied to their school work such as an EPQ, exam answer question or a university assignment.

# Aims 4 & 5: Creative Design

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4) **Engage with BAS & BGS science** as you collaborate to design a theoretical solution a real-world STEM issue.

5) **Understand the importance of inter-disciplinary research** by conducting a design sprint with Zebera.

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Days three, four and five provided students the opportunity to (in groups) complete a 'Design Sprint', hosted by Dr. Caroline Clark and Daphné Roth from Zebera. Students were to design a solution to a STEM challenge, set by BAS & BGS Staff; eight staff designed/set six challenges. Students spent the first two days researching and designing their solutions, with the last day being a friendly showcase to present their ideas.

Days one and two allowed students to work on activities over a few hours. Comparatively, the 'Design Sprint' enabled students to understand how manage a project over a few days. This varied working structure between days **allows students to explore and personally develop different engagement and learning methods**. This offers students a realistic glimpse into working life where everyday is varied, with some being less stimulating and others being intense. With this, **students understood how to manage projects** on varying time scales; a key skill for any future job.

# Aims 4 & 5: Creative Design

Additionally, each challenge was set by a BAS/BGS staff member, either an early career or more entrenched researcher. Students not only were able to directly network with these representatives from BAS/BGS, but also think critically about real-world STEM issues. These challenges also varied with some requiring data processing, graphic design and inter-disciplinary critical thinking. With this, **students were led to understand the role that inter-disciplinary research** and perspectives plays in STEM. By grouping students with varying career interests, all could appreciate how a project can evolve with the opinions, experiences and skills of differing team members. This became abundantly clear during the showcase where student's ideas took aspects from multiple STEM fields to solve the given problem.



# Aims 4 & 5: Creative Design

## Activity Review: Design Sprint

Three Day Session

This session received an average score of

9.2 /10.



### Student testimonials for the Design Sprint

- “I loved design sprint and this entire work experience from the beginning to the end. I had the ability to work with students like myself which **gave me the confidence to talk to people** and really have a nice conversation. I particularly enjoyed the amount of communication we had, which is one of things I struggle with the most and I learnt so many ways of communicating”
- “What I liked about the design sprint is, how it allowed me to **develop my research organisation, teamwork, and speaking skills**”
- “**Getting to work with people I'd never met before** but shared my interests **was also really good** for making me realise that it's a small world and people are generally chill.”
- “I liked how **it got me to think differently about a problem** and it made me approach problems in a different way.”





# **Overall Feedback: Measuring Event Impact**

# Overall Feedback

## Before and after the event metrics

To measure event impact, students were asked to self evaluate themselves both before and after the event.

6.1 /10



Average student confidence  
**BEFORE** the event



8.3 /10



Average student confidence  
**AFTER** the event



Post event average student confidence rose by ~2.2 with students citing the environment as **'safe'**, **'comforting'** and **'community-orientated'**. This is affirming for CTC as our work experience week preparation time is spent curating a nurturing and calm environment for all students to thrive in. Our approach is strongly guided by CTC's mission and vision to improve the STEM landscape and strengthen the talent pipeline. These principles are shaped by what we felt was missing from, or powerfully present in, our own secondary and higher-education experiences.



# Overall Feedback

## Before and after the event metrics

Students were also asked to agree/disagree with some statements. Below are the statements and the corresponding percentages of students that agreed/strongly agreed with the statement before and after the event.

	<u>Before</u>	<u>After</u>
I feel confident in what career I want to do in the future	45%	68%
I feel confident working with people from a wide range of backgrounds	88%	94%
I understand my strengths and weaknesses	63%	85%
I feel confident presenting	23%	79%
I have a good skill set that is valuable for my future	50%	85%
I feel confident I know how to tackle challenges and find solutions	35%	91%
I have a good network of contacts	38%	68%

# Overall Feedback

## Reflecting on before and after metrics

The evaluation findings highlight that the work experience week was effective in strengthening participants' confidence and employability skills. The most significant responses were observed in 'confidence in presenting' where (pre-event) 23% of participants agreed/strongly agreed with that statement compared to 79% of students post-event. Participant responses demonstrated improvements in their ability to tackle challenges and find solutions which observed a 56% increase in students agreeing/strongly agreeing with that statement. Combined with the increase of ~2.2 in student confidence, these findings point to positive impacts not only on technical knowledge but also on personal growth and self-efficacy.

In relation to career outlook and confidence in pursuing STEM pathways, 85% of students agreed/strongly agreed they felt they developed skills valuable to their future. This provides an encouraging shift in perception as before the event 50% felt confident in pursuing STEM with their current skillset. Looking ahead, most students indicated they intended to pursue a university course, while others were considering apprenticeships or remained undecided. It is encouraging to note that all felt they developed career relevant skills no matter the avenue they wished to pursue.

It is clear that the programme was successful in supporting participants build transferable skills, boost their confidence, and expand their professional networks, whilst also raising aspirations regarding future education and career pathways. This can further be observed in the below case studies collected via one-to-one interviews.

# Overall Feedback

## Student A Case Study

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### **Background**

Student A had just started Year 10.

### **Experience**

Student A enjoyed the event, finding it friendly and relaxed. They liked that it helped them gain a perspective on the entire scientific process. The student felt their confidence had grown, especially as the event helped them gain clarity on their career path, where to go, who to ask for help and how to achieve it. Student A's parent noticed a confidence increase, from initial shyness at the start of the event to the student being unmuted and camera on at the end.

### **Follow-up**

Student A (post-event) has contacted the national trust/local wildlife groups to seek out volunteering experiences to help with local issues and gain experience as "a stepping stone to help me being a penguin researcher".



# Overall Feedback

## Student B Case Study

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### **Background**

Student B had just started Year 12.

### **Experience**

Student B felt the event to be pressure and stress free. They stated that it allowed them to push themselves when facing difficult challenges because “you want to do really well so you work hard to show your best work to BAS/BGS”.

They felt that they learnt about ‘rogue’ jobs, allowing them to see that there are jobs in geography that are “not in an office” and that lets them do something they love. Student B directly stated that the event allowed them to develop confidence in pursuing a geography related degree. Initially they wanted to do environmental science, but this virtual program changed their mind.

### **Testimonial**

“[The event] helped relieve some worries and took the stress out of planning my career”.



# Overall Feedback

## Student C Case Study

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### Background

Student C is in sixth form completing exams and wants to go into polar science and geography.

### Experience

Student C mentioned that they had exams each morning of the work experience event and felt the event helped them de-stress.

Student C was a 'First Gen in STEM' and felt the event gave them guidance, reassurance (about the fact that you can change your career path) and the insight into a world of applied sciences.

### Testimonials

"I learnt more in the work experience than I would have done doing exam preparation".

"[The event] **helped me realise that I can do these exams.** It was supportive, de-stressing and chill as everyone was cheering each other on and it made me feel like I could do well in my exam".



# Overall Feedback

## Staff A Case Study (2024 event alumni)

### **Background**

Staff member A is in Year 13. They were a part of the 2024 BAS/BGS program, hired by CTC to help design activities and organise the 2025 event.

### **Experience**

Staff member A (over the last few months) was part of the first UK team at the 'Girls Go STEM Cybersecurity Challenge'. This was a Europe-wide competition with national teams competing. The team designed a solution to the challenge, gave a presentation in Belgium and achieved a top three result. The staff member felt that working with CTC, and completing the past 2024 BAS/BGS event, helped them specifically develop confidence presenting (and helping train teammates to give presentations) and designing creative solutions to develop their idea and interactive presentation for the event. This evident in them winning the Audience Choice award. They further emphasised that working with CTC to develop the event enabled them to gain confidence in virtual settings, especially in Zoom and email communications.



# Overall Feedback

## Staff B Case Study (2024 event alumni)

### Background

Staff member B is in university, completing geology. They were a part of the 2024 BAS/BGS program, hired by CTC to help design activities and organise the 2025 event.

### Experience

Staff member B enjoyed the creative side of working with CTC, especially when designing activities. They stated that it enabled them to tap into skills they wanted to develop in school but didn't learn in sixth form, such as graphic design, creativity and writing for a target audience.

The staff member stated that both working for CTC and doing the 2024 event has helped during university:

- It has helped with group work and the confidence to speak up and advocate for themselves.
- Helps with diagram and map creation for assignments and visualising what a good poster/graph should look like.
- Felt that working for CTC kept their brain active over quieter summer periods.
- It was their first job, so working for CTC helped them navigate how to organise and manage time.



# Overall Feedback

## Future recommendations

### 1. Expand to a six day program

Feedback indicated that a large portion of the cohort wished for the program to be longer.

Though the five day structure of the program does work, other virtual programs CTC runs expands to six days working Weds – Weds. Though this could be possible, this program being over the week half-term period is beneficial to maximise student engagement. Though this point will be considered and discussed.

### 2. More (and longer) icebreakers

Some students felt they wanted more icebreakers as they enjoyed getting to know each other.

This feedback may be potentially unique to this cohort.

Lengthening icebreakers does allow for additional interfacing time, though could enable more awkward silences. Additional icebreakers will be drafted, integrated into the program, or adapted into fun sessions that enable students to warm up for longer sessions/days.

### 3. Lengthen presentation times on Days 1 & 2.

Some presentations overran causing Day 1 to end later than the schedule stated.

Some presentations on Days 1 & 2 overran. Though additional time was allocated during initial planning in case, it was not enough; students went over time limits during presentations.

Allocating >60 minutes for presentations would be sensible, though does risk students getting bored. Consideration will be given to either lengthen presentation time, do simultaneous presentations in breakout rooms or ensure students adhere to time.

# Overall Feedback

## Next Steps

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Creative Tuition Creative's **Skills Accelerator Programme** is a six-week, online programme designed for previous work experience cohorts to build upon the skills they gained prior. The programme will be delivered through engaging and interactive sessions, developing key skills and building a network across the country.

Students will discover their revision style, visualise actionable goals, deepen knowledge in Python and CAD and demystify personal finance. Each session will have an expert in the field that will guide and challenge students with a variety of tasks. Students will collaborate through team activities and dedicated comms channels to strengthen their personal network and build confidence.





Thank you for helping us nurture  
the future generation of Geo and  
Polar Scientists!

-- *The organisational team*