

Evaluation of STEM Horizons Computer Science Partnerships

School Information Sheet

Overview

The Hg Foundation is funding the [STEM Horizons](#) Computer Science Partnerships programme, which will involve independent schools collaborating with state partner schools to enhance students' experiences of and attainment in GCSE Computer Science. The National Foundation for Educational Research (NFER) has been commissioned by Hg Foundation to conduct an independent evaluation of the programme to inform its future development and scaling to more schools.

About the programme

State schools often face challenges delivering GCSE Computer Science to the highest standards given a shortage of specialist STEM teachers and costs of providing access to technology. In turn, this may impede student participation and attainment in computer science, and limit opportunities for progression to tech jobs which can offer a good salary and support the growth and competitiveness of the UK's digital sector. Females and students from lower income backgrounds are also less likely to study and achieve highly in GCSE Computer Science. At the same time, independent schools, which comprise 7 per cent of the UK school system, are more likely to have qualified computer science teachers teaching at GCSE and A-level and their students obtain, on average, higher grades in public examinations at ages 16 and 18.

Building on some of the most promising existing partnerships, the STEM Horizons Computer Science Partnerships programme will involve independent schools partnering with state schools in their local area to form 'hubs'. Partner schools will have substantial proportions of students eligible for free school meals (FSM) and a shortage of computer science specialist teachers. A specialist computer science teacher from each independent school will work with partner schools to deliver a high-quality and enriching computer science curriculum and inspirational events, with the aim of improving students' attainment in GCSE Computer Science and take up of STEM subjects.

Who is involved in running the programme?

The STEM Horizons Computer Science Partnerships programme will be led by a small central team comprising a Programme Director and Programme Manager. The programme will be delivered by independent schools that will each act as the Lead Hub School for their locality working with partner state schools. Each Lead Hub School will allocate a lead representative for the programme and a computer science specialist teacher with 0.5 FTE capacity to deliver the programme activities for the hub. One of the independent schools,

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Royal Grammar School, Newcastle, will host a dedicated Programme Manager, who will coordinate the day-to-day running and monitoring of the programme across all hubs.

What does the programme involve?

The programme aims to partner independent schools with state schools in local hubs to provide the following to GCSE Computer Science students:

- Weekly online and in-person computer science sessions delivering an enhanced computer science curriculum linking to core GCSE Computer Science topics, with accompanying resources/hardware
- Regular support from peer mentors (sixth-form students from independent schools studying A-level Computer Science)
- Short online course to enhance maths skills related to computer science topics
- Virtual/in-person inspirational events

The programme will be delivered over three academic years from September 2025 to July 2028 with four cohorts of students within around 25 state schools:

- Cohort 1: Year 11 (September 2025 – June 2026)
- Cohort 2: Year 10 and Year 11 (February 2026 – June 2027)
- Cohort 3: Year 10 and Year 11 (February 2027 – June 2028)
- Cohort 4: Year 10 (September 2027 – June 2028)

Students who participate in cohorts 2 and 3 will receive the full two-year programme totaling approximately 100 hours of support. Students in cohorts 1 and 4 will receive similar support through the programme condensed within a shorter timeframe of a single academic year.

In addition, Year 9 students in partner state schools will have the opportunity to access the Bright Sparks programme, comprising of inspirational workshops and events delivered by host independent schools focusing on computer science topics, designed to inspire GCSE Computer Science participation. In the first year of the programme these activities may also be provided to Year 10 students.

Year 9 students across three years (2025 – 2028) and Year 10 students in the first year of the programme will be offered access to the Bright Sparks Programme comprising of 5-6 half-day inspirational workshops and events per year delivered to all partner schools in each hub collectively.

What does the evaluation involve for schools?

All schools taking part in the programme will be asked to contribute to evaluation requirements and to sign a Memorandum of Understanding (MoU) with STEM Horizons and NFER.

In order to evaluate the effectiveness of the programme, it will be crucial to understand what activities are delivered in practice and who is involved, what difference it makes to students' outcomes, and what all those involved in the programme think of it. Data collection for the evaluation will take place throughout the three years of the programme.

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The first year of the evaluation (September 2025 – July 2026) will involve:

- collection of monitoring information (MI) about attendance at activities (collected via each computer science specialist teacher from the independent school in each hub)
- virtual interviews with teachers of computer science from ten partner state schools
- a short online survey completed by computer science teachers from the remaining state schools in each hub who have not taken part in interviews.

The second and third years of the evaluation (September 2026 – July 2028) will involve:

- collection of monitoring information (MI) about attendance at activities (collected via each computer science specialist teacher from the independent school in each hub)
- face-to-face case studies in five partner state schools across different hubs, involving visits to schools to speak to the teacher of computer science, Year 10 and 11 students studying computer science and Year 9 students taking part in Bright Sparks activities, alongside observation of programme delivery
- virtual interviews with teachers of computer science from five partner state schools
- a short online survey completed by computer science teachers from each partner state school
- baseline and endpoint tech outcomes survey with Year 10/11 students (Cohort 3)
- analysis of publicly available data (National Pupil Database) on trends in GCSE Computer Science attainment and take up in schools involved in the programme compared to a comparison group of schools matched on similar characteristics.

The evaluation will also involve consultations with computer science specialists from independent schools and leads from each hub to comprehensively gather all perspectives.

What is the timeline for the programme and its evaluation?

Date	Programme Activity	Evaluation activity
Autumn 2025	Cohort 1	MI data collection
Spring 2026		MI data collection
Summer 2026	Cohort 2	Teacher survey administered Teacher interviews (virtual) MI data collection
Autumn 2026		Cohort 3 baseline Tech Outcomes Survey MI data collection
Spring 2027	Cohort 3	MI data collection
Summer 2027		MI data collection Teacher interviews (virtual)
Autumn 2027	Cohort 4	MI data collection Collect NPD data on GCSE Computer Science attainment and entries (Cohort 2)
Spring 2028		MI data collection
Summer 2028		Cohort 3 endpoint Tech Outcomes Survey Teacher survey administered Case study visits (Cohort 3) MI data collection
Autumn 2028		Collect NPD data on GCSE Computer Science attainment and entries (Cohort 3)
Spring 2029		Analysis Final report published

What are the benefits of participating?

By participating in the evaluation, partner state schools will have the opportunity to improve Computer Science GCSE outcomes for their students and also contribute to the evidence base that informs efforts to improve education outcomes for all children. If successful, it is hoped the programme will be expanded to more schools and to other STEM subjects in the future. The evaluation report will be publicly accessible on the Hg Foundation website upon completion.

How will data be used?

As part of the evaluation and delivery of the programme, the specialist computer science teacher from each independent school hub will be collecting data on the state partner

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schools involved, including URN numbers, contact details of participating staff, student attendance in activities, student characteristics (e.g. gender, year group, FSM eligibility status). The information collected by the hubs will be shared with NFER for the purposes of the evaluation.

All data gathered during the evaluation will be treated with the strictest confidence, in line with the Data Protection Act 1998 and the UK General Data Protection Regulation (the UK GDPR). Your school, staff and students will not be identified in any report arising from the research. We expect that your students will enjoy their involvement in the programme. If parents prefer their child NOT to take part in evaluation activities, or their data not to be processed for the purpose of the evaluation, please inform NFER at StemHorizons@nfer.ac.uk.

For further information about the data being collected and how it will be used, please see:

- NFER Privacy Notices for school staff and students and parents/carers, available here: <https://www.nfer.ac.uk/for-schools/participate-in-research/participate-in-research-projects/evaluation-of-stem-horizons-computer-science-partnerships/>

Who should I contact for more information?

For further information about the STEM Horizons Computer Science Partnerships programme, please contact J.Smith@rgs.newcastle.sch.uk

For further information about the evaluation please contact NFER at StemHorizons@nfer.ac.uk.