



Black Mathematicians

Big Ideas Impact Report
2025 – 2026



Introduction

Celebrating... was a national programme delivered by Big Ideas in partnership with the Heilbronn Institute for Mathematical Research. Through a series of live digital workshops, more than 22,000 primary-aged pupils from across the UK explored the lives, achievements and contributions of Black mathematicians while meeting contemporary mathematicians working in the field.

The programme was designed to address two key challenges within mathematics education: the limited opportunities many young people have to engage directly with practising mathematicians, and the lack of diverse mathematical role models represented within many educational experiences. By combining historical storytelling, live mathematical investigations and direct interaction with mathematicians, the programme aimed to increase enjoyment of mathematics while building confidence, aspiration and a sense of belonging among pupils aged 8–11.

Impact summary

Reach

- 22,361 pupils engaged across the UK
- 275 primary schools participated
- Representation from 63 local authority areas

Learning

- 100% of teachers reported pupils learned something new about mathematics or mathematicians
- 100% reported pupils learned something new about careers connected to mathematics

Representation

- 90% agreed the workshops challenged stereotypes about who can be a mathematician
- 90% would like to see more events celebrating Black mathematicians

Access to Role Models

- Before the programme, only 18% of pupils had met a mathematician
- Through *Celebrating...*, 100% of participating pupils engaged directly with a practising mathematician

Meeting a Clear Need

Celebrating responded to data gathered in October 2024 when Big Ideas and the Heilbronn Institute partnered to tell the story of an eighteenth century mathematician who was enslaved as a child and was known for his exceptional numeracy skills. *Black History in Maths: Celebrating Thomas Fuller*, attracted 8523 participants. Teachers were asked whether they had explored Black History in Maths prior to the event; 11% said yes.

Noting the clear need, Heilbronn commissioned Big Ideas to hold a series of Celebrating workshops taking the programme outside of Black History Month.

On registration for the Celebrating programme, teachers were asked whether they had discussed Black mathematicians with their classes. Only one-third of teachers had, despite 98% agreeing that it is important for pupils to learn about Black mathematicians and their contributions. This highlights a significant gap between educational aspirations and the resources, opportunities and curriculum content available to schools.

The programme provided schools with an engaging and accessible way to address this gap. By combining stories of historical mathematical pioneers with contemporary role models, pupils were able to see mathematics as a diverse, relevant and accessible subject.

Teacher feedback demonstrated the value of providing opportunities for pupils to encounter a wider range of mathematical role models:

“My class really enjoyed the session. We are from a predominantly white British area, so it was brilliant to see black women with amazing careers. I have one black girl in my class and she really loved seeing people like her being represented.” –

Brownhills West Primary School (Walsall)

Expanding Access to Role Models

One of the programme’s most significant achievements was increasing access to practising mathematicians.

Each workshop featured a contemporary mathematician who shared their experiences and answered pupils’ questions. This direct interaction helped make mathematical careers more visible and relatable, while demonstrating the wide range of opportunities that mathematics can create.

As one teacher reflected:

“They [her pupils] couldn’t believe you could do maths for a living.”

Priory Primary School (Shropshire)

Another teacher highlighted how the programme challenged assumptions about mathematical ability and career pathways:

“The workshop created an interesting discussion about who is ‘good at maths’ and the need to persevere. It also helped children to understand the range of career opportunities linked to maths.” –

Grafton Primary School (Dagenham)

The importance of representation was also evident in teacher feedback:

“It was inspiring for pupils to see a woman of colour as a mathematician and scientist.”

Hawley Primary School (Camden)

As another teacher noted:

“The class enjoy interacting with real mathematicians and this is especially inspirational to our very ethnically mixed catchment.”

St John's Primary (Portsmouth)

National Reach

Over 22,000 children from 275 primary schools took part in the series. Many schools registered multiple classes, demonstrating strong teacher advocacy and recognition of the programme's value.

Schools from 63 local authority areas participated, highlighting the programme's extensive geographical reach. The highest levels of participation came from Bolton and Barking and Dagenham.

Number of participating schools in the top ten local authorities by attendance

Rank	Authority	Count
1	Bolton	48
2	Barking & Dagenham	42
3	Bradford	24
4	Birmingham	23
5	North Somerset	19
6	Hartlepool	18
7	Sunderland	17
8	Essex	16
9	Islington	13
10	Nottinghamshire	13

The profile of participating schools demonstrates the programme's strong focus on engaging children in areas facing significant socioeconomic disadvantage. Many of the local authorities with the highest levels of participation are among the most deprived in England. For example, Barking and Dagenham and Birmingham are more deprived than 97% of local authority districts nationally, while Nottinghamshire (95%), Bradford (92%), and Hartlepool and Sunderland (90%) also rank among the most deprived areas according to the Indices of Multiple Deprivation (2025).

Overall, the data suggest that the programme successfully reached schools in communities experiencing some of the greatest social and economic challenges, reflecting a strategic commitment to directing engagement towards areas where opportunities to improve outcomes are likely to have the greatest impact.

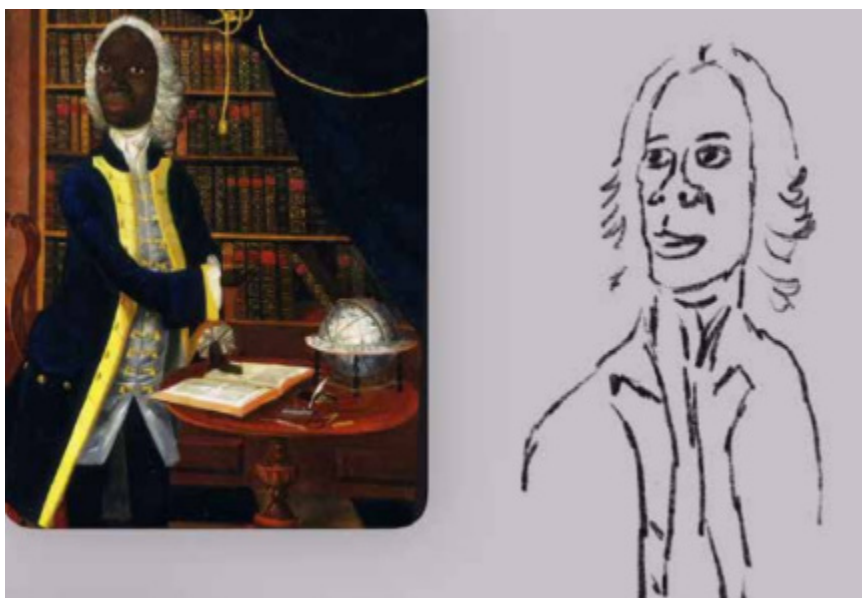
Importantly, the workshops took place outside Black History Month and were not linked to any awareness campaign, indicating genuine educational demand for year-round opportunities to explore diverse mathematical histories, role models and career pathways beyond established cultural calendar moments.

Series Overview

Celebrating... consisted of a series of termly digital events for UK primary schools. Each event featured a contemporary Black mathematician celebrating the achievements of a mathematician from history, combining storytelling, role models and live mathematical exploration.

Celebrating... Francis Williams

Celebrating... Francis Williams introduced pupils and teachers to the story of Francis Williams, one of the most significant Black intellectuals of the eighteenth century. Through a historical painting connected to Williams and his work, pupils explored themes of mathematics, science and representation. The session was led by Dr Luke Davis – theoretical physicist, mathematician and artist at the University of Edinburgh – who shared his passion for mathematics, creativity and research.



Live drawing during workshop of Francis Williams by Dr Luke Davis

Teacher feedback highlighted the programme's broader educational impact:

"This was a really interesting workshop that pushed many of our students outside their normal sphere of thinking, developing wider cultural understanding."

Teacher feedback

Celebrating... Katherine Johnson

Celebrating... Katherine Johnson explored the life and achievements of Katherine Johnson and her pioneering work in analytical geometry and calculating trajectories for NASA's space missions.

The session was led by Dr Angela Tabiri from the African Institute for Mathematical Sciences in

Ghana. Through a live mathematical investigation into palindrome numbers, pupils engaged directly with mathematical problem-solving while learning about Johnson's extraordinary contribution to science and space exploration.

Teacher feedback reflected the enthusiasm generated by the session:

"Children loved working out the solutions to the problems and loved palindrome numbers."

Elmgrove Primary School (Harrow)



Young people show their symmetrical drawings alongside a portrait of Katherine Johnson [left] and a portrait of Katherine Johnson [right]

Reflecting on Johnson's legacy, Dr Angela Tabiri shared:

"Katherine Johnson shows me that irrespective of your gender, your colour, where you are, you can become a mathematician."

Celebrating... Muhammad al-Fulani

The third and final events of the series celebrated the life and work of one of West Africa's mathematical giants. Young people followed in the footsteps of Muhammad al-Fulani al Kishnawi - a Nigerian mathematician, scholar and astrologer from the 18th century - and discovered the beauty of magic squares. The session's special guest was Dr Lassina Dembélé - a Lecturer in Computational Number Theory in the Department of Mathematics, King's College London.

“Really good input as part of a de-colonised STEM curriculum.”

Teacher feedback



Lassina Dembélé and Big Ideas host, Bilkisu Labaran, in action

Conclusion

The programme demonstrated that representation, storytelling and authentic engagement with practising mathematicians can play a powerful role in broadening young people's perceptions of mathematics and the people who shape it.

By introducing pupils to both historical and contemporary Black mathematicians, Celebrating... challenged stereotypes, increased access to role models and supported schools to deliver a more inclusive mathematics curriculum. For many pupils, the programme provided a rare opportunity to meet a mathematician and to see mathematics as a subject connected to real people, diverse histories and exciting future careers.

As schools continue to seek meaningful ways to inspire the next generation of learners, Celebrating... shows how inclusive role models and lived experiences can help more young people see themselves as future mathematicians, scientists and problem-solvers.

Find out more www.big-ideas.org