



STEM Education and Engagement

Academic year:
September 2023 – August 2024



Our STEM education and engagement programmes

The Oxford Trust's STEM education and engagement programmes are delivered through **Science Oxford**. Our STEM (science, technology, engineering and maths) based programmes aim to inspire young people aged 3 to 18 about science. We want to foster curiosity, cultivate a positive attitude towards science, lay the foundations for science learning and build science capital. We want to show young people that science is something that they can all enjoy and succeed in.

To do this, we provide inclusive and interactive STEM activities and experiences for primary and secondary students, as well as families with young children. Our programmes are designed to increase knowledge, skills and aspirations. We deliver these activities across Oxfordshire and Buckinghamshire and at our Science Oxford Centre in Headington. We work with multiple audiences – school pupils and teachers, families, community groups and the wider public.

Our aim is to inspire the next generation of scientists, innovators and problem-solvers, ensuring STEM is open to all young people, regardless of background.

This update highlights The Oxford Trust's work in STEM education and engagement, delivered through Science Oxford over the last academic year (September 2023 to the end of August 2024). Over the year, our programmes have reached over 30,000 people.

The review covers our education programme for primary and secondary schools across Oxfordshire and Buckinghamshire, as well as our engagement programme for families and young children. Our goal remains the same: to encourage the pursuit of science.



Year 4 visit to the
Science Oxford Centre.

Update on our education programme

Our education programme for primary and secondary schools is delivered by our expert Science Oxford team and aims to inspire young people about STEM. We have an extensive primary school programme as well as a STEM Careers Programme for secondary schools in Oxfordshire and Buckinghamshire. Over the 2023–24 academic year, we engaged over 20,000 young people from primary and secondary schools in our region.

Our Year 4 class had a fabulous time today at Science Oxford, where they had an exciting opportunity to explore circuits and act as detectives. The hands-on activities allowed students to engage with electrical components, learning about how circuits work through practical experimentation. By solving various challenges, they developed critical thinking and problem-solving skills. The experience was both educational and enjoyable, sparking curiosity and a deeper understanding of scientific principles. The trip was a fantastic success, leaving students inspired and eager to learn more about science.

Teacher, Kidmore End CE Primary School

Outdoor learning
at the Science
Oxford Centre.



School visit to the
Exploration Zone,
Science Oxford
Centre.



Update on our education programme

Primary School Programme

Our primary school programme supports STEM teaching and learning for pupils across the region. Schools can visit the Science Oxford Centre in Headington, and we also offer an outreach programme that includes STEM-focused shows and workshops, science kit loans, and Continuing Professional Development (CPD) sessions for teachers in schools across our area.

In the last year, over 8,000 pupils visited the Science Oxford Centre from 137 schools. The highest levels of engagement came from local schools within easy walking distance, Wood Farm Primary and Windmill Primary, which each visited the Centre six times over the year. Of the schools that visited the Centre, 118 (86%) were from the state sector and 19 (14%) were from the independent sector.

Our outreach team visited 92 schools, engaging over 10,000 pupils in STEM workshops and shows. The planetarium was the most popular show with 83 bookings over the year. Additionally, 23 schools borrowed a total of 33 science kits from our loan service. In total, we worked with 83 (90%) state-funded schools and 9 (10%) independents. A further 1000 pupils joined online for our Winter Livestream show on “Have you got the guts to learn about food?”, which investigated food and digestion with live demonstrations from the Science Oxford team.

The Oxford Trust is committed to actively supporting those under-represented in the STEM sector and people from disadvantaged backgrounds. A special Equity, Diversity, Inclusion (EDI) Fund is provided by the Trust, to heavily subsidise sessions for priority audiences, including those from schools with above average Free School Meal (FSM) percentage.

Reception and Year 1 took off into space to explore the solar system from the comfort of school. They heard stories of the stars, visited planets and even saw the International Space Station. After plenty of questions and discussion, they made a safe landing back on earth. All thanks to Science Oxford. A brilliant day!

Teacher, Summer Fields School



STEM workshop
delivered by
Science Oxford for
science day at local
primary school.

Update on our education programme

CPD & Thinking, Doing, Talking Science

Through our specialist **Teacher CPD courses**, we delivered 27 sessions, training 403 teachers in a total of 47 primary schools.

Underpinning all the work at Science Oxford is the best practice pedagogy, Thinking, Doing, Talking Science, co-created by Science Oxford and Oxford Brookes University. The associated training programme equips primary teachers with the skills to create engaging, practical and thought-provoking science lessons that encourage pupils to develop higher-order thinking skills. The goal is to make primary science lessons more practical, creative and challenging.

In June 2024, under an exclusive license from The Oxford Trust, the Primary Science Teaching Trust became the lead national partner for the ongoing delivery of Thinking, Doing, Talking Science courses across the UK. As part of this agreement, courses in Oxfordshire and Buckinghamshire will continue to be delivered by The Oxford Trust's Science Oxford team.

In 2025, Science Oxford will be running a four-day Thinking, Doing, Talking Science course at the Science Oxford Centre as well as a range of other CPD courses to continue supporting teaching and learning in schools across our region.

As the science lead, I have attended a lot of CPD at Science Oxford over the last two years, which has been invaluable to our school. Science has gone from being undervalued to high on the school agenda. The children now often say it's their favourite subject.

Teacher, Orchard Fields Primary School



Children enjoying a STEM workshop at school.

Update on our education programme

Forest Schools

With 15 acres of woodland, grassland and ponds surrounding the Science Oxford Centre, we were pleased to welcome 1,860 children over the year from primary schools within easy walking distance for their own school-led Forest Schools activities.

Big Science Event

The annual **Big Science Event** is designed to support and celebrate pupil-led investigations, giving children the opportunity to develop their scientific and oracy skills. Investigations can be part of school science week, clubs, lessons, or even a homework project. Children present their investigations to a panel of judges at the grand final, held at the Science Oxford Centre in July, with prizes awarded to the winning schools. This year, 42 schools from Oxfordshire and Buckinghamshire took part, with an incredible 9,438 participants in total.

The Year 4 team from Windmill Primary School took the top spot in the Oxfordshire schools' final with their investigation on "Which food do animals like the best at Windmill School?". The Year 4 team from St Nicholas' Church of England Combined School were awarded as winners of the Buckinghamshire final with their investigation on "What foods are insulators and which are conductors?". Congratulations to our winners!

We would like to extend our thanks to Diamond Light Source, Abbott and RM Educational Resources Ltd for their generous support.

Abbott is a long-term supporter of Science Oxford and the Big Science Event for schools – it is a truly inspiring event, and we are very proud to be involved. We enjoy seeing the wide variety of ideas that the children come up with and how they take charge of their own investigations. We believe that the curious minds of today will lead to the innovation for tomorrow's breakthroughs.

Finalists for the Big Science Event 2024.



Update on our education programme

Secondary school programme

Our STEM Careers programme is designed to create opportunities for secondary school students aged 11–18 years to gain the knowledge and skills to springboard them into a STEM career. We do this by running a wide range of activities including Skills Workshops, STEM Insight Weeks, and a two-week STEM Summer Experience. This academic year, we engaged 1,089 secondary school students through outreach events and insight days. We received 72 nominations for the Young Scientists of the Year Award.

We are currently reviewing our STEM Careers Programme and reimagining our approach to inspire and empower the next generation of engineers and innovators. Our aim is to develop a fresh, impactful programme.

Accessing Science Fund

In May 2024, The Oxford Trust launched the Accessing Science Fund to improve science learning for children and pupils who are less likely to have access to STEM activities and resources in schools and community groups across Oxfordshire and Buckinghamshire. The fund was launched as part of the 5th anniversary celebration of the opening of the Wood Centre for Innovation and the adjoining Science Oxford Centre.

The fund will specifically raise money from the region's corporate partners to support schools with a high percentage of pupils eligible for free school meals and those facing specific barriers to accessing STEM activities, as well as community groups with fewer STEM opportunities, such as young carers, refugee groups and groups working with those who experience socio-economic challenges.

Our aim is to widen science learning for everyone.



Young Scientists
of the Year
Award 2023.

**If you're in doubt or
wondering if Science Oxford
makes an impact, please
know that it really does.**

Parent, STEM Summer Experience



Update on our engagement programme

Our Science Oxford team runs a vibrant **programme of events**, including Family Days and STEM Clubs at the Science Oxford Centre, as well as events in partnership with communities across Oxfordshire and Buckinghamshire. Over the last year, we reached over 12,000 people.

Family Days

Our Saturday Family Days at the Science Oxford Centre remain highly popular and were over 90% booked over the last year with a total of 10,589 visitors. Each quarter, we also ran Sensory-friendly Family Days, with smaller groups, to better support young people with autism or additional needs and their families. These days were fully booked and consistently well received by attendees.

Over the winter months, when the outdoor Water Lab is closed, we hosted a series of Live Labs in the Exploration Zone. Families had the opportunity to meet a scientist, student, researcher or a member of our expert team and participate in mini experiments inspired by real-world technology and scientific research. Activities included investigating bacteria, exploring kitchen science with cabbages and extracting strawberry DNA, along with fun ideas to try at home.

Family Day at the
Science Oxford Centre.

We honestly had the BEST afternoon at Science Oxford yesterday! It was two hours of pure explorative learning, mixed with loads of fun!

Visitor, Family Day at the Science Oxford Centre





Update on our engagement programme

STEM clubs

In 2023–24, the Science Oxford team ran monthly Nature, Science and Creative Computing Clubs at the Science Oxford Centre, along with repeat sessions of the Science Clubs at Abingdon School. Our STEM Clubs are designed to provide on-going engagement with families, as research shows that this is essential for building children's science capital. Over the year, we ran 45 clubs for ages 5 to 14, with over 1,000 children attending.

This year, we also ran a pilot Robot Club for older children aged 11–14. Led by our Technology Projects Officer, this six-week series of robotics workshops were designed to develop coding, designing and building skills.

During term-time, we ran Arti-Techs, an after-school club supported by the Trust's EDI fund. The club was designed to provide repeat engagements for 12 to 15 young people, aged 11–14 year, often underserved by STEM.

**These clubs are all fantastic.
Perfectly designed with an excellent
balance of hands-on activities and
scientific explanations.**

Parent, STEM Club

**My son has really enjoyed
the unstructured format,
and this has encouraged
his creativity.**

Parent on Arti-Techs after-school club



Saturday Computer
Club at the Science
Oxford Centre



Update on our engagement programme

IF Oxford Science & Ideas Festival

In October 2023, we were thrilled to be part of IF Oxford Science & Ideas Festival (supported by The Oxford Trust) with Super Science Sunday at the Science Oxford Centre. As always, it was a great success with over 360 tickets sold. Visitors enjoyed a special day engaging with researchers, presenters and publishers, exploring topics such as the design of medicines, the importance of natural ecosystems, and how engineers tackle big problems – all through interactive, hands-on activities.

As part of the Festival programme, our Technology Projects Officer led Glow your Own coding sessions, where participants built creative circuit with sensors that control LEDs and designed their own moving lantern for the Oxford Light Festival. We also hosted a screening of the UK Atomic Energy Authority's documentary, "Starmakers: The Energy of Tomorrow", followed by a panel discussion on fusion and nuclear energy with expert speakers.

Super Science Sunday,
part of the IF Festival, at
the Science Oxford Centre.





Update on our engagement programme


Community programme

During the 2023–24 academic year, we ran 20 community group events, reaching 824 people from community groups including the Parasol Project, Oxford Community Action, Berkshire Vision, Barton Community Association and Be Free Young Carers.

One of the most successful community events was our first-ever Starry Night, a family stargazing evening at the Science Oxford Centre. Local families had the chance to look up at the night sky through professional telescopes and see a planetarium show, where our resident astrophysicist showed visitors our world from space. Starry Night was delivered in partnership with Bold Futures, the Museums Association, The Liminal Space and the Wellcome Trust.

Thanks to a collaboration of local organisations, we visited libraries and community spaces in Banbury, Barton, Berinsfeld and Cowley. Over 300 children enjoyed free science-themed activities over the holidays, including our popular Science of Magic show.

The Oxfordshire area provides a thriving STEM innovation ecosystem that is actively working to make impactful advancements. A key part of the future success will lie in the creation of diverse talent to fill new and evolving roles. It is imperative that young people are inspired early on in their lives about the wonders of science, a vision that was at the heart of what has been created by The Oxford Trust’s founders, Sir Martin and Lady Audrey Wood. We hope to fulfil our mission to “encourage the pursuit of science”.



Inside the planetarium at the Starry Night event at the Science Oxford Centre.



Francesca MacLennan
Director of Science
Education & Engagement.

Our impact

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Education programme

20,000+ Young people reached
59 Member Schools

Primary School Outreach Programme

92 Schools reached
10,000+ Pupils engaged
33 Kit loans
403 Teachers trained



Big Science Event participants

42 Schools
9,438 Children

137 Schools visiting the Centre
8,798 Children engaged

169 School visits to the Centre

Science Oxford Centre for Primary Schools

Secondary School STEM Careers Programme

1,089 Secondary school students reached
72 Young Scientists of the Year nominations

30,000+



People reached across all our education and engagement activities

Our impact

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10,589 Visitors to Family Days

824 Attendees at community events

1,368 Attendees of STEM clubs



Engagement programme

12,000+



People reached





Trustees:

Dr John Boyle (Chair)
Jude Bennett
Paul Dean
Dr Sarah Dry
Professor Alistair Fitt
Jonathan Flint CBE
Nicola McConville
Imam Monawar Hussain MBE
Megan Morys-Carter
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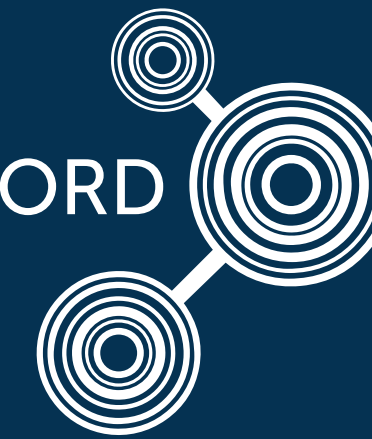
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