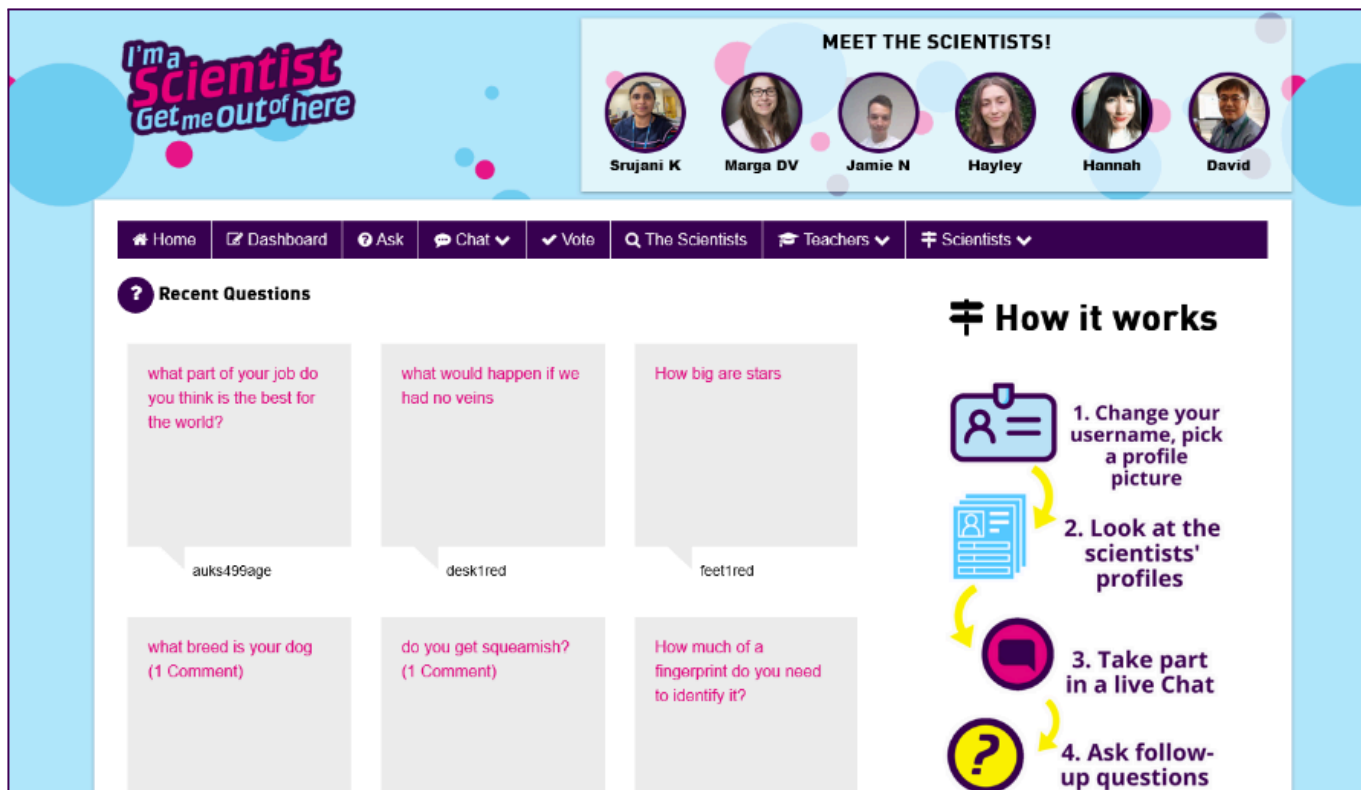




*I'm a Scientist,
Get me out of here*

**Summary of activity:
Spring 2024**

January to March 2024



Key activity figures

Students logged in	5,240
Students active ¹	4,606 (88%)
Schools active	116
Scientists given access	609
Scientists active ²	378 (62%)
Scientists active in chats	343
Chats took place	330
Lines of chat	100,434
Average lines per chat	304
Follow-up questions asked	554
Follow-up questions approved	296
Answers to follow-up questions	1,848
Comments from scientists	310
Comments from students	9
Votes cast	1,740

Since its inception in 2008, *I'm a Scientist* has taken place in small 'zones'; individual activities with groups of scientists often related to a single theme. From January 2024 the project took on a new delivery model.

No more themed zones. Teachers can choose when they want to take part, and what they want to discuss. They can select a theme based on their current curriculum topic. Scientists can choose the chats which meet their areas of work, and fit with their schedule.

During the 2024 Spring term, 5,240 students logged in and were able to put their questions to 609 scientists working across the whole spectrum of STEM.

There were over 100,000 lines of chat in discussion between students and scientists, with scientists spending over 850 hours answering students' questions and showing that STEM is something for them.

¹ Students who took part in a chat, asked a follow-up question, posted a comment, or cast a vote

² Scientists who took part in a chat, answered a follow-up question, or posted a comment

Participants and activity

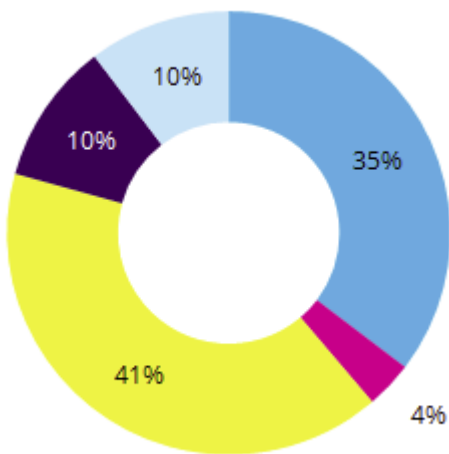
Schools

5,240 students from 116 schools took part in *I'm a Scientist* in Spring 2024.

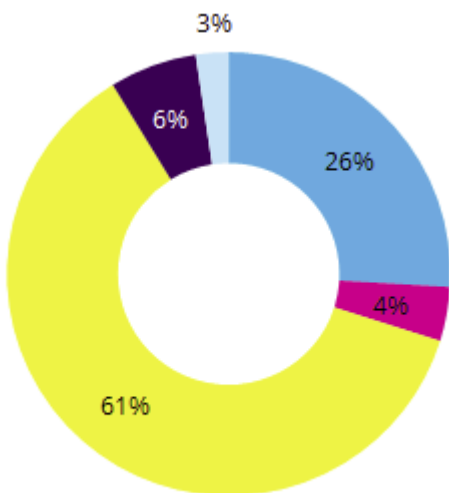
School phase

- Primary
- Mixed / All through
- Secondary
- 16 Plus
- Other

Participating schools



Active students



Locations of participating schools

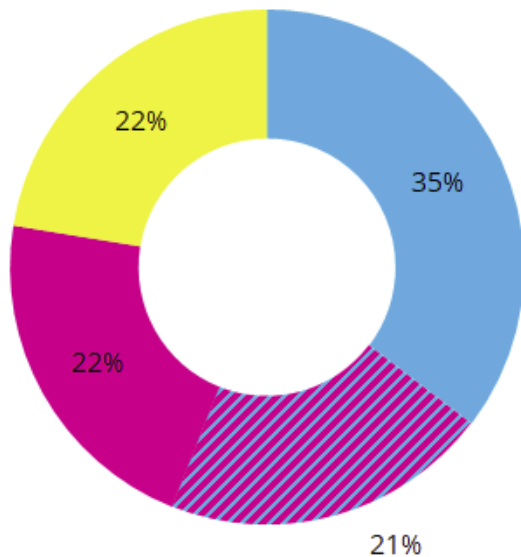


Map of participating UK schools. Additionally, 2 non-UK schools took part.

Priority schools

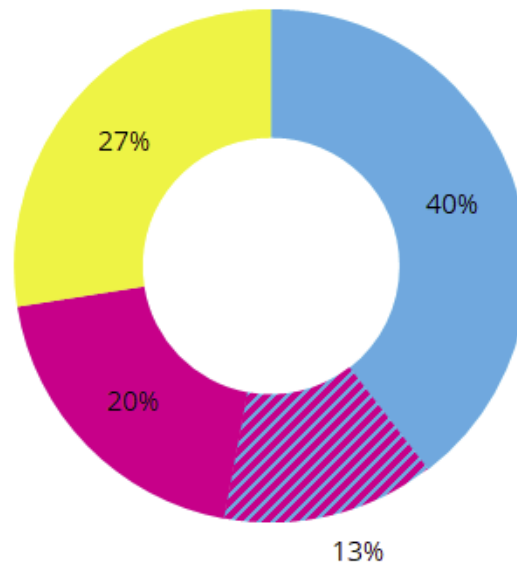
We prioritise opportunities for widening participation schools³, and schools distant from major research HEIs⁴. Teachers at these schools are offered additional support, and earlier booking for chats.

Participating schools



■ Schools with high WP quintiles
■ Schools distant from HEIs

Active students



■ Schools distant from HEIs with high WP quintiles
■ Non priority schools

78% of participating schools, and 73% of active students were at priority schools.

- 56% of participating schools, and 53% of active students were at priority widening participation schools
- 43% of participating schools, and 33% of active students were at priority schools more than 30 minutes travel time from their nearest major research HEI

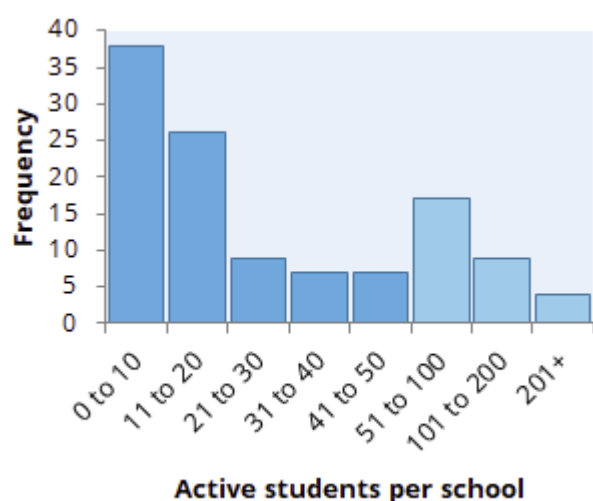
³ We define a priority widening participation school as one with a high proportion of students (quintiles 4 and 5) receiving Free School Meals, or Pupil Premium; or living in the most deprived areas in the Scottish Index of Multiple Deprivation (SIMD). Additionally, FE colleges, SEND schools, and PRUs are considered priority schools.

⁴ Schools more than 30 minutes from their nearest major research HEI are half as likely to receive a visit from a scientist as those within 15 minutes travel time. State schools more than 30 minutes from a HEI are priority distant schools. See:

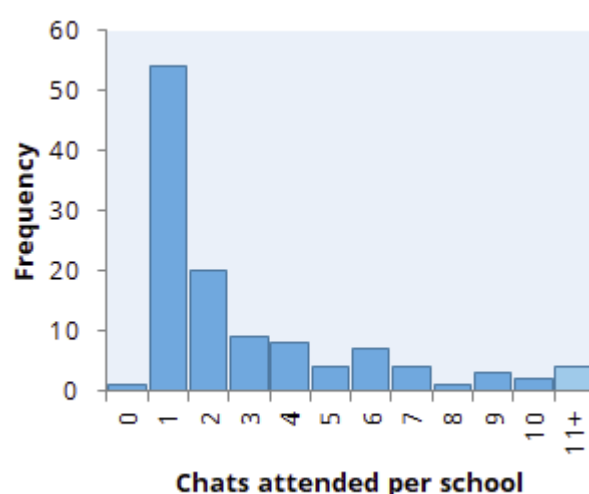
about.imascientist.org.uk/2017/school-engagement-in-stem-enrichment-effect-of-school-location/

School activity

Number of active students per school



Number of chats attended per school



46% of schools attended a single chat, and 53% 2 or more. 18% of schools were likely taking part with whole year groups, or as school-wide activities (in primary) taking part in 6 or more chats. 4 schools had over 200 students actively participate. Our Lady's RC High School took part with over 300 students and 7 teachers; they have continued to book chats into the Summer term.

20 most active schools

School	Phase	Priority	Active students	Chats attended
Our Lady's RC High School, Manchester	Secondary	WP-Q5	307	19
Sir Herbert Leon Academy, Milton Keynes	Secondary	WP-Q5	221	14
Frithwood Primary School, Hillingdon	Primary	WP-Q2	209	11
St Thomas More Catholic High School, Cheshire East	Secondary	WP-Q3	208	13
Burntwood School, Wandsworth	Secondary	WP-Q4	169	9
The King's Academy, Middlesbrough	Secondary	WP-Q4, Distant	163	7
Penryn College, Cornwall	Secondary	WP-Q3, Distant	147	9
Broadwater School, Surrey	Secondary	WP-Q2	141	6
Coombe Wood School, Croydon	Secondary	WP-Q4	132	6
Churston Ferrers Grammar School Academy, Torbay	Secondary	WP-Q1, Distant	131	7
Loughborough College, Leicestershire	16 plus	Other WP	123	8
The Gerrards Cross CofE School, Buckinghamshire	Primary	WP-Q1	116	4
The City of Leicester College, Leicester	Secondary	WP-Q3	104	10
Stockport School, Stockport	Secondary	WP-Q4	93	6
The Belvedere Academy, Liverpool	Secondary	WP-Q3	80	4

School	Phase	Priority	Active students	Chats attended
Yewlands Academy, Sheffield	Secondary	WP-Q5	77	4
St Bridget's Primary School, Glasgow City	Primary	WP-Q4	76	10
Livingstone Academy Bournemouth, Bournemouth, Christchurch and Poole	Mixed/All through	WP-Q3, Distant	75	4
Hayocks Primary School, North Ayrshire	Primary	WP-Q5, Distant	67	6
Ursuline High School Wimbledon, Merton	Secondary	WP-Q1	65	2

Case study St Bridget's Primary School

Each class has done 5 chats this term: Seeing real-life applications of curriculum topics

St Bridget's, a school from Glasgow, who has been using *I'm a Scientist* since 2016, have had their P7 classes take part in 5 Chats each since January. One teacher said that they were booking themes that fit in with their curriculum teaching, including Health and Earth. Once they had finished a scheme of learning, they would book and take part in a Chat with theme-relevant scientists. Students asked the questions that interest them to the scientists who are using real-life applications of their learning.

Case study The Valley School

Tailored support for an SEND school

A teacher from this Special Educational Needs school took part for the first time with their Year 10 students. As a priority school, support was given to help the teacher prepare the students for their Chat. The teacher provided the *I'm a Scientist* team with information about the students. They then worked together to identify the most effective way of running the activity.

Case study Sir Herbert Leon

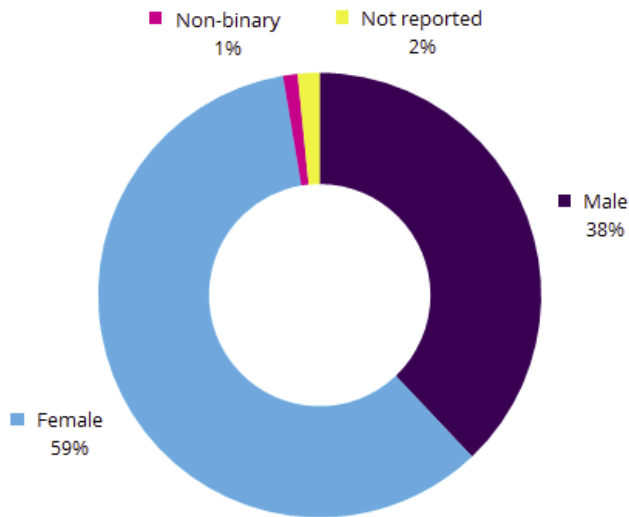
Engaged with 82 different scientists over 1 week

Sir Herbert Leon got their whole KS3 (Y7 to Y9) involved across British Science Week. The online, text-based activity allowed 14 classes of students to connect with 82 scientists. Connecting with so many scientists meant all students were able to find someone who looked like them, was in a role they wanted to know more about or had similar interests to them. This supports their science capital, allowing them to see STEM as something for them.

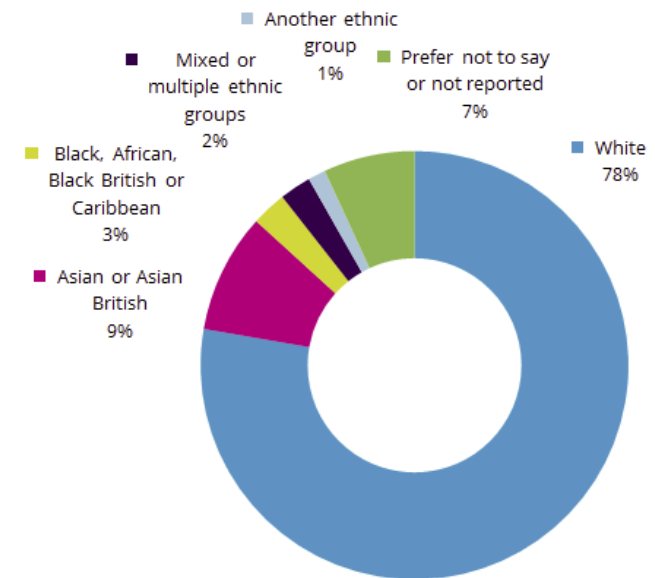
Scientists

609 scientists were given access to the site over the term, of whom 378 actively participated. The new delivery model allows scientists to decide when they will take part over the year, and which themed chats they will join.

Gender of participating scientists

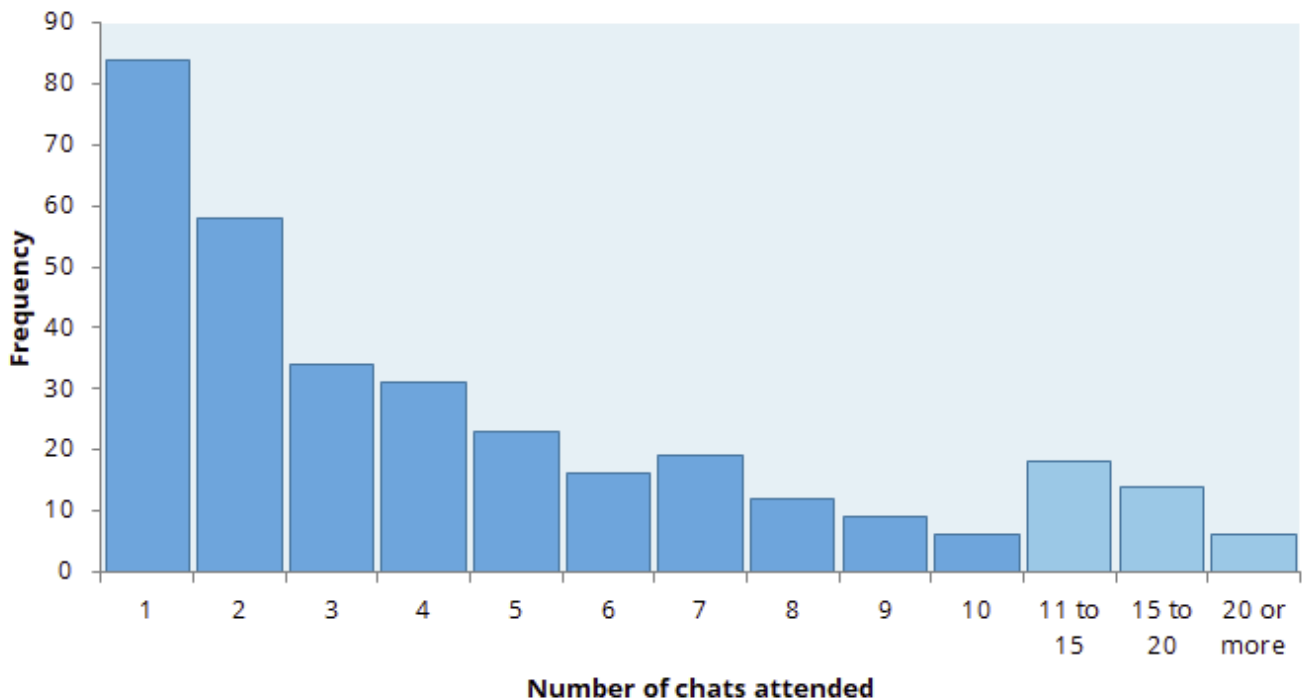


Ethnic background of participating scientists



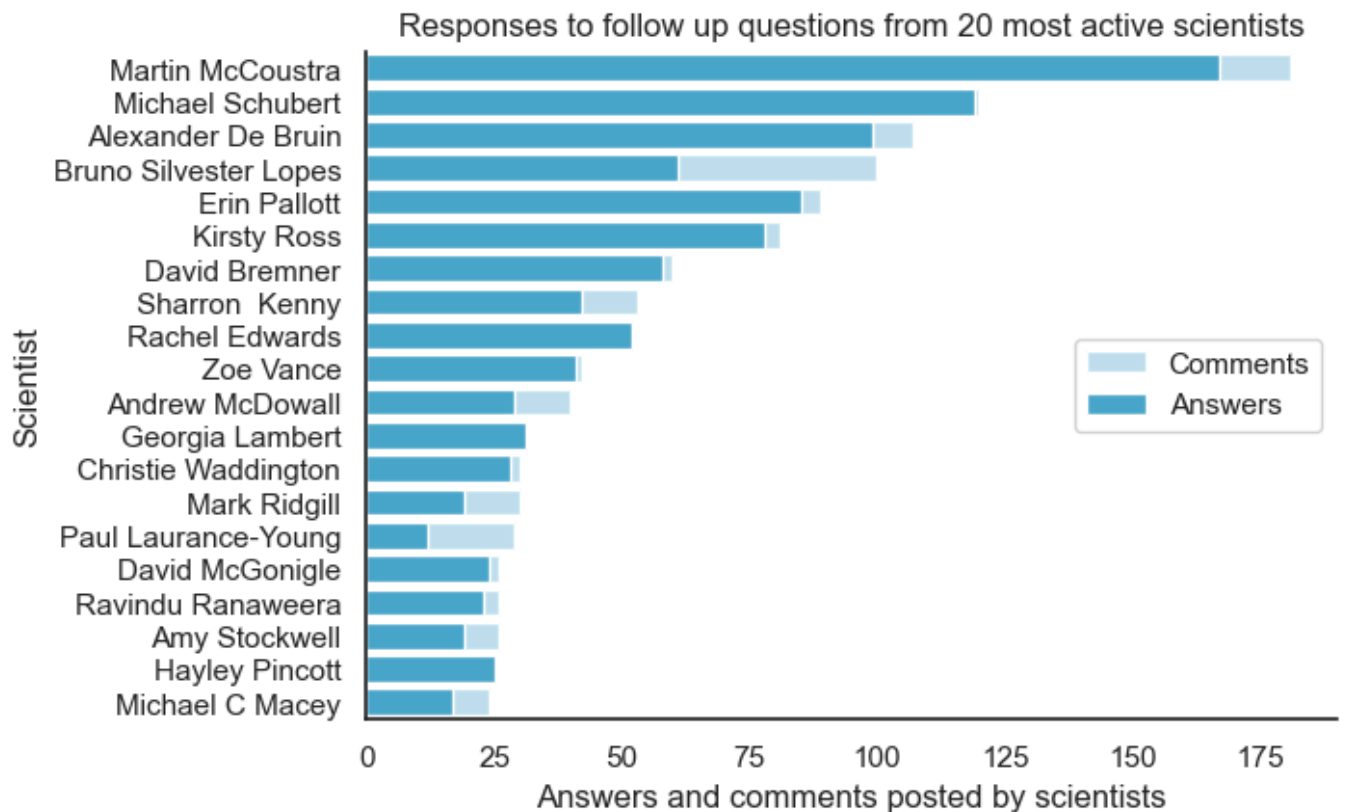
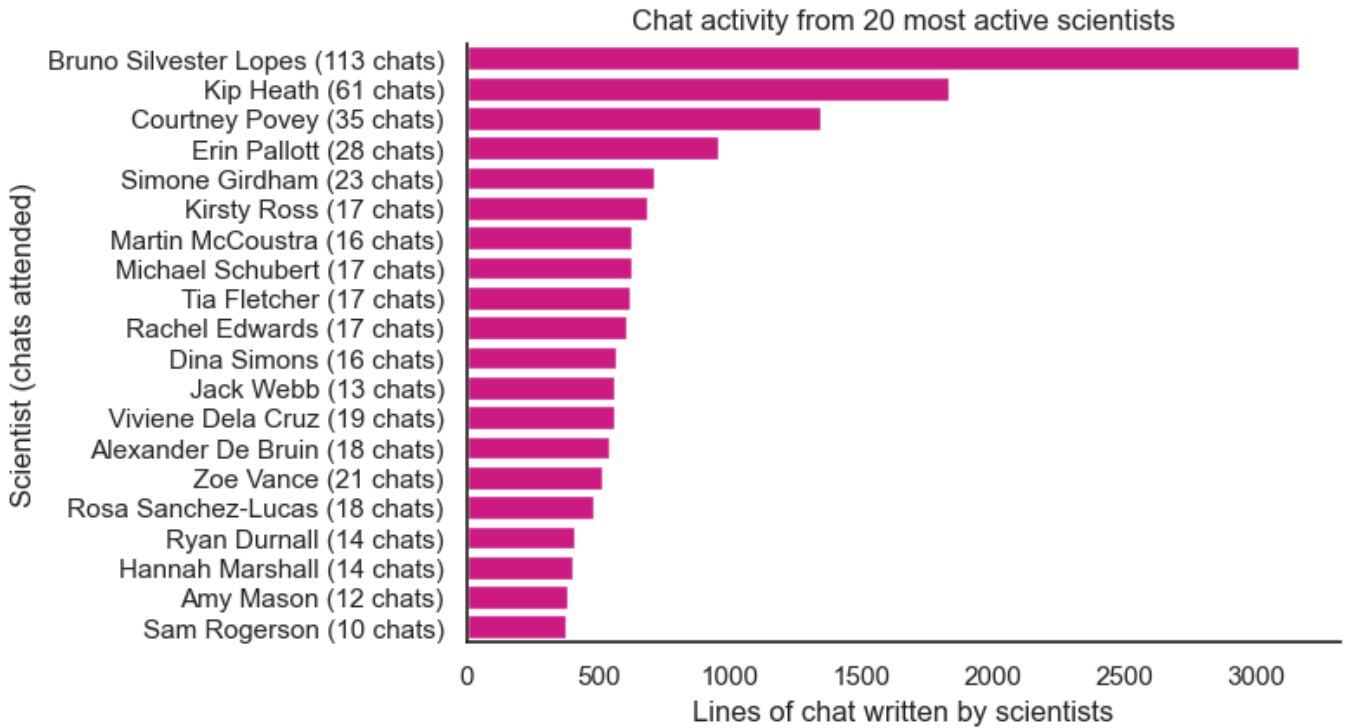
Number of chats participated in by scientists

The average scientist took part in 2 chats. 13% of scientists took part in 10 or more chats.



Most active scientists

378 scientists actively participated during the Spring Term. The average scientist attended 2 chats, writing 48 lines; posted 5 answers and 1 comment. The scientists shown below are the 20 most active in chats, and on follow-up questions. They are responsible for 38% of the chat activity, 56% of the answers to follow-up questions, and 46% of the comments posted during the term.

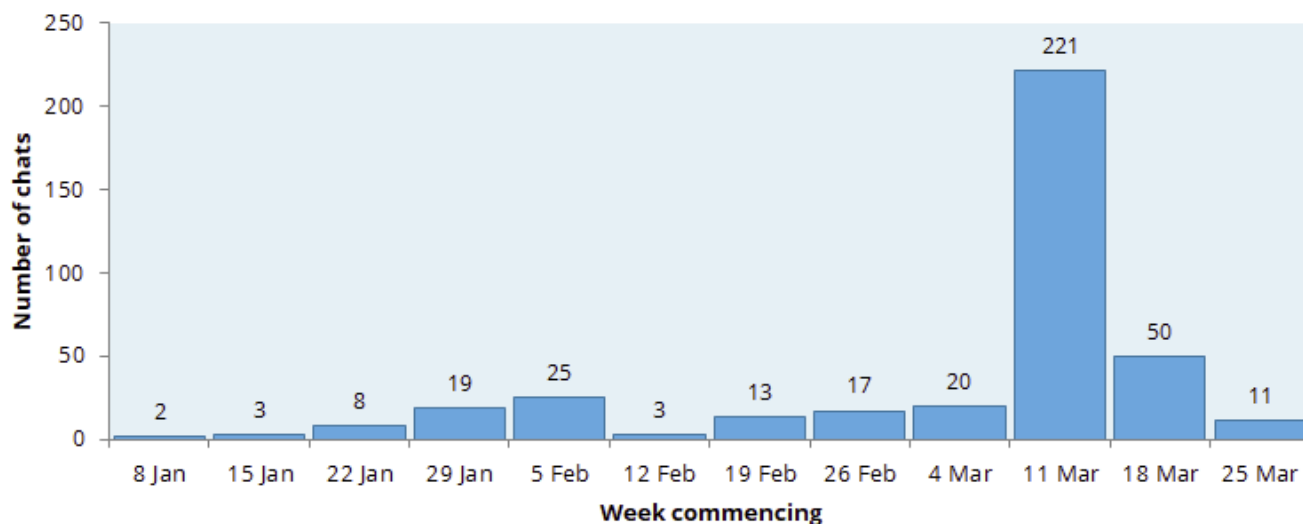


Timeline and themes

During the term, Chats were booked in the following themes, with new themes being released over the course of the term. As the new format for *I'm a Scientist* is launched, more themes are made available to teachers.

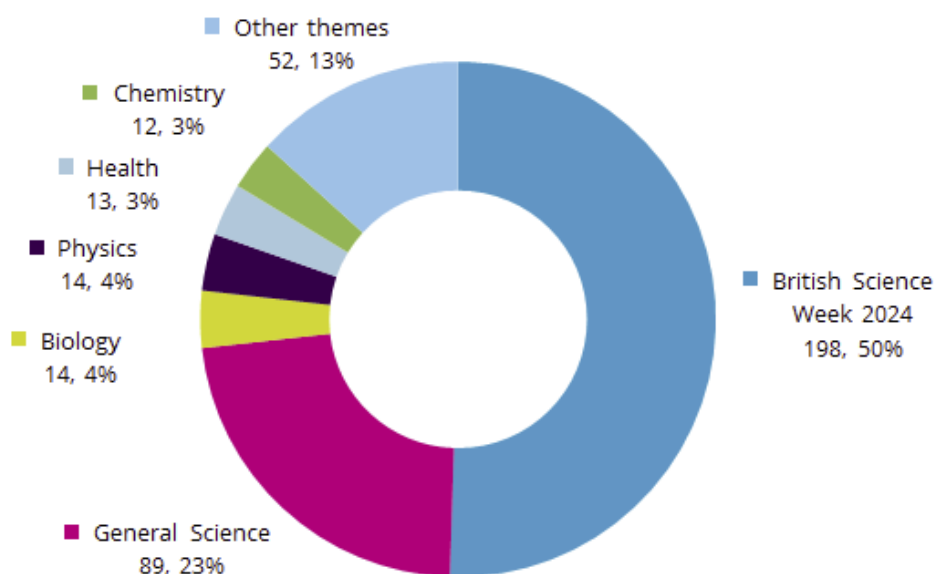
Theme	Dates	Scientists available	Scientists attended chats	Chats booked
General science themes - Throughout				
General science		372	154	89
Biology		212	42	14
Chemistry		178	30	12
Physics		87	37	14
Earth		39	13	4
Environment		80	33	9
Evolution		19	4	2
Health		143	34	13
Psychology		42	5	5
Technology		90	12	7
Computer science themes - From 18 Mar				
Computer Science		77	7	2
Artificial Intelligence		43	14	7
Cyber Security		13	4	1
<i>Additional Computer Science themes available but not yet booked (all available from 18 March): Cloud Technology, Data Science, Immersive Technology, Networking, Programming, Robotics, and Software.</i>				
Special event themes				
British Science Week 2024	8 to 17 Mar	542	228	198
National Apprenticeship Week	5 to 9 Mar	12	7	6
International Women's Day 2024	8 Mar	236	18	1
Great Science Share 2024	Throughout	429	27	5
National Careers Week 2024	4 to 8 Mar	370	10	2
Professional Bodies 2024	18 to 21 Mar	74	19	5

Chats bookings by week



British Science Week is often the busiest time of year for the *I'm a Scientist* project. 2024 was no different, with British Science Week (w/c 11 March) accounting for 221 chats; 56% of the chats during the term.

Chats bookings by theme



During Science Week, teachers were encouraged to book the specific British Science Week theme — which acted as a General Science theme — over other more nuanced themes to help to better allocate available scientists to chats.

Chats

330 chats took place during the term. There were a total of 100,434 lines of chat, and on average, 15 students and 5 scientists attended each chat.

4,606 students were active on the site during the term. In many schools — especially primary schools — students double up on computers, additionally, 47 chats were run through a single teacher or student account; we estimate that around 6,300 students were likely reached in chats.⁵

The word cloud below demonstrates what students and scientists discussed in the chats. The bigger the word, the more frequently it was used.

330

Chats took place

100,434

Lines of chat

862.5

Scientist hours spent in chats

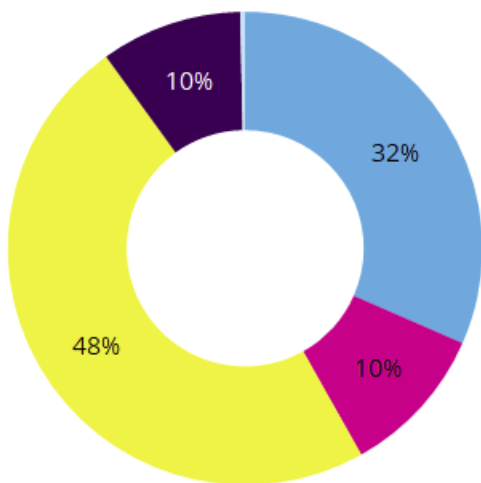


Cancer was a common discussion topic in chats. A topic that impacts many people, and receives a lot of media attention; questions were often prefaced by mentioning relatives or friends who had been affected. Questions about animals were also common; particularly among primary school groups, and where the scientists mentioned that they study or work with animals, or scientists who talked about their pets on their profiles, or in their profile pictures.

⁵ Assuming 15 students per chat in chats ran through a single account, and a conservative estimate of ~20% of student accounts being shared between 2 students.

Follow-up questions

The chart below shows an analysis of questions students sent to the scientists. Questions are coded into overarching categories. The examples are coloured by category.



- STEM topics
- Working scientifically
- Careers and education
- Personal
- Event/Other

Do you think Photosynthesis could be used to power things like cars and homes

how would the cure for cancer be discovered if cancer keeps evolving through time

Do you have to take safety precautions when conducting research

What is a piece of advice about entering the science field that you wish you had known at 18?

Can you still do science even if your not too good at school?

Regarding your apprenticeship, can you still become a scientist by doing an intermediate apprenticeship or anything below a degree entitled apprenticeship?

What makes you smile and what scares you the most?

Examples of good engagement

Chats provided many examples of great engagement and showed ways in which students' science capital can be supported. Students discussed what they had been doing in the classroom and saw how this could relate to real-world careers.

Zoe V (Scientist): What are you guys learning about at the minute? Forensics sounds like it would be fun :)

Student: Forensics is very fun. I really enjoy the whole course but the practicals are the best. In class today we melted paraffin wax and waited for it to cool to find the melting point of the wax and the cooling curve of the wax. It was super fun.

Kip H (Scientist): Nice! We use wax in our pathology laboratories - we embed patient tissue in them so it can be cut into thin sections and melted onto glass microscope slides.

Student: That sounds so fun. I love the practical aspect of my course.

Kip H: Then I'd definitely recommend looking at a laboratory based job where you can continue doing hands on work.

Personalising science to an individual's interests is key in supporting science capital. Students were able to bring their own interests into the conversation, find out how science can apply to those subjects, and relate to scientists who are happy to discuss things outside of their profession.

Student: can i power a ps5 with potatos

Stefan (Scientist): depends how many potatoes, and what game you want to play

Student: fortnite and how many potatos would it take

Stefan: too many as a realistic energy source, well if you wanna plan longer than 1 second that is.

It's important for students to see that their input is valued, and to see that it can belong in a science context. Ideas were shared and discussed, validating students' ideas, encouraging their interest in science subjects, and showing that they have a place in STEM.

Student: Did you know that in South America and Portugal alot of Armadillo's are knocking down all the bee hives, Do you know any simple ideas to help stop that?

Jenny (Scientist): Really?! That's fascinating! Could they maybe put a trench around the beehives? Or have another animal on the same land that armadillos don't like? Are they trying to get the honey?

Student: Year they could! Or maybe put a fence so the Armadillo's cant get through! But no the Armadillo's dont eat the honey because they usually eat ants but im not to sure why they do that that's something ill try find out! Thanks for your reply

Jenny: You're welcome - I'll have a look at it too - you've got me interested in this now!

Student: Hahaha! So will I , im super curious on why they do that to the pood bees 🐝!

Students were able to see scientists as normal people, just like them, with different opinions and interests. Chats brought opposing answers, showing diversity and challenging misconceptions of who can become scientists.

Student 1: Did you enjoy school life?

Kip H (Scientist): Nope. I preferred working at my Saturday job so I got a full time job when I left school

Student 1: thats inbteresting

Kip H: Not everyone is the same, and school is very broad. So you need to find what interests you.

Tia F (Scientist): I loved school!

Student 2: i do too a bit i guess

Tia F: I enjoyed spending time with my friends more than alot of lessons haha

Student 2: same hahahahah

Students felt comfortable in asking questions about topics personally relevant to them, and in sharing their own knowledge with scientists. This exchange also demonstrated that scientists don't always know the answers, challenging the stereotype of the 'all-knowing' scientist, and providing reassurance about seeking answers and sharing ideas.

Student: we are deaf we have cochlear implants have you been involved in developing cochlear implants or hearing aids

Charles (Scientist): I have not but I know they are very clever. Do you know how they work?

Student: yes. You have a operation we had ours when we were babys.there is a magnet to keep the coil in place. In the cochlear there are electrodes

One scientist, Jack, has been working toward an Aerospace Engineer Degree Apprenticeship since leaving school. First participating in I'm a Scientist in 2021, he's been keen to share his experiences with alternative routes into STEM careers. During Apprenticeship Week, he shared insights into the benefits and practicalities of apprenticeships that students could really relate to. (This full thread is very long, and a great example of a personalised conversation between a student and a scientist.)

Jack: So I'm Jack, I'm on my fifth year of an aerospace engineering degree apprenticeship!

Student: was your apprenticeship hard to get onto? who provides your apprenticeship?

Jack (Scientist): It was competitive but not particularly hard, I enjoyed doing the interviews and assessment centers. Atkinsrealis provides my apprenticeship through weston college with a degree from the university of the west of england

...

Student: thats were im looking at going. What is student life like there? do you live on the campus while you get your degree?

Jack: So for my first year I was living out of Weston Super-Mare as for my course that's where it was ran from. Student life is ok I believe from talking to students but house prices are insane. I haven't lived on campus but still love Bristol

... Jack and the student continued to discuss student living, rent prices, and salaries while doing apprenticeships ...

Student: Is aerospace what you wanted to do in the beginning of you looking for a way of getting your degree? do you have a gaurenteed job after you have graduated?

Jack: So I wasn't sure about aerospace engineering or mechanical or electrical or anything, when I looked aerospace is harder to get into because it's more detailed than mechanical so I applied to mechanical engineering at universities. And yes I have a guaranteed job but I can look elsewhere if I wanted to work in space!

Student: Would you say you need work experience to be able to get onto an apprenceship course?

Jack: Nope! many people on my apprenticeship didn't have work experience, but having experience of working in a team, showing your passion for the career, being adaptable to situations all will make you invaluable to the company

... Jack and the student went on to further discuss apprenticeship courses, qualifications, and work experience

Another scientist, Isabelle — a data engineer who moved to the UK after university to get her Chartership in Engineering and Technology, and volunteers as a STEM Ambassador alongside working with Accenture UKIA — has used chats to be open about issues women in STEM may face, while showing her enthusiasm for working in tech.

Student: are alot of women coding in ai

Isabelle (Scientist): Yes and in our company we promote 50/50 balance in all sectors of computer engineering too

Student: is their jobs other then coding for women in AI?

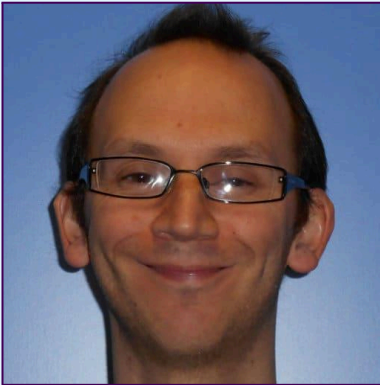
Isabelle: Yes of course , you can be a data engineer, data modeller, working on networking or if you prefer be a consultant learning business with a knowledge of IT etc. It is a vast domain with a lot of opportunities for all

Winning scientists

Each half term, the scientist with the most student votes receives a prize of £500 to spend on further public engagement.

Across the term, 1,740 students cast votes for 279 different scientists.

Winner of the first half term ⁶



Fraser Smith

Fraser researches the intelligence of the human brain using machine learning techniques.

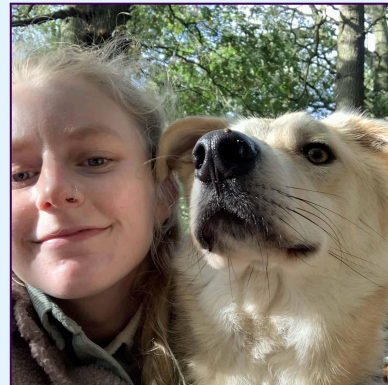
"I have really enjoyed chatting with the pupils from across various year groups and their teachers. The questions they asked were on the mark and ranged broadly from the history of AI to the current frontiers (for instance, the possibility of emotion or consciousness in AI systems).

The experience has also helped me consider my research and AI afresh from different perspectives – which is always a good thing to do. Overall, it has been a very worthwhile experience!"

Read their full statement:

ackroyd.imascientist.org.uk/2024/02/13/a-thank-you-from-your-winner/

Winner of the second half term



Courtney Povey

Courtney is a research scientist in reproductive health.

"I have had the best time chatting with all of the students, the chats have been very engaging and lots of fun. A massive thank you to all the other scientists that have also taken part. It was very interesting to see the variety of different jobs and research areas, I learnt lots of new things from you all."

Read their full statement:

ackroyd.imascientist.org.uk/2024/04/02/a-thank-you-from-your-winner-2/

⁶ Scientist votes during the first half term were shared with the AI Zone which ran throughout January. Fraser was a participant in the AI Zone.

Feedback

It was something new and different. [The students] loved the informality of it, being able to ask whatever they wanted as well as science questions (especially what football team do you support). They were so excited by individual responses to their own questions. They engaged with the expansion of their understanding about how many different careers involve STEM. And they loved, really loved, choosing their favourite scientist.

...

I just thought it was a fun way of developing the children's science capital. The children were engaged throughout, and full of beans about STEM ideas afterwards.

Alex Cerny, Teacher

I'm a Scientist has become an activity that is embedded into our delivery of the [T-Level Laboratory Science] course. It offers a unique opportunity to access the world of science in a way that students can access without feeling too daunted. It also requires minimum input from teaching staff whilst yielding lots from the learners.

Linda Horsburgh, Teacher

It was easy to get hooked on this. I feel like I'm making a difference so am minded to keep doing more.

SP, Scientist

Brilliant concept and I am really having a great time engaging with students :) keep up the good work guys :)

Scientist

The class were pleased to see the diversity of the scientists involved in the chat, particularly someone with autism.

Class reflection

The class overall enjoyed the chance to speak to scientists and found the activity fun and different to a normal lesson.

Peterhead Academy (Class reflection)

It was very interesting to hear about the variety of jobs there are within Science. The aspect of considering who would be voted for meant that students had a further engagement level.

Milton Keynes College (Class reflection)

Thank you this was great it really helps to bust the stereotypes that children have about what and who scientists are!

St Luke's Primary School (Class reflection)

Students thoroughly enjoyed the chat and were pleased some of their less 'biological' questions were answered too!

John F Kennedy Catholic School (Class reflection)

We have had a very good experience and the Scientists were very friendly and answered the questions in a kid friendly way!

Braehead Primary School (Class reflection)

It helped me become more interested in science. It helped boost my confidence.

Class reflection

There was loads of cool questions answered and I enjoyed it

Class reflection

They enjoy the 1 to 1 personalised questions and answers. They also can see that scientists are real people too with their own lives as well as career .
Bexhill Sixth Form College (Class reflection)

This was a fantastic opportunity for our students - we appreciate how well this activity was managed and how great the scientists were! Thank you!
Woking High School (Class reflection)

Some were hesitant and shy about engaging but other students could ask their questions for them. Scientists were honest and open, giving clear and helpful answers
Teacher

Excellent resource. Very useful for students. I have seen shy students actually get involved as questions are from them and answered to them. They don't feel self conscious and actually really get something out of this.
Sarah Shuttleworth, Teacher

Funders

Between January and March 2024, the *I'm a Scientist* project received funding from **The British Psychological Society, The Genetics Society, The Institute of Cancer Research, The Institute of Physics and Engineering in Medicine, Johnson Matthey, Lantra, Statisticians in the Pharmaceutical Industry (PSI), The Royal Society of Chemistry, Salmon Scotland, The Science Council, STEM Ambassadors, and The Wellcome Sanger Institute.**



the british
psychological society



the
genetics society

ICR The Institute of
Cancer Research

IPEM

Institute of Physics and
Engineering in Medicine



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