



Great Science Share Zone

January to February 2023

The Great Science Share Zone (gss23.imascientist.org.uk) ran from 30 January to 24 February 2023 and was funded by UK Research and Innovation.

Key activity figures

	Zone
Students logged in	318
Students active	96%
Schools	13
Scientists allocated	19
Scientists active	13 (68%)
Chats booked	32
Chats took place	22
Lines of Chat	5,427
Average lines per Chat	247
Follow up questions asked	177
Follow up questions approved	126
Answers given to follow up questions	151
Scientist comments	12
Student comments	4

Who took part?

The Zone featured 14 scientists working across a variety of fields including: developing new battery technology, understanding how axolotls regenerate their spinal cord, and how to engineer bacteria to break down polluting substances. They connected with 318 students from 13 schools across the UK, 96% of whom actively participated by writing Chat lines and asking follow up questions.

84% of active students were from priority schools: 10% from underserved schools and 84% from widening participation schools.

Activity

32 Chats were booked. 22 took place.

There were 7 Chats where the teacher asked questions on behalf of their students. It is also common for students to share login details or computers during Chats. Therefore, the number of students engaged is expected to be higher.

Students asked 177 follow up questions of which 126 were approved and sent to scientists. Duplicate questions (that scientists had already answered) were not sent again, with the student being directed to the previous answer and invited to comment and ask additional questions.

School activity

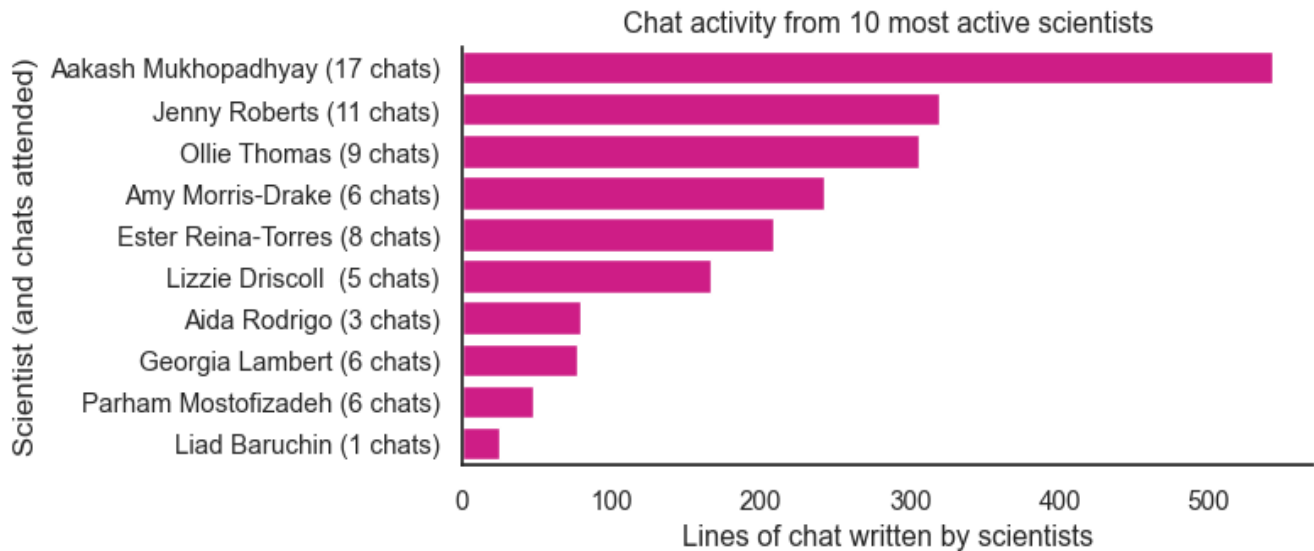
Students from 13 schools across the UK actively participated in the Zone.

School	Active users	Chats attended	Chat lines (total)	Chat lines (per user)	Follow up questions approved
Manchester Communication Primary Academy, Greater Manchester (WP)	89	5	1,197	13	5
St Cedd's School, Essex	47	2	445	9	2
Forest Park Primary, Staffordshire (WP)	32	1	294	9	68
Christ the King RC Primary School, Greater Manchester (WP)	28	1	138	5	4
Churchwood Primary Academy, East Sussex (WP/U)	28	1	232	8	10
Ashwood Park Primary School, West Midlands (WP)	24	2	362	15	5
Firbeck Academy, Nottinghamshire (WP)	20	1	212	11	5
Our Lady of Lourdes RC Primary School, Lancashire (WP)	17	1	224	13	7
St John XXIII Catholic Primary School, Middlesex (WP)*	13	4	178	14	12
Kingsmoor Academy, Essex (WP)*	4	1	30	8	5
Exeter Road Community Primary School, Devon (WP/U)*	1	2	47	47	3
Ethos College, West Yorkshire (WP)*	0	1	19	19	0

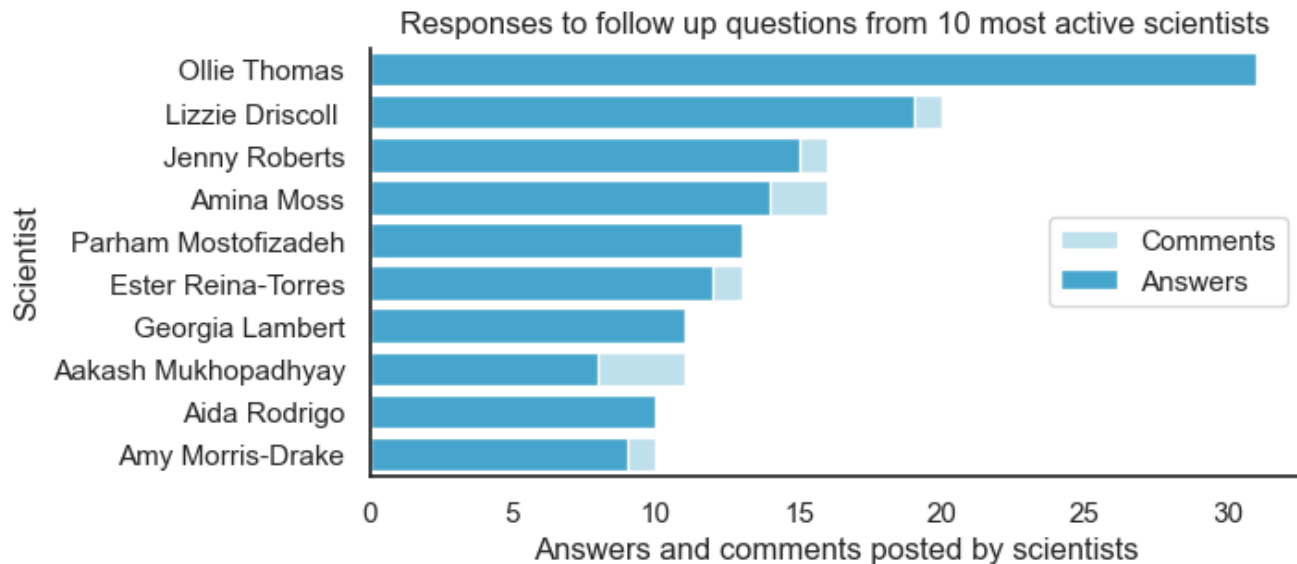
* In these chats teachers typed questions on behalf of their students, with the chat displayed on a screen.

We want to increase the participation of under-represented groups. Find out what we mean by under-served (U) and widening participation (WP) schools, and how you can support us in working with more of these: about.imascientist.org.uk/under-served-and-wp

Scientist activity



The scientists shown wrote 99% of the lines of chat in the zone.
The average scientist attended 7 chats, and wrote 170 lines.



The scientists shown posted 94% of the answers, and 75% of the comments in the zone.
The average scientist posted 13 answers, and 2 comments.

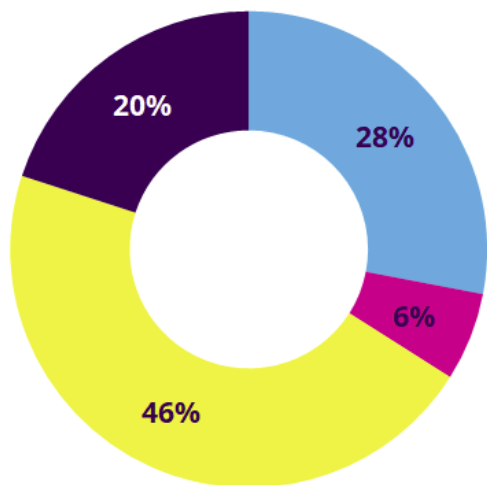
Chats

The word cloud below demonstrates what students and scientists talked about in Chats. The bigger the word, the more frequently it was used.



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

- What do you think the best thermal inculater is?
- what is the strong material in the universe and what is the best substance to use when brakeing it if it can be broken
- How do you look inside the body of an axolotl to see the spine?
- How do you study the bugs
- Have you ever been in trouble with your boss?
- what inspired you to go out in the wild and become a zoologist thank you.
- what is the most astonishing and least astonishing think you found in breakthroughs/
- did you ever lose someone you love?

Examples of good engagement

Students enjoyed the chance to design questions allowing them to explore topics themselves related to the school curriculum or not. Here one of the students is taking the opportunity to ask Lizzie, one of the GSS scientists, what is inside of a Li-ion battery.

Student 1: Whats inside of a Li-ion battery?

Lizzie (scientist): Great question! Inside a battery, there's two electrodes and an electrolyte. The electrodes are made up of ink coated on say kitchen foil or copper metal foil. The electrolyte is a liquid to help the lithium ions move on charging/discharging. And also plastics!

Aakash enjoyed answering questions about what genes are and how they affect the physical appearance of humans.

Student 2: Why do some of us look like are parents?

Aakash (scientist): that is because of something called Genes. We are a combination of the genes from our mother and father

Student 2: what makes the genes

Aakash (scientist): sequences of DNA. Do you know what DNA is? DNA looks like a double helical ribbon like structure

Student 2: yes I do but what makes DNA

Aakash (scientist): Nice! DNA is like a polymer of adenine, guanine, cytosine and thymine bases that are like organic sugars

One student decided to delve deeper in Jenny's research and ask what interesting facts about bees have been discovered.

Student 3: did you find any interesting facts about bees?

Jenny (scientist): Yes, lots! Did you know bumblebees fly in a spiral above their nest when they're coming back in to land so that they can work out exactly where the entrance is?

Student 3: that is very interesting we did not know that

And Aakash helped a student understand more about the wonderful world of cells!

Student 4: what are your most exciting discoveries about cells?

Aakash (scientist): There are quite a few! My most recent discovery was the structure of this component that transport important factors within the cell.

Student 4: cool can you tell me more

Aakash (scientist): So, this component has 6 parts. I found the structure of it and the mutated them to find out the functions of each part.

Student 4: what are the functions of each part?

Aakash (scientist): Great question. I found out that 5 out of the 6 parts are essential for transport within the cell. The 6th part is important but not essential for transporting. Another cool thing I found is one part binds to another protein that is like an adaptor.

Feedback

Our students loved the chat feature and were very excited to ask the Scientists about their careers and our current learning.

Teacher

Thank you for answering our questions!

Student

It was so fun to do this

Student

What a fantastic initiative and very well-organised. There were so many amazing questions asked by students! It was so much fun, thank you.

Amy Morris-Drake (scientist)

We all think this is a fabulous opportunity for the children and encourages them to think more about how science can be used in different jobs.

Teacher

It was such a nice time asking you guys!!!

Student

I'm a Scientist is so easy to take part in! Not much prep is needed except for making sure I had time to come along. I wish I did have more time to join in. But this form of engagement is so easy and allows for lots of students to get involved.

Scientist