

September 2021

The Hydrogen Zone (hydrogen21.imascientist.org.uk/) ran for 4 weeks from 30 August to 24 September.

The Zone was general science-themed, featuring 23 scientists working across the UK, in a broad range of fields.

Key figures

	Zone
Schools	7
Students logged in	194
Students active	81%
Scientists	23
Questions asked	29
Questions approved	28
Answers given	112
Scientist comments	7
Student comments	1
Live chats	15
Lines of live chat	3695
Average lines per live chat	264
Votes cast	116

Scientists

23 scientists created a profile in the Zone.

You can see who took part at hydrogen21.imascientist.org.uk/scientists/

The winning scientist with the most votes from students was **Yueng Lenn**, an Oceanographer and Lecturer at Bangor University.

Students

194 students from seven schools across the UK logged into the Zone.

100% of active students were from target schools: 58% from underserved schools and 42% from widening participation schools.

Live chats

15 live chats took place during the activity: 13 were school classes booked by teachers and two were additional chats, open to all the students.

An additional two live chats were booked where the school was unable to attend without cancelling.

There were two live chats where teachers asked questions on behalf of their students. It can also be common for students to share login details or computers during live chats. Therefore, the number of students reached will be higher.

On average, three scientists attended each live chat.

School activity

Students from seven schools across the UK participated in the Zone. In addition to live chats booked by teachers, there were two Thursday evening chats scheduled for the students and their families.

School	WP/U status	Active users	Chats attended	Chat lines (total)	Chat lines (per user)	Questions approved	Votes
St Bridget's Primary School & Nursery Class, Glasgow City ¹	WP	61	3	1336	22	3	45
XP East, Doncaster	U	56	3	494	9	11	38
John F Kennedy Catholic School, Hemel Hempstead	U	25	1	222	9	10	22
Forres Academy, Moray	U	13	1	105	8	4	11
Dagenham Park CofE School, Dagenham	WP	8	1	20	3	0	0
Aylesbury High School, Aylesbury*	U	1	1	60	60	0	0
Reading Girls' School, Reading*	WP	1	1	1	1	0	0

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

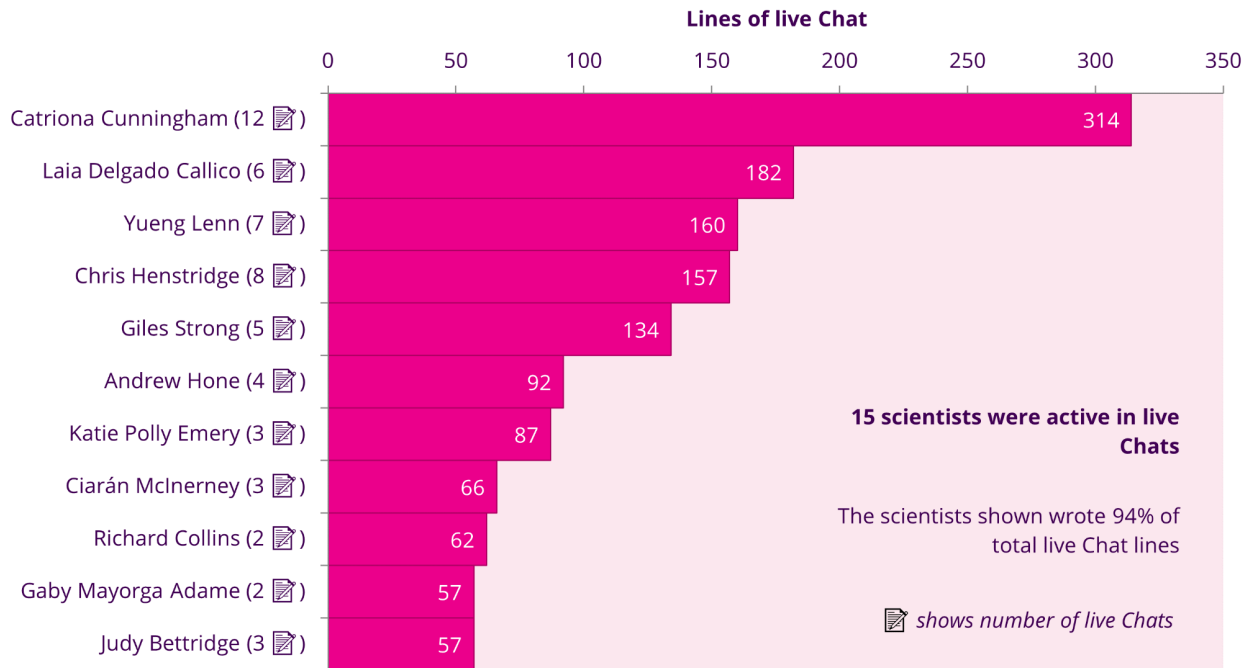
We want to increase the participation of under-represented groups. Find out what we mean by under-served (U) and widening participation (WP) schools, and how you can support us in working with more of these: about.imascientist.org.uk/under-served-and-wp

¹ St Bridget's Primary School & Nursery Class had two different classes attend. The numbers above reflect both classes together.

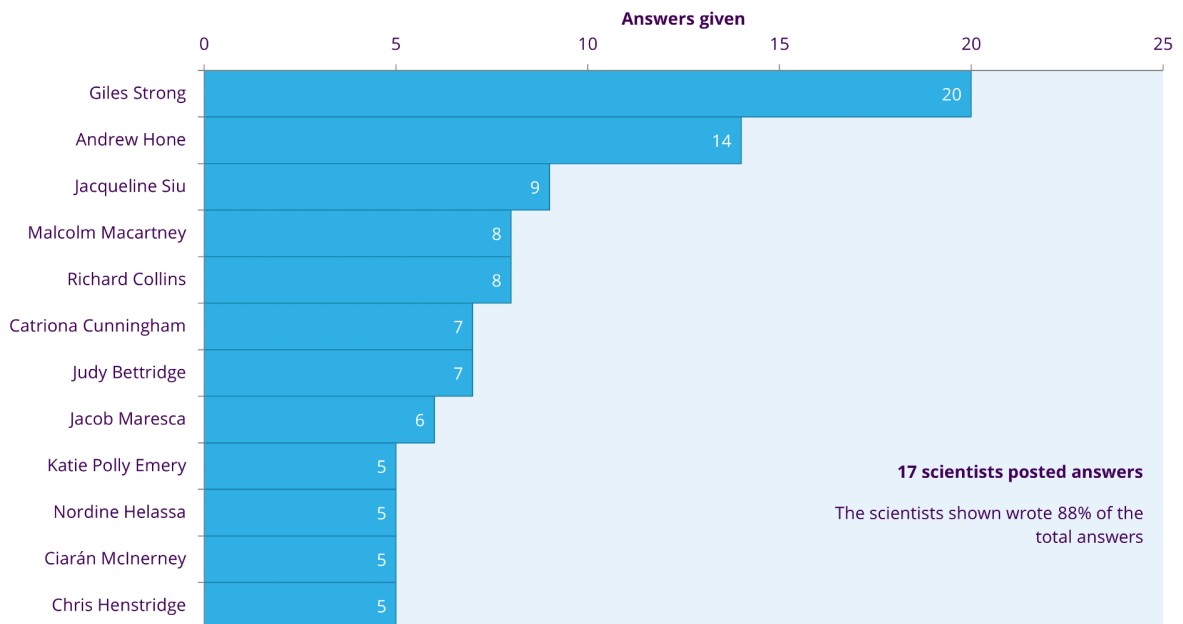
Scientist activity

During the Zone the scientists interacted with students by writing 1453 lines of live chat, and providing 112 answers to 28 posted questions.

10 most active scientists in live Chats

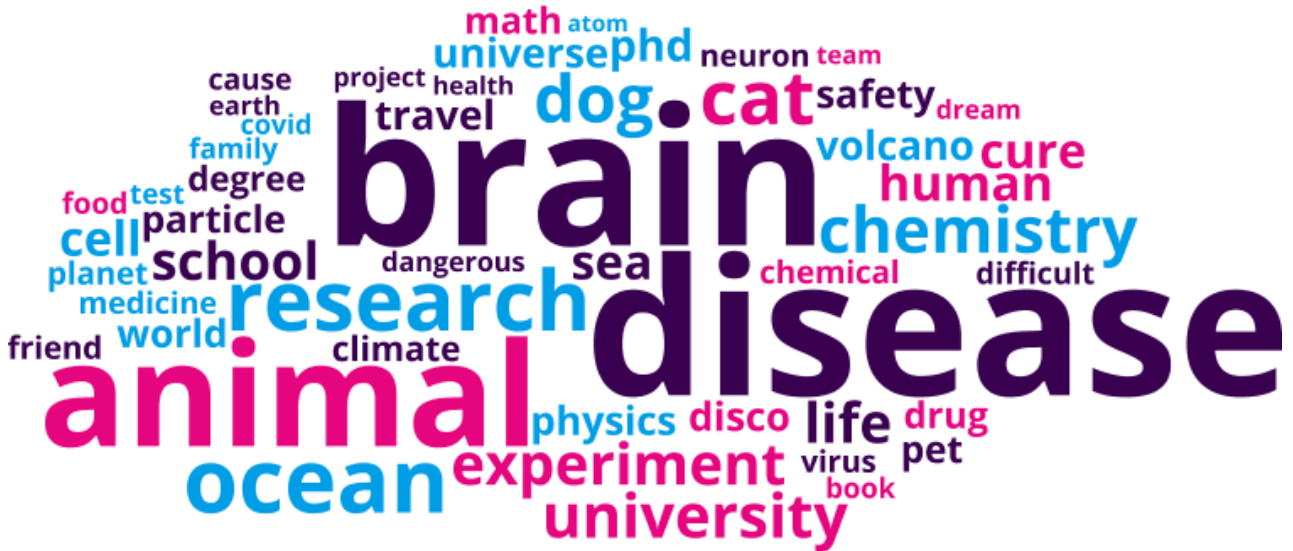


10 most active scientists in posting answers



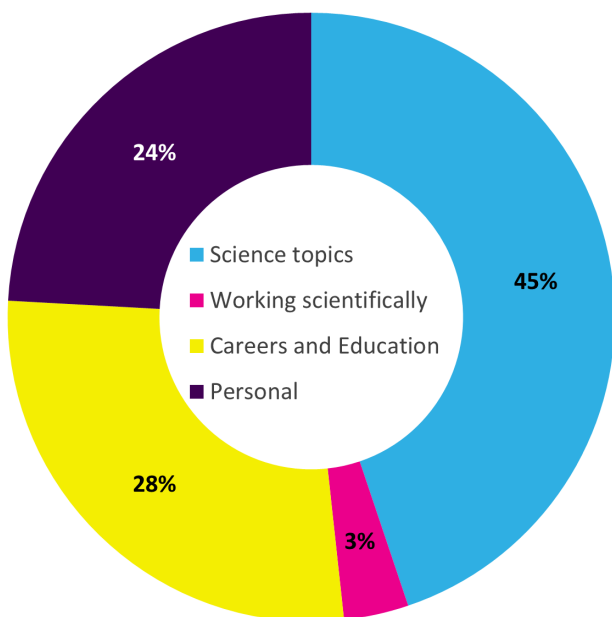
Live chats

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



Questions in Ask section

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.



- Is it possible to create a new element?
- What is the universe made of?
- How hot is the core of saturn?
- What is your favourite thing to research?
- How many years of training did it take for you to start your job?
- What is the most irregular thing you have ever done in science?
- What is the best part of being a scientist in 2021?
- What's your favourite Pokemon?

Good engagement

Connecting with scientists over shared interests and learning that they are “regular people” can help students relate to them. This makes it easier for students to see themselves in science-related careers.

Student: What's your fav animal and why?

Cat (scientist): *definitely cats! There's something so calming about having a cat sitting purring on your lap. I think I also love that you kind of have to earn their trust and affection. When they want attention from you, you know that you've earned it. What's your favourite animal?*

Student: horses and dogs but I like all animals

Cat (scientist): *I love dogs too. My parents have a labrador puppy. She's lovely but so excitable and chaotic*

Student: she sounds like nice dog

Student: What was your favourite subject at school

Laila (scientist): *It's hard for me to pick just one, I really liked Chemistry, Maths, English and also PE*

Cat (scientist): *Biology but Chemistry was a close second. I was always curious about how our bodies worked and loved all the experiments. What's your favorite subject?*

Student: probably art or english

Information on scientists careers can provide insight into how variable careers can be and what students may need to do to get there.

Student: How long is the course to be a scientist?

Polly (scientist): *For a chemist, I spent 4 years at university (with one year in Switzerland in a chemical company). Then I chose to do a 4 year PhD, which is not compulsory and most of my friends didnt do this.*

Student: How long does it take to study for a medical degree?

Cat (scientist): *It depends on what country you study in. In the UK, it's usually 5 years. Mine took 6 years because I did an optional intercalated degree and took a year out to study Neuroscience.*

Subject specific questions can help generate interest and knowledge about the scientific field.

Student 1: How are diseases made and cured

Judy (scientist): *Some diseases are infectious, so they are caused by bacteria or viruses entering the body. Some are non-infectious, like diabetes, where the body's cells don't work properly, for some reason.*

A cure would depend on trying to remove the problem, like a vaccine to stop a virus spreading, or replacing some function of the body, like giving artificial insulin to a diabetic

Student: What kind of things can you do with nanotechnology

Laila (scientist): *A lot of things, for example all the technology that is in a smartphone (that's why smartphones become smaller but more powerful)*

Teacher: This year group did a learning expedition (sort of like a project) in Year 7 looking at how precious metals are used in mobile phones

Laila (scientist): *Yes! That's nanotechnology!*

Scientist winners

Students were granted a vote each week for their favourite scientist to be named Scientist of the Week. There were no votes in the first week of the zone whilst most schools were still on summer holidays.

The Scientists of the Week were:



Yueng Lenn, Oceanographer and Lecturer at Bangor University



Chris Hendridge, principal investigator at University of Dundee

The overall winner, with the most votes at the end of the Zone was:

- **Yueng Lenn**, Oceanographer and Lecturer at Bangor University

As Zone winner, they receive £500 to spend on further public engagement projects.



"Thank you to all the students and teachers who participated in I'm a Scientist chats. These were usually a highlight of the working day for me, when I got to have engaging discussions with curious students. Your enthusiasm and curiosity never failed to give me an energy boost. Remember that no genuine question is ever too simple or small to ask - never let anyone stop you asking questions.

A big thank you as well to the I'm a Scientist moderators and staff, and funding agencies who have oiled the wheels and kept the conversations going between us all. In a time of social restriction, I really appreciated being able to connect with schools in this online forum, not least because of how fun and straightforward it has all been."

You can read their full statement at

<https://hydrogen21.imascientist.org.uk/2021/10/05/a-thank-you-from-your-winner-yueng/>

Feedback

Today's chat was fantastic. The class were so enthusiastic and full of excitement after the chat finished. I've had one child decide that he wants to be a physiologist and another who has decided that a career in science is their way forward. Thank you.

Teacher



Giles Strong
@Giles_C_Strong

Just finished my first @imascientist chat: fastest 40 minutes in my life! So many great questions from a very enthusiastic set of students.

2:49pm · 13 Sep 2021 · Twitter Web App

Thank you again :) The pupils have really enjoyed chatting to you and appreciate the time you've taken to give us this opportunity.

Teacher



St. Bridget's Primary @St... Sep 16
Room 16 taking part in their first live web chat with real scientists. Thanks to Chris, Judy and Cat. Inspiring the children to be our future scientists. @imascientist @STEMglasgow @DYWGlasgow

Thank you for having us, really appreciate it!! 😊😊😊 wish we can do this again

Student