

November 2023

The Climate Zone (climate23.imascientist.org.uk) ran from 6 November to 1 December and was funded by the Royal Society of Chemistry and the STEM Ambassador Scheme.

Key activity figures

	Climate Zone	November Average
Students logged in	980	556
Students active	91%	87%
Schools	30	25
Scientists given access	35	37
Scientists active	33	30
Chats booked	63	50
Chats took place	56	36
Lines of Chat	19,318	9,913
Average lines per Chat	339	256
Follow up questions asked	203	127
Follow up questions approved	159	107
Answers given to follow up questions	439	333
Scientist comments	40	39
Student comments	13	4
Votes	655	356

Who took part?

The Zone featured 33 scientists developing new methods to measure methane in the atmosphere, helping companies calculate their environmental impact, working as engineering consultants, electrical engineers and marine biologists, sustainability consultants and as a CEO of a small start-up. They connected with 980 students from across the UK. 891 students (91%) actively participated in Chats, asked follow up questions, posted comments, or cast votes.

71% of active students were from priority schools.

A total of 655 votes were cast by students. The winning scientist with the most student votes was **Octavia Brayley**, who investigates a non-native species of insect on one of the Antarctic islands.

Activity

66 Chats were booked, 57 took place. Of the remaining Chats booked 6 were cancelled and in 3 the school did not attend and did not give notice. This was partly due to technical issues in the schools.

The schools in this Zone were particularly active. Although the number of participating schools is only 5 higher than the average, there were twice as many students, sending double the amount of Chat lines compared to the November average.

School activity

School	Students logged in	Active users	Chats attended	Chat lines (total)	Chat lines (per user)	Follow up questions approved	Votes
Helena Romanes School, Essex	172	145	8	1997	14	39	99
The Norton Knatchbull School, Kent [WP-Q1 D]	126	114	5	1339	12	9	102
Arboretum Primary School, Derby [WP-Q5, D]	72	71	6	1372	19	9	42
Lark Rise Academy, Central Bedfordshire [WP-Q1 D]	57	56	3	598	11	1	21
The Priory School, Shropshire [WP-Q1 D]	49	46	3	529	12	4	24
Lea Forest Primary Academy, Birmingham [WP-Q5, D]	38	38	1	904	24	2	14
Trinity Church of England School, Belvedere, Bexley	38	38	2	735	19	1	31
Swanbourne House School, Buckinghamshire	38	37	3	692	19	41	57
Welwyn St Mary's CE Primary School, Hertfordshire [WP-Q2 D]	58	37	1	408	11	5	27
Weston College, North Somerset [WP* D]	37	34	2	155	5	6	30
Ashfield Valley Primary School, Rochdale	29	29	2	320	11	3	12
St Thomas Of Aquin's High School, Edinburgh City	32	26	3	212	8	13	15
St Bridget's Primary School, Glasgow City	25	24	1	336	14	0	16
St Benedict's Catholic College, Essex	25	23	1	195	8	19	25
Willow Lane Community Primary School, Lancashire	23	23	1	335	15	3	20
John F Kennedy Catholic School, Hertfordshire [WP-Q1 D]	22	19	1	194	10	3	19
Mallaig High School, Highland [WP-Q1 D]	18	18	1	223	12	0	15
Litherland High School, Sefton	16	16	2	203	13	0	13
Craigmount High School, Edinburgh City	15	15	1	161	11	0	15
Woodmill High School, Fife [WP-Q3 D]	25	15	2	122	8	1	12

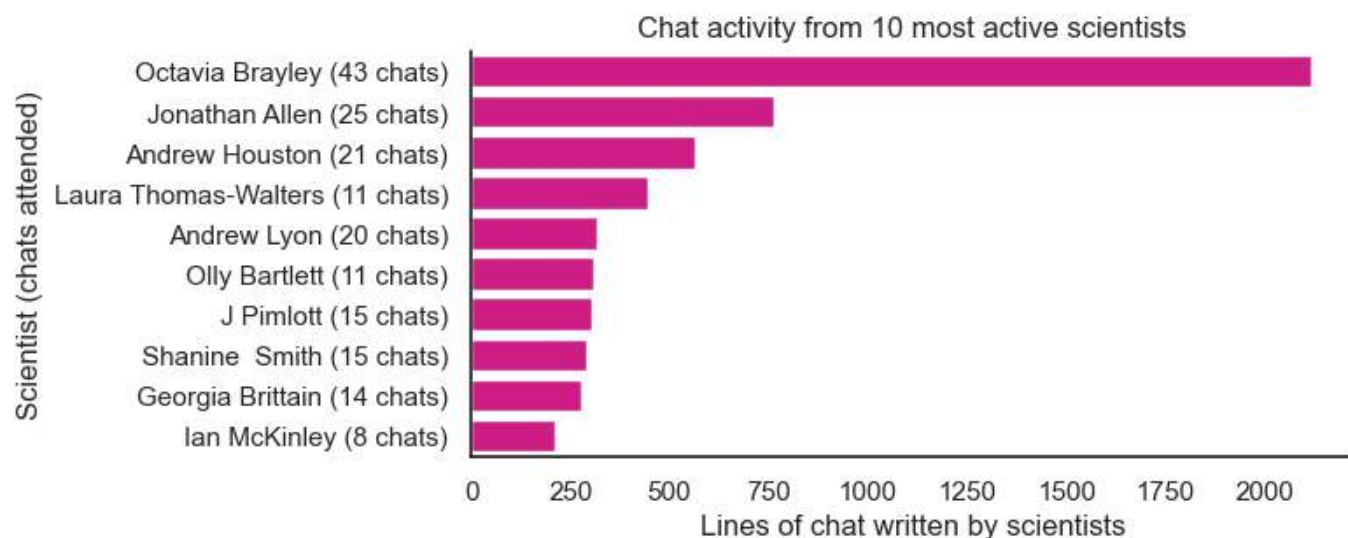
School	Students logged in	Active users	Chats attended	Chat lines (total)	Chat lines (per user)	Follow up questions approved	Votes
Cardinal Winning Secondary School, Glasgow City [WP*]	13	13	2	234	18	0	6
King's Academy Binfield, Bracknell Forest	14	13	1	50	4	0	12
The High School Leckhampton, Gloucestershire [WP-Q1 D]	10	10	1	114	11	0	10
Churston Ferrers Grammar School Academy, Torbay [WP-Q1 D]	7	7	1	95	14	0	6
Copleston High School, Suffolk [WP-Q2 D]	6	5	1	52	10	0	3
Runshaw College, Lancashire [WP*]	5	5	1	20	4	0	3
Oakfield, Kingston upon Hull [WP* D]	4	4	1	74	19	0	3
St Edmunds Catholic Academy, Wolverhampton [WP-Q5 D]	3	3	1	33	11	0	3
The Cooper School, Oxfordshire [WP-Q2 D]	2	2	1	12	6	0	0
Ashwell Primary School, Hertfordshire* [WP-Q2 D]	0	0	2	27	0	0	0

We want to increase the participation of under-represented groups. WP-Q indicates the level of economic deprivation in a school's catchment area: Q5 represents a high level. D shows schools that are more than 30 minutes from a large research HEI. Find out more, and how you can support us in working with more of these schools: about.imascientist.org.uk/under-served-and-wp

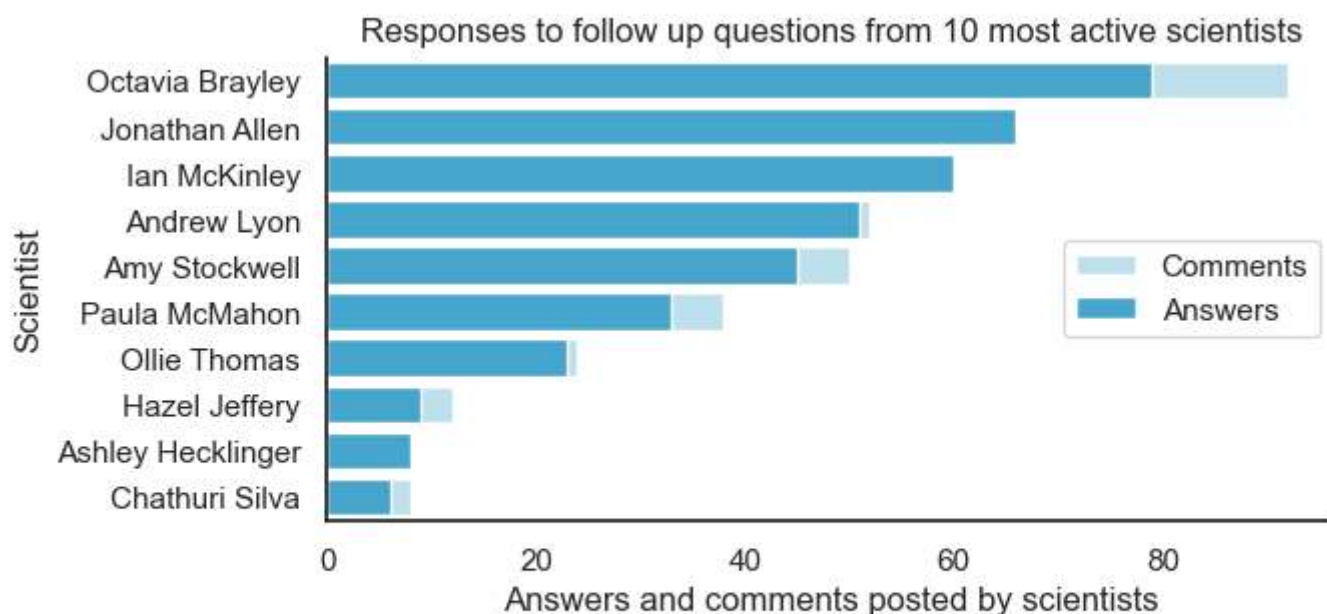
*These schools ran Chat sessions where students' questions were asked through the teachers' accounts.

Scientist activity

During the Zone the scientists interacted with students by writing 7,577 lines of Chat, and providing 439 answers to 159 follow up questions. On average, 5 scientists took part in each Chat.



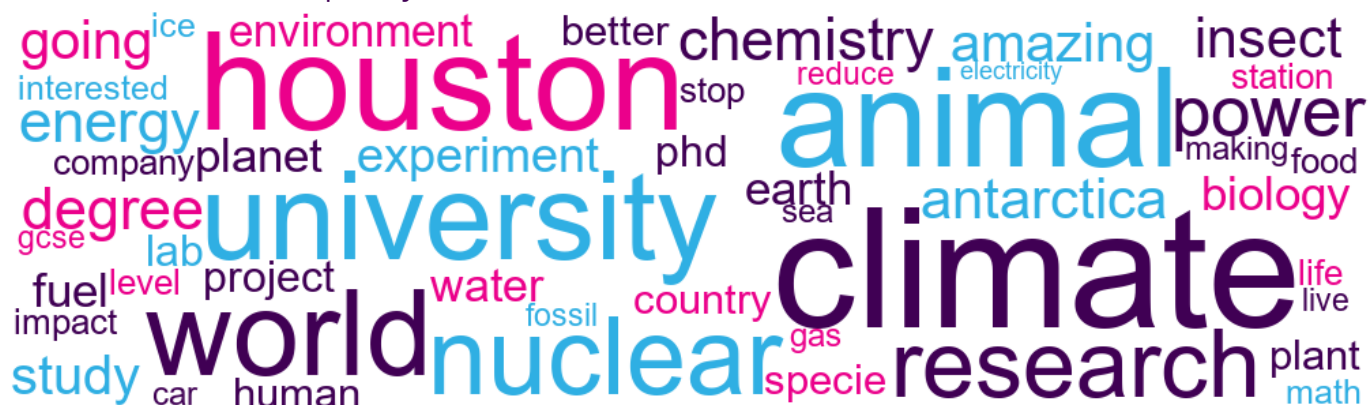
The scientists shown wrote 74% of the lines of chat in the zone.
The average scientist attended 8 chats, and wrote 228 lines.



The scientists shown posted 87% of the answers, and 75% of the comments in the zone.
The average scientist posted 13 answers, and 1 comments.

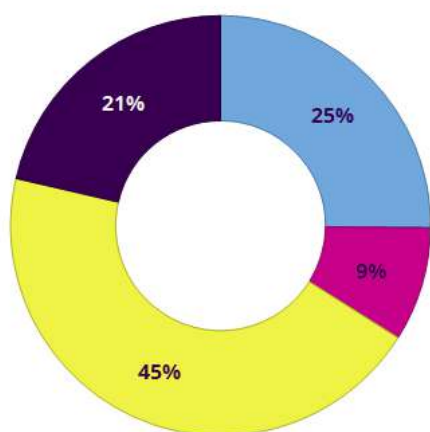
Chats

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

If climate change was to get worse, would plants be able to adapt to the heat?

Has the weather ever been warm in Antarctica?

How can the people develop real progress towards delaying the progress of climate change?

What will happen in the future if we don't care?

When did you know you wanted to be a scientist?

What is the most dangerous chemical you have used?

What was the process that led you to being an engineer?

Can you tell us a science joke?

Examples of good engagement

The Chats provided many examples of great engagement. Students asked specific climate-related questions and learnt about relevant science topics.

Student 1: Could the catalysts for renewables be used for long distance aeroplane flights to make them more sustainable in the future?

Georgia (scientist): I think the aim with hydrogen fuels is exactly that. The hope is that by using this, the only byproduct would be water when the fuel is combusted inside an engine. There is still a way to go for this technology to make it to the likes of aeroplanes though, I feel

Student 1: That is so cool. Definitely more environmentally friendly. What kind of time frame do you feel like this could happen within?

Georgia (scientist): In terms of use for fuelling vehicles, it is still in its infancy really. There is a lot of funding going into this area though, and as we've seen in the past like with the covid vaccines, the more money which is invested into research, the faster results can happen

Student 1: That is so cool. It could definitely make a huge impact to emissions in the future.

An important part of the Science Capital Teaching Approach is tailoring science education to individuals. In the Chats, students asked about topics that are important to them personally.

Student 2: what do you think we could do in our school to make it greener?

Jessica(scientist): There are lots of ways to make a difference in schools! It's great to recycle plastic but can you think of any ways that you can use less plastic all together? Less laminated things, bringing a reusable water bottle, etc. Can you think of more?

Jonathan (scientist): There are lots you can do in terms of 'reduce, reuse and recycle'. The school itself can do things like fitting renewable energy sources (solar panels, maybe a wind turbine) or buying electricity from renewable sources. You can also plant trees!

Additionally, students asked for guidance on choosing subjects that would be useful in reaching their career or academic goals, and help students to reinforce their aspirations.

Student 3: What is the most important subject in school to become a scientist?

Jonathan (scientist): A tricky question to start with because lots of subjects are important. Science is one of the best ones to study, but other subjects like maths, geography and history are also important. I think scientists should study all of these and that will help them decide which type of scientist they would like to become when they are older.

Student 3: I want to be an engineer when I'm older

Jonathan (scientist): That's a great goal to have! An engineer is such a great job!

Conversations between students and scientists can challenge the stereotype that scientists are extremely clever and know everything. This is an important part of making scientists appear more normal and relatable. In the Chats, scientists were happy to tell students when they were asked questions outside of their field.

Student 4: How is space made?

Lucy (scientist): That is a great question and something that scientists are still trying to fully understand. It's not the area of research I am focused on, but there are lots of good books and podcasts about space if you're interested to learn more

Student 4: I thought scientist knew everything

Lucy (scientist): It would be great if we did, but most scientists work in a certain area of science and learn a lot about some specific topics

Scientists of the week

Students voted each week for their favourite scientist to be named Scientist of the Week.

The Scientists of the Week were:



Octavia Brayley, investigates a non-native species of insect on one of the Antarctic islands.



Jonathan Allen, who works on nuclear power stations to help produce clean electricity.

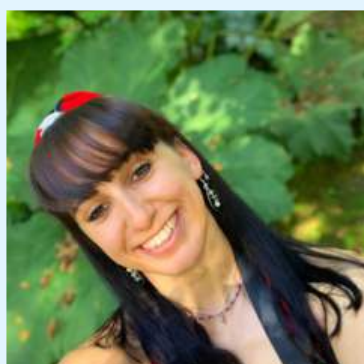


Justin Perry, who does chemistry research looking at sustainable plastics.

Winning scientist

The overall winner, with the most votes at the end of the Zone was **Octavia Brayley**, who investigates a non-native species of insect on one of the Antarctic islands.

As Zone winner, she receives £500 to spend on further public engagement projects.



"I'm absolutely thrilled to be the winner of the November 2023 Climate Zone! Thank you so much to all the students who voted for me over the past month. I hope you all enjoyed the chats as much as I did! [...]"

Thank you so much to the other scientists in the zone. It has been fascinating chatting with other researchers from many different fields who are all doing their bit to protect the planet. Thank you to the I'm a Scientist moderators who kept that chats flowing and to the Royal Society of Chemistry and STEM Ambassadors for funding this fantastic scheme. I will be spending the prize money to set up a podcast where I will be interviewing polar scientists who work in the Arctic and Antarctic. "

You can read her full statement [here](#)

Feedback

"Can I say a HUGE thank you to all the Scientists for your time and excellent replies. You have truly inspired my class!"

Teacher

"Thank you so much, i've always wanted to talk to a real scientist"

Student

"Thank you for the lovely chat it was wonderful chat"

Student

"Thank you all for the very interesting and great questions!! I really enjoyed it and hope you did too! Have a lovely day :)"

Martina (scientist)

"They can give free-responses and ask anything they are interested in. I think they enjoy the autonomy. They also feel privileged to be able to chat directly with people they view as 'important'!!!"

Zoe Davison (teacher)

"Our students were engaged, they really liked asking questions and most especially getting their questions answered"

Shola Adenekan (teacher)

"THIS IS THE BEST EVER SCIENCE LESSON"

Student

"I like trying to answer your questions and it gives me an idea of what sort of things people are interested in to help with my communications"

Hazel (scientist)

"I wished I had a scientist who would spend some time talking to me when I was younger and here I am being the scientist for the younger generation and helping them build a career in science or hopefully get them into science :)"

Apple (scientist)