May–July 2020

In March 2020, schools were closed due to the COVID-19 pandemic, creating uncertainty in education. Many STEM enrichment activities for students were cancelled.

I'm a Scientist, Stay at home was launched to allow school students to stay connected with STEM from April to July. Students could log in and take part whether they were at school or at home, reconnecting with their teachers and each other.

2,500 STEM professionals signed up to take part and inspire students across the UK. Over 800 schools registered for their students to stay engaged with science, engineering and maths.

The Coding Zone ran over 7 weeks as part of the *Stay at home* activities, instead of the usual two. This Zone was funded by bp with additional funding from UKRI.

- 49 scientists created profiles in the Zone, and 44 engaged with students in live chats and answering questions. 38 of these scientists were new to the *I'm a Scientist* activities.
- Scientists from a broad range of areas and career stages took part. For example, Hannah Im is an integrated risk manager at bp, Will Furnell works in Scientific Computing for STFC, and Sreejita Ghosh is a Data Science PhD student, using machine learning to identify rare diseases of the adrenal glands. On average, 8 researchers attended each live chat session.
- 120 students from 10 schools all over the UK logged into the Zone. 3 of these schools had taken part in a previous *I'm a Scientist* activity.
- 33% of active students were from Widening Participation schools, and 26% from Underserved Schools.
- 18 live chats took place during the event.

Key activity figures

The Coding Zone was one of the quieter zones in the *Stay at home* activity. Numbers were similar to that of a normal zone, with 18 live chats across the zone.

Nearly two thirds of the questions in Ask were about careers and education. Students asked a range of things from how the scientists manage stress, to their university experience, to their favourite and least favourite parts of their jobs. Conversations in chats were on topic, with many discussions about coding programs, machine learning and robots.

	ZONE	STAY AT HOME AVERAGE
Schools	10	32
Students logged in	120	682
% of students active	49%	57%
Questions asked	48	178
Questions approved	46	151
Answers given	194	421
Scientist comments	37	95
Student comments	1	18
Votes	48	350
Live chats	18	55
Lines of live chat	2,973	13,374
Average lines per chat	165	227

Fewer students than anticipated took part in the activities, likely due to difficulties teachers faced with remote teaching and online learning.

28% of non-participating teachers told us they had been too busy to fit in a live chat due to an increase in workload. Others shared that their students were particularly struggling with online curriculum learning, and were unable to offer extra-curricular activities.

A majority of students took part from home. This led to a lower average percentage of active students (57%) due to challenges faced by teachers to engage classes and issues with access to technology at students' homes.

School activity

The Petchey Academy, London [WP]
(25 👤 14 💬)

Cambridge Home School, Online
(13 👤 20 💬)

Langtree School, Reading
(12 👤 12 💬)

Aylestone School, Hereford [U]
(10 👤 6 💬)

Torquay Girls Grammar School, Torquay [U]
(7 👤 6 💬)

Lady Eleanor Holles School, Hampton
(5 👤 12 💬)

Theale Green School, Reading
(4 👤 13 💬)

Millais School, Horsham [U]
(2 👤 25 💬)

Lincoln Castle Academy, Lincoln [WP/U]
(2 👤 2 💬)

All Saints CofE Primary School, London
(1 👤 35 💬)

Map and table (above) show schools with students who actively participated in the zone.

Numbers next to schools represent the number of active users [👤] and if they took part in a live chat, the average lines of live chat per active user [💬].

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

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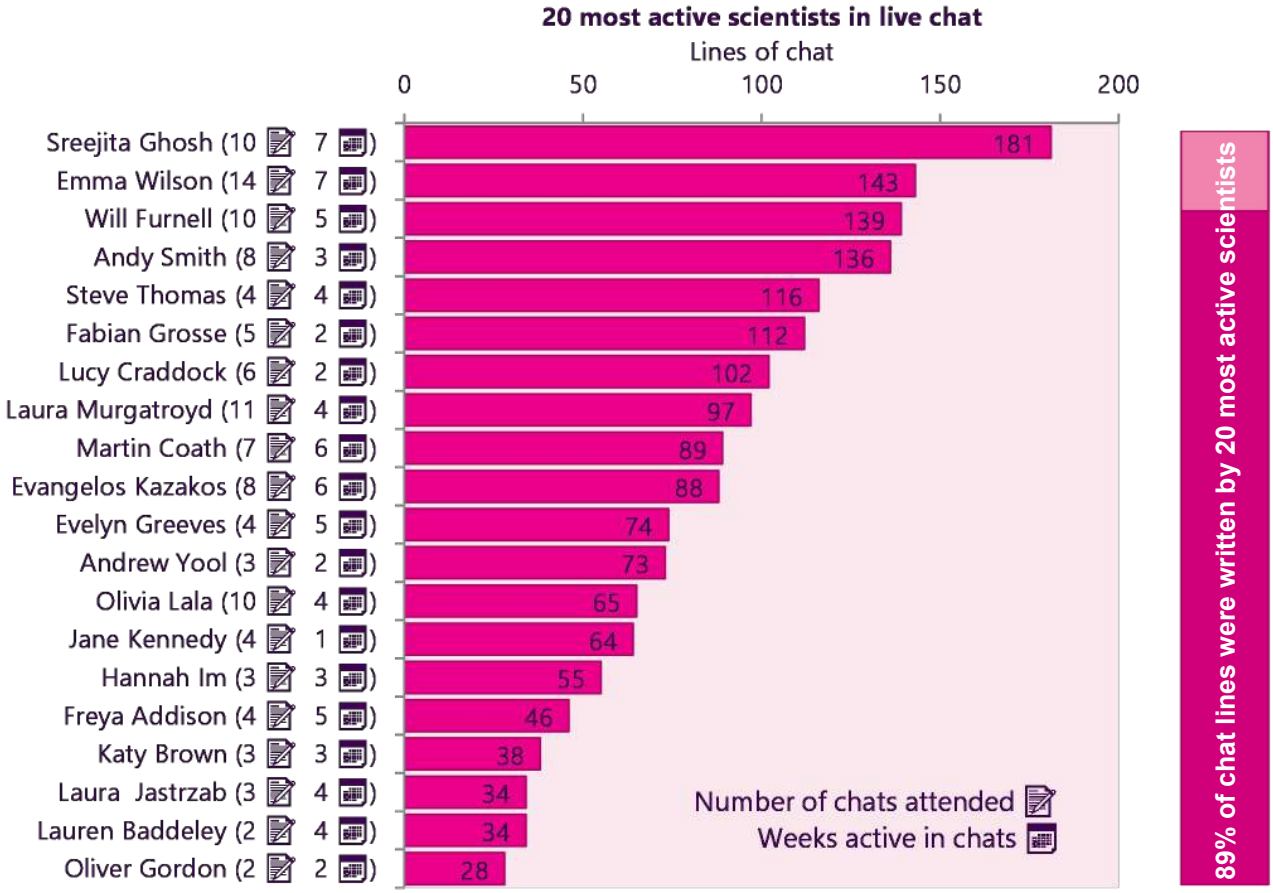
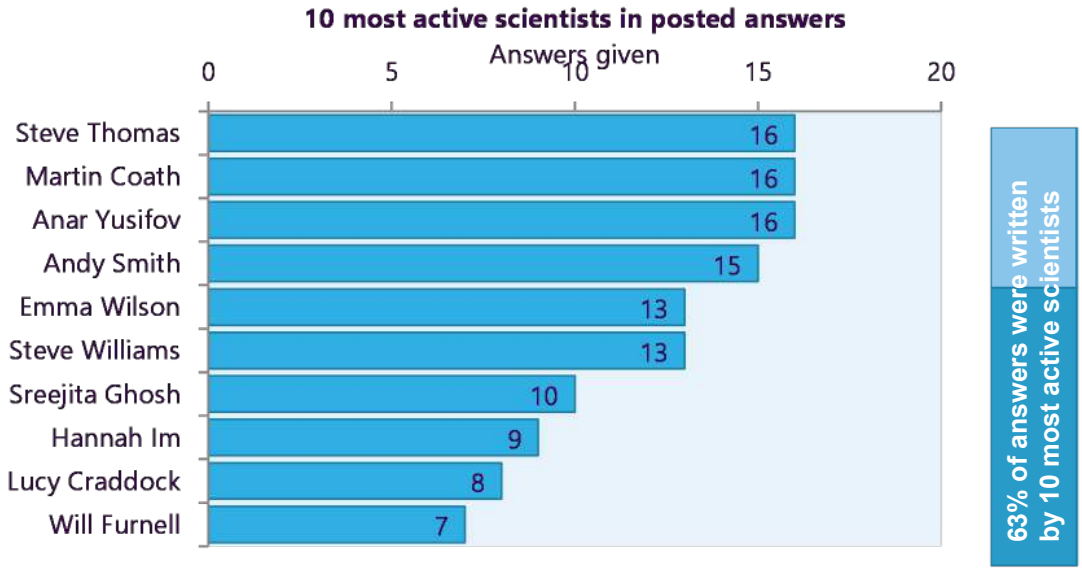
Scientist activity

44 scientists were active in the zone, writing 1916 lines of live chat and providing 194 answers to posted questions.

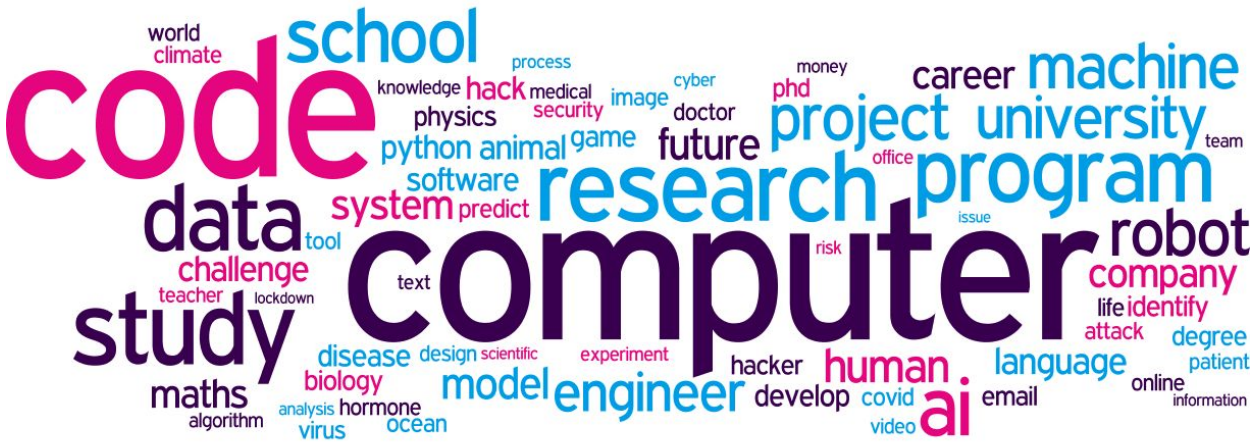




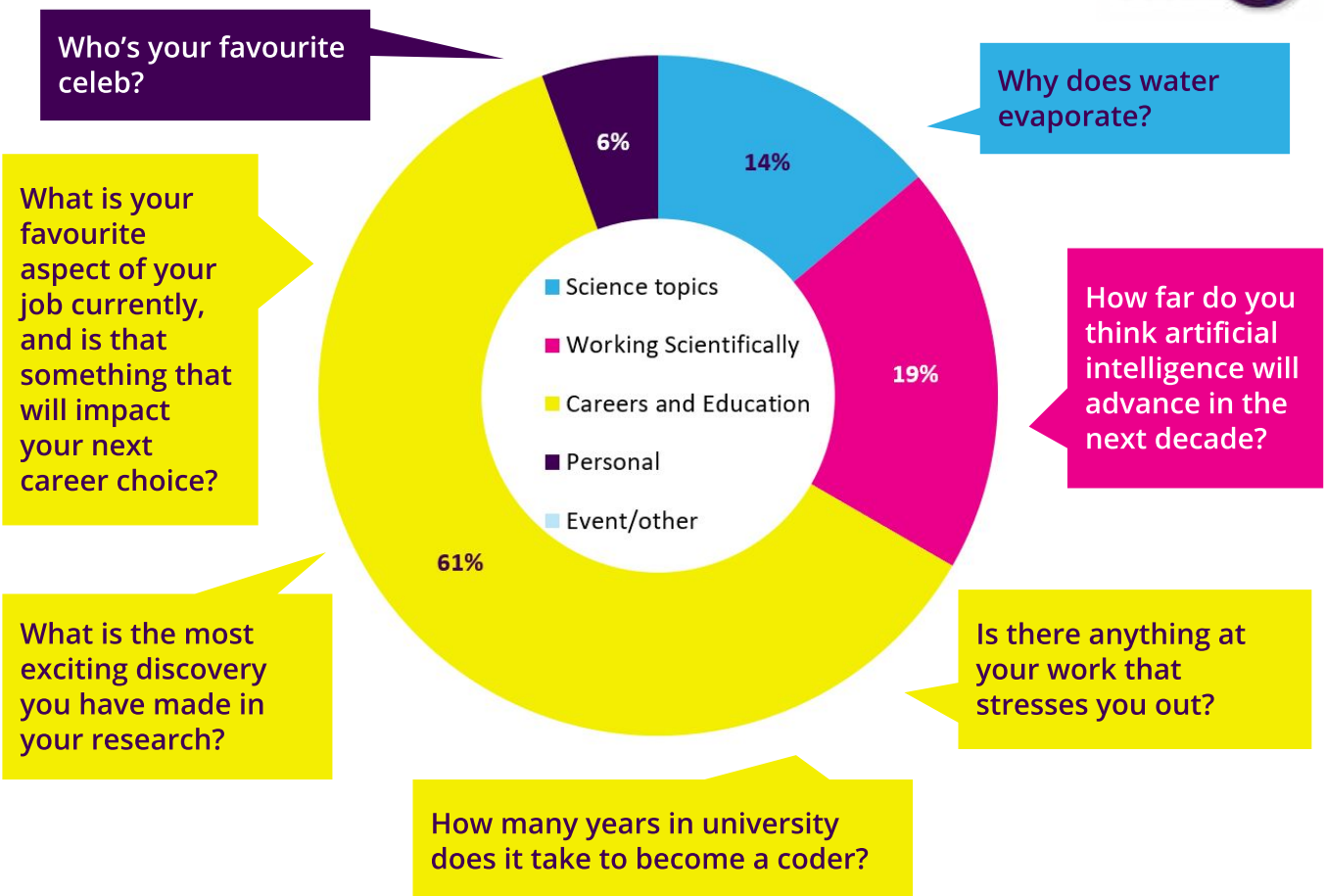
See all the participating scientists: coding20.imascientist.org.uk/scientists/

Popular topics

Frequent words used in live chats by students and scientists



Question themes and example questions



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Examples of good engagement

Students and scientists often discussed their experiences in school, for example in this conversation about favourite subjects. This conversation between a student and scientist lead to a scientist sharing resources with students to further enrich their learning and interests:

IvyM @Emma_W Why did you decide to go into data science?

Emma_W @IvyM: I think I discovered I preferred it over neuroscience. I like using code and creating programs and data science allowed me to do explore that further.

IvyM @Emma_W: What sort of data do you look at?

Emma_W @IvyM: I look at data from scientific studies, mostly to do with the methods. This could be things like what treatment is being investigated. I'm working on text mining tools which can extract information like this from the papers automatically.

IvyM @Emma_W: Wow, I'd never heard of text mining before. Thanks

Emma_W @IvyM: There are lots of different ways you can do text mining. I use regular expressions (also called regex) to find and match patterns of text. You should give learning regex a go if you are interested :)

Daisy S @Emma_W: Is there a way we can learn regex? :)

Emma_W @Daisy S: you can try this website: https://regexr.com/

Daisy S @Emma_W: Thank you, I'll check it out :)

Many conversations and Ask questions were about the coronavirus pandemic. Scientists were open about the impact on their work and lives, helping students to see them as normal people thus contributing to the students Science Capital:

Abi D @all how has Covid-19 had an effect on your job?

Martin @Abi D: I have had a few travel plans cancelled - not much else

Emma @Abi D: It's made me busier actually. I started working on a new project building a categorised database of COVID-19 research.

Abi D @Emma: Oh wow! It's interesting that where most people aren't working as much, some are working more! Your project must be very useful!

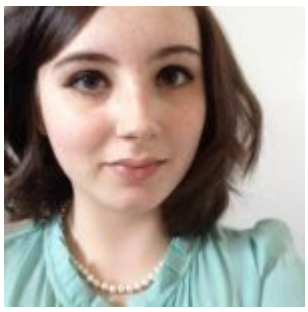
Emma @Abi D: I hope people find it useful. So much new search is being published on the topic (there were over 2000 scientific papers published on COVID-19 last week) so it's really important that people can access it and know if it's good quality or not

Abi D @Emma: Wow! That's alot of papers for just last week! Sounds like it'll definitely help scientists find a cure or at least vaaccine!

Scientists of the Week

Students voted for their favourite scientists to be named *Scientist of the Week*.

The 4 *Scientists of the Week* were **Sreejita Ghosh, Meera Sewraz, Emma Wilson,** and **Andy Smith**. The overall winner in this zone was **Andy Smith**.



Feedback

thank you so much its been really inspiring and helpful talking to you all! -- **Student**

Fantastic opportunity to connect with students and improve my communication skills -- **Emma Wilson, Scientist**

In many cases the students have simple questions but the answer is immensely complicated. In our technical field we often see these kinds of questions from our executives! The mental workout of answering students was a good bit of practise. -- **Andy Smith, bp Cybersecurity**

We are so happy to see so many female scientists here! Our stem week was focused on women in stem -- **Teacher**

thank you so much for answering all our questions today it was very interesting to hear all of your ideas and perspectives! -- **Student**

Feedback from across the *Stay at home* activity

Everything was amazing! I was astounded by the questions that the children were asking and about how well the scientists answered their questions. My class were really inspired and have realised what a wide variety of careers use Science. They believe that they can do it too. -- **Teacher**

I'm a Scientist has been a lifeline for me, I'm isolating on my own and it can be really lonely. I have really enjoyed chatting to students and scientists and learning so much! -- **Chloe, Scientist**

im so happy this was a homework enrichment! :-) -- **Student**

That was the academic highlight of the lockdown so far. It was fast and furious wasn't it!? So many students signed up and all engaged. Again a big thank you from me and year 7! -- **Head of Year 7, Bournemouth School**

Feedback from across the *Stay at home* activity

Was just as much a benefit for me as for students. Isolated working from home, the chats were just what I needed to lift my spirits and get excited about science! -- **Elena Maters, Scientist**

Thank you scientists very interesting answers loved this might be a scientist for my job! -- **Student**

I was just so impressed by what I think is a huge effort by all involved to support and inspire young students (many of whom are struggling to keep motivated during these uncertain times). Much thought and care was clearly given to each answer and my students have all contacted me since to say that they had "the best time!" -- **Teacher**