

April–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 Disease Detectives Zone ran over 12 weeks as part of the *Stay at home* activities, instead of the usual two. There were 93 live chats, compared to the usual two week zone average of 16. This Zone was funded by the Wellcome Genome Campus with additional funding from UKRI.

- 81 scientists created profiles in the Zone, and 78 engaged with students in live chats and answering questions. 74 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, Alena Pance is a cell biologist at the Wellcome Sanger Institute studying malaria, Lucy McGowan is a PhD student studying bone health, and Hugo Lewkowicz works in Public Health predicting how illnesses spread. On average, 7 researchers attended each live chat session.
- 1,231 students from 39 schools all over the UK logged into the Zone. 23 of these schools had taken part in a previous *I'm a Scientist* activity.
- 16% of active students were from Widening Participation schools, and 69% from Underserved Schools.
- The zone also included **supporting activities** for students to complete before and after their chat, and a poster competition.

Key activity figures

The Disease Detectives Zone was the busiest *Stay at home* zone, with almost twice the number of students logged in than the average (1,231 students from 39 schools). The number of Ask questions in this zone was over 2.5 times higher than in the other zones.

55 of the 472 questions in Ask were about COVID-19, and nearly half of all Ask questions were on science topics. Other questions were on DNA and genetic diseases, different types of medicines, stem cell research and vaccines.

	ZONE	STAY AT HOME AVERAGE
Schools	39	32
Students logged in	1,231	682
% of students active	74%	57%
Questions asked	472	178
Questions approved	398	151
Answers given	576	421
Scientist comments	96	95
Student comments	28	18
Votes	829	350
Live chats	93	55
Lines of live chat	27,567	13,374
Average lines per chat	296	227














































































Conversations were also on topic in the live chats. Students asked about viruses, vaccines and the different diseases the scientists were working on.

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

Bournemouth School, Bournemouth [U] (224  7 	St Katherine's School, Bristol (12  11 
Ballyclare High School, Ballyclare [U] (180  9 	St Bartholomew's School, Newbury [U] (12  7 
Furness Academy, Barrow-in-Furness [WP/U] (99  9 	Beech Hill Community Primary School, Wigan [WP/U] (10  20 
Beaulieu Convent School, Jersey [U] (56  8 	Teesdale School, Barnard Castle [U] (10  8 
St Paul's School, Barcelona, Spain (53  14 	St Philip's Catholic Primary School, Leeds (9  24 
Northwood College for Girls, Northwood (37  18 	Lismore Comprehensive School, Craigavon [WP/U] (8  12 
The Holmesdale School, Snodland [U] (33  11 	Ernest Bevin College, London (8  8 
The Arnewood School Academy, New Milton [U] (32  15 	Kirkby Stephen Grammar School, Kirkby Stephen [U] (7  20 
The Henrietta Barnett School, London (29  7 	Chichester Free School, Chichester [U] (7  13 
Furze Platt Senior School, Maidenhead (24  8 	Richard Huish College, Taunton [U] (7  5 
Mandeville Primary School, St Albans [WP] (23  17 	Lady Eleanor Holles School, Hampton (6  13 
St Bridget's Primary School, Glasgow City [WP] (21  12 	Cambridge Home School, Online (4  21 
Herne Bay High School, Herne Bay (20  10 	The Petchey Academy, London [WP] (4  17 
Downham Market Academy, Downham Market [U] (18  8 	The Warwick School, Redhill [U] (3  11 
Esher College, Thames Ditton (18  5 	Heron Hall Academy, Enfield [WP] (3  9 
St Ursula's Convent School, London (16  6 	Kenmont Primary School, London [WP] (2  49 
Kent College, Canterbury (15  7 	Trinity CE School, Belvedere (2  16 
Chatsmore Catholic High School, Worthing [U] (15  4 	Nova Hreod Academy, Swindon [U] (1  6 
Robert May's School, Hook [U] (14  16 	Hull College, Kingston-upon-Hull (1 
Humphrey Perkins School, Loughborough (12  17 	



Map (above) and table (left) 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 [].

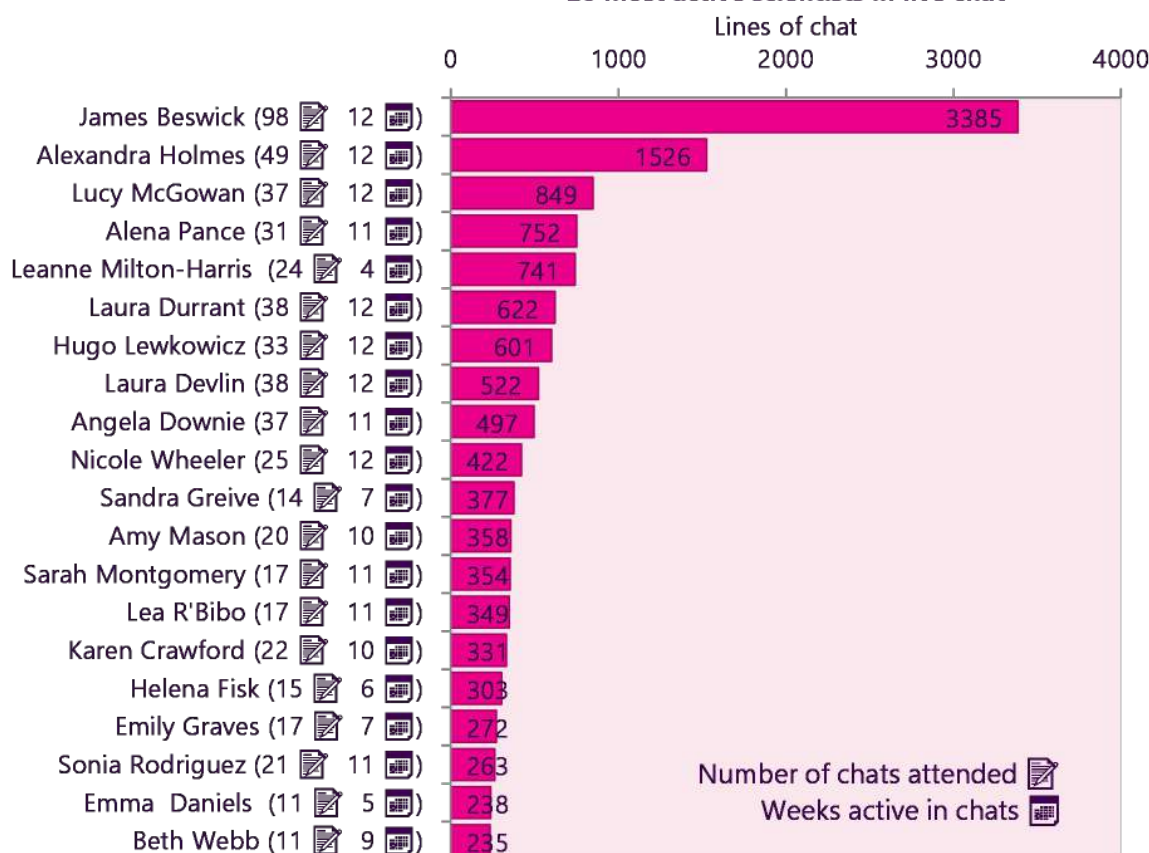
We want to increase the participation of under-represented groups going into STEM careers. Find out what we mean by our under-served (U) and WP schools (WP), and how you can support us in working with more of these at:

about.imascientist.org.uk/under-served-and-wp/

Scientist activity

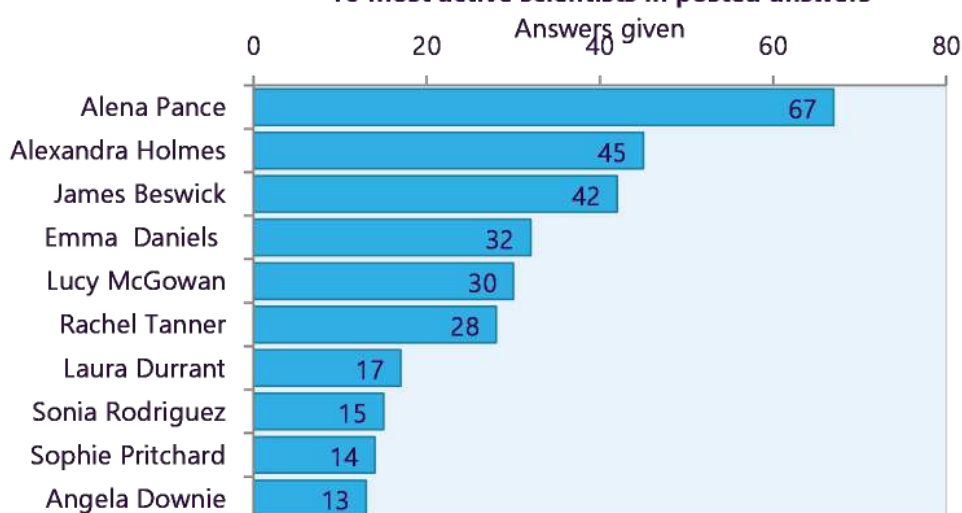
78 scientists were active in the zone, writing 17026 lines of live chat and providing 576 answers to posted questions.

20 most active scientists in live chat



76% of chat lines were written by 20 most active scientists

10 most active scientists in posted answers

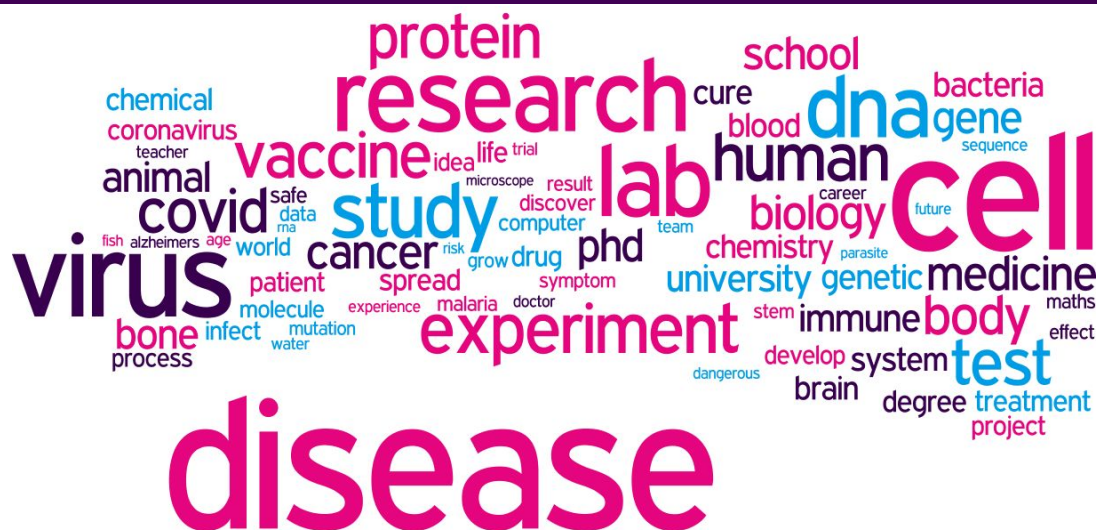


53% of answers were written by 10 most active scientists

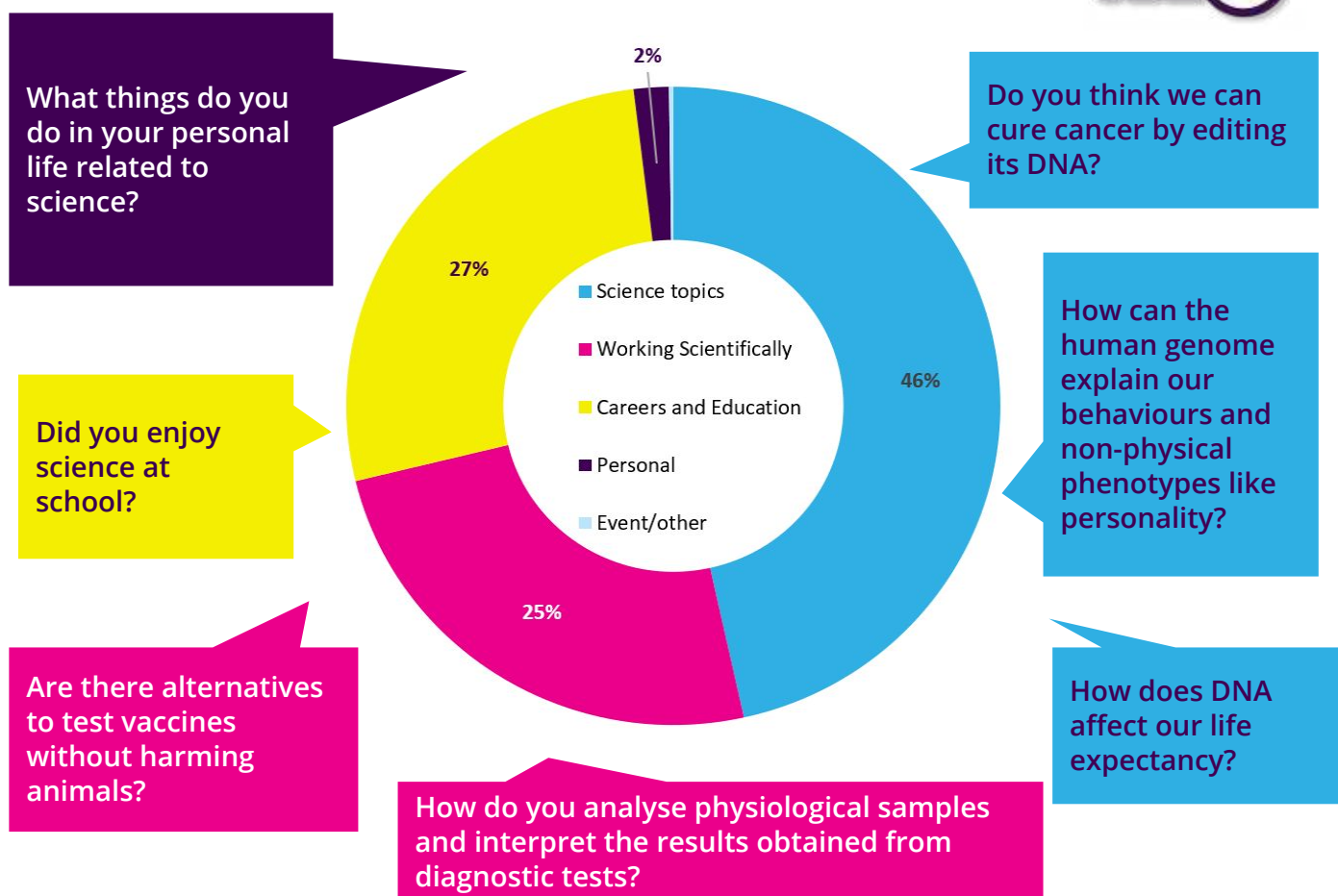
See all the participating scientists: diseasedetect20.imascientist.org.uk/scientists/

Popular topics

Frequent words used in live chats by students and scientists



Question themes and example questions



Examples of good engagement

Students often asked the scientists for education advice, and shared their interests for the future. This let students to see the application of science outside of the classroom and also allowed the students and scientists to talk about their shared interests:

(~▽~)~ **emily_c** @all Hello! I was wondering what sort of science you recommend taking if you are interested in a future of marine biology?? Thanks!

Laura_Dev @(~▽~)~ **emily_c**: Wow that is such a fun subject! Are you talking at GCSE level?

(~▽~)~ **emily_c** @Laura_Dev: Yes! i've been thinking about having a job around biology but i am not too sure what science i should take.

Laura_Dev @(~▽~)~ **emily_c**: Well I will definately take Biology, and it woudln't harm taking Chemistry and Physics as well as if you enjoy them, as they are all applicable! You can always have a look at potential Marine Biology courses at University and see what requirements they ask for, which will help guide your decision. Teachers will also be a great help for that! Marine Biology is such an intersesting subject, where have you got your interest from?

(~▽~)~ **emily_c** @Laura_Dev: Thank you for the info! A couple years ago, i started to watch documentaries on marine life (mainly blue planet!) and i also was inspired to take a science-relating job because i used to read (and still do now) many of science books when i was little :D

Laura_Dev @(~▽~)~ **emily_c**: Thats great Emily! Blue Plant is amazing (I love David Attenborough). I think its a really intersting subject to be in with lots of amazing work. I live near the northumberland cost, where there are marine biology research centres. I know a few people who are actually doing research on the dolphins in this region!

(~▽~)~ **emily_c** @Laura_Dev: Wow! that sounds like an awesome job! yes, David Attenborough is great!!

Laura_Dev @(~▽~)~ **emily_c**: It's soo cool isn't it! And alot of people go diving which is amazing!

Many students in the chats asked for more information about topics the scientists researched, and how these would apply in real life examples. This increased the students knowledge and understanding of science, contributing to their Science Capital:

IsabellaS @Angela how do miRNAs actually protect us from diseases? How do they work?

Angela @IsabellaS: basically miRNA regulate gene expression... They bind to RNA and degrade or repress them... They are key in the immune system as they make sure to 'turn off' the response at specific times as necessary... They are also often found dysregulated in cancer.. If there are too few or too many it basically throws the cells balance off

IsabellaS @Angela: that's really cool, is there any way that we could "manipulate" miRNAs to change gene expression and what would the implications of this be?

Angela @IsabellaS: so there is two ways to use miRNAs therapeutically... One is to use mimics which could compensate for loss of miRNAs and the other is to use anti-miRs that would bind to the mirnas and work as a sort of sponge to deal with excess mirnas...

IsabellaS @Angela: I didn't know that, thank you :)

Scientists of the Week

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

The 10 *Scientists of the Week* were **Lucy McGowan, Laura Durrant, James Beswick, Karen Crawford, Alice Burleigh, Alexandra Holmes, Olivia Edwards, Sophie Adjalley, Cameron Stockwell** and **Amy Mason**. The overall winner in this zone was **James Beswick**.



Feedback

I design educational materials for schools around my work, so this has been really helpful for getting real-time feedback from lots of different classes on what aspects of my work are interesting and make good class discussion points. It's been really fun hearing from different kids and seeing them discover something new they find interesting and exciting. -- Nicole Wheeler, Scientist

I am SOOO impressed with the students - they have never done this before and are doing so well with it. You scientists are giving fantastic answers, really inspiring them and giving a real insight. THANK YOU so much! -- Teacher

Thank you so much for your time! I am glad to say that I know way more about diseases, DNA and the spread of infections than I did before this chat -- Student

It's a really nice thing to do. You can choose the chats that suit you and there's the questions you can answer whenever you have time. It couldn't be easier. There were some really good questions and it's rewarding to see that people are interested in what you do.. -- Alena, Scientist at Wellcome Sanger Institute

Thank you so much for your time and brilliant answers. Has been amazing! -- 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



Ailith Ewing
@Ailith_Ewing

I decided to take part in [@imascientist](#) to remind me why I enjoy being a scientist, to remind me what was important about my work and to learn from the enthusiasm of students and other scientists alike. It worked. I am grateful. Highly recommend to scientists at all career stages

1:20 PM · Jul 27, 2020 · Twitter Web App

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 @imascientist for providing our pupils with the opportunity to talk to scientists today. They thought it was "so cool" and we were very impressed by their questions! 🧠👁️🗣️

1:32 PM · May 27, 2020 · Twitter for iPhone

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



Lucie Evans ▸ I'm a Scientist, Get me out of here
22 mins · 🌐

Just had the most wonderful 40 minutes of live chat with 9 of your scientists and 22 of my year 8 students. The scientists were superb and the students absolutely loved their chat time. They're scrutinising all the answers now and deciding who to vote for! Thank you so much for running this during lockdown, it's really helped to keep them motivated and engaged.



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