

## November 2019

The Sustainability Zone was a themed zone for primary school students, supported by Wellcome. There were six scientists in the zone:

- Stuart Goldie is a Postgraduate Research Assistant, discovering new materials for renewable energy
- Scott Dwyer is finding new ways to control a parasitic mite that can kill honey bees
- Lisa Kelly manages BASF's distribution business, trying to supply products like cosmetics, food and pharmaceuticals in a sustainable way
- Jack Saunders is a polymer scientist making new plastics for paints, to help keep things in better conditions for longer
- Caragh Whitehead is a research technician looking at how plants can lead to improvements in all areas of our lives
- Alex Batchelor, the winner of this zone, is a PhD student investigating how plant roots can get more phosphorous from the soil, to help them grow better and produce more food

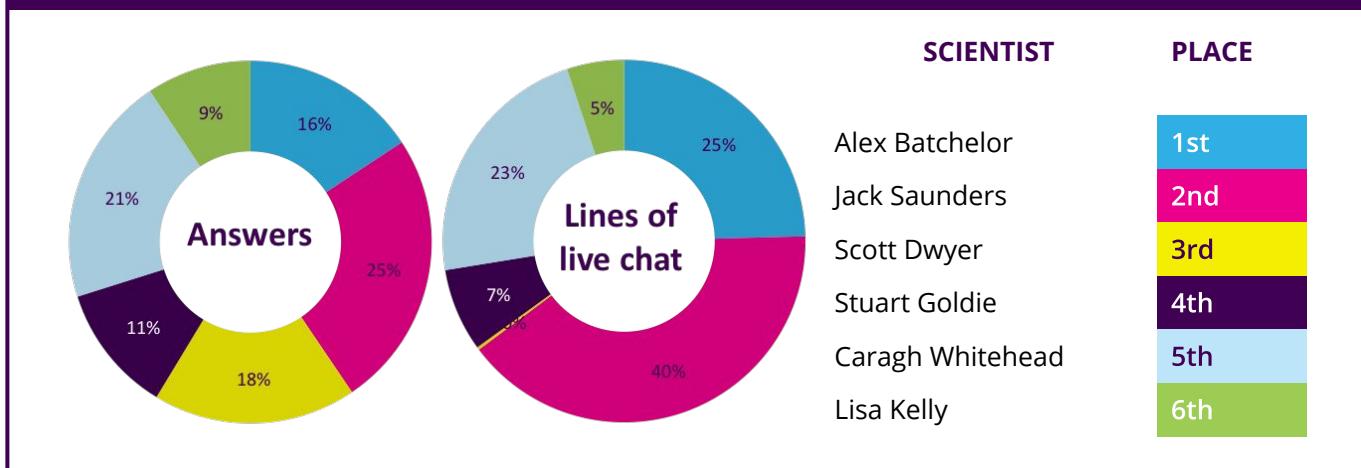
### Key figures

This was a primary school zone, and quieter than some other zones in November 2019, but very focused on the topic of Sustainability. Students asking a lot of questions about plastic, polymers, and plants, relating to Alex and Jack's research areas.

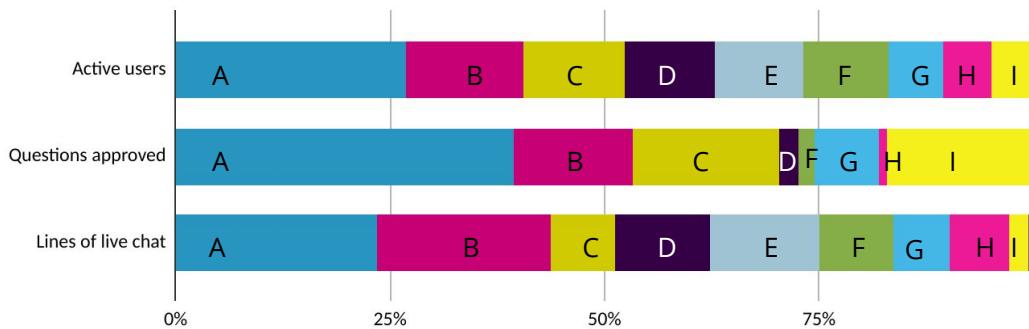
This is also reflected in the fact that Alex and Jack contributed 65% of lines in live chat from scientists between them.

	SUSTAINABILITY ZONE	NOV '19 ZONES AVERAGE	2012-19 ZONES AVERAGE
Schools	10	10	10
Students logged in	343	368	389
% of students active in ASK, CHAT, VOTE, or comments	83%	91%	87%
Questions asked	491	571	659
Questions approved	223	262	291
Answers given	375	457	525
Comments	58	45	69
Votes	194	294	307
Live chats	15	18	17
Lines of live chat	5248	6334	5771
Average lines per chat	350	352	356

### Scientist activity



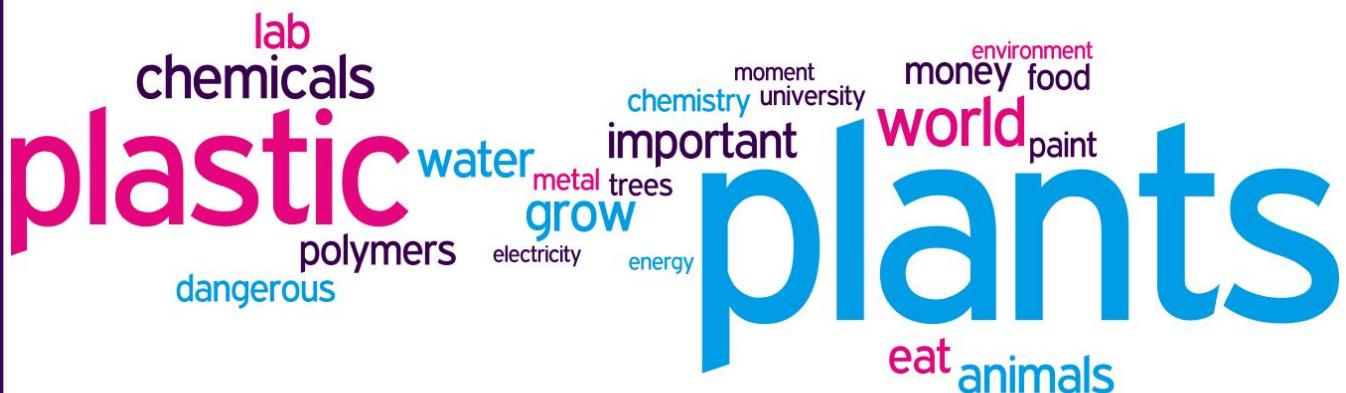
## School activity



	YEAR GROUP(S)	CLASSES
<b>A</b>	Holy Trinity CE Vc Primary School, Weymouth (WP/U)	4 2
<b>B</b>	Barry Primary School, Northampton (U)	5 2
<b>C</b>	Howard Primary School, Croydon (WP)	6 2
<b>D</b>	St Mary's Catholic Primary School, Morecambe (WP)	4 1
<b>E</b>	St Leonard's Cofe Primary School, Bridgnorth (U)	3, 5 2
<b>F</b>	Pitteuchar East Primary School, Fife (U)	4 1
<b>G</b>	Mill O'Forest School, Aberdeenshire (U)	6 1
<b>H</b>	Touch Primary School, Fife (WP)	5 1
<b>I</b>	Llanyrafon Primary School, Torfaen (U)	5 2
<b>J</b>	Louth Kidgate Primary Academy, Louth (WP/U)	4 2

We have found that schools that are more than 30 minutes travel time from their closest Higher Education Institution are less likely to receive visits and benefit from engagement activities. We give priority to underserved (U) and widening participation (WP) schools when allocating places. Find out more about our research at <https://about.imascientist.org.uk/2017/school-engagement-in-stem-enrichment-effect-of-school-location/>

## Frequent words used in live chats by students and scientists



## Question analysis



What do you do when you have time off?

Are you interested in art?

When did Global Warming start?

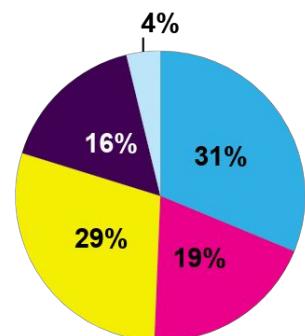
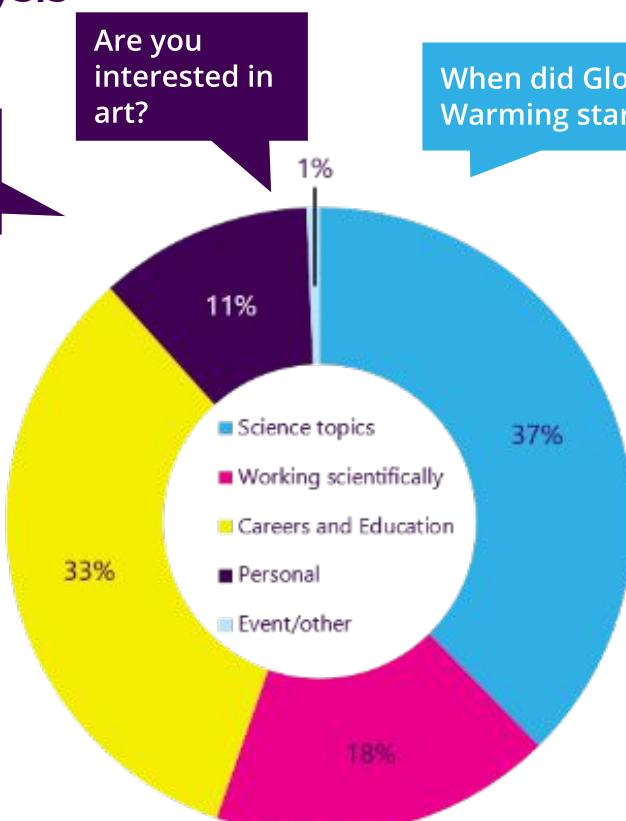
When do you think you will retire?

What's your next project?

What causes anaphylactic shock when a bee stings my mum?

I thought plastics were bad for the environment. Why are you trying to still use them in paint?

How much bigger does your microscope make something look?



Historic Per-Zone Average (Themed Zone)



## Examples of good engagement

I'm a Scientist is a great way for students to see what real scientists are like, and dispel common stereotypes, such as in the example below. This type of interaction can help students to see that scientists can be someone "like them"

*"Are scientists really like scientists in cartoons?" - **Student***

*"This is a great question! I think that it depends on what cartoon you watch, we're not all crazy haired white-coat wearing geniuses (most of us are just normal people who enjoy science).*

*However, in some cartoons (like Big Hero 6 – a film that I love) there is a group of scientists who are very similar to some people I know 😊*

*I think that most of the time cartoons take some things that are true for one group of people (like scientists, police officers, or doctors) and make them very over-the-top to make it funny!" - **Jack, Scientist***

*"thank you, I have seen Big Hero 6, it's really good" **Student***

The Science Capital Teaching Approach highlights the importance of inviting students to share their own knowledge and attitudes, recognising their value and connecting this to the science, as demonstrated in this example where students show awareness of current issues and scientists gave honest answers and were good at reassuring students that they could still solve the problems:

*"Who first discovered global warming?" - **Student***

*"A very good question; unfortunately the answer is quite scary. The idea that carbon dioxide would make the world hotter was first measured by a lady called Eunice Foote in 1856, over 150 years ago!! Unfortunately we didn't know how much carbon dioxide we were making and how much that was heating the world up; in 1975 a man called Wallace Broecker wrote about the damage we might be doing to the climate although some other people were also looking at it." - **Stuart, Scientist***

*"Global warming is scary" - **Student***

*"It is scary, but humans can do great things when they really try and work together. We can solve this problem, we just need to change things now." - **Stuart, Scientist***



## Scientist winner: Alex Batchelor

Alex's plans for the prize money: "*I'd use some of the money to buy a couple of light microscopes which I could then take into primary schools and use those to show kids plants close up. I would also get them to make their own slides with either leaves from the playground where they could look at the surface or onion skin so they could see cells. I would use some of the money to buy slides and dye for this activity. I'd use some of the rest of the money to buy seeds, pots and compost so that they could plant something of their own*"

Read Alex's [thank you message](#)

## Student winner: zest371tea

As the student winner, zest371tea will receive a certificate and a gift voucher.

## Feedback

We're still collecting feedback from teachers, students and scientists but here are a few of the comments made about November's *I'm a Scientist*...

*Both classes absolutely loved taking part and my class actually clap at the end of the live chat... This project encourages a greater understanding and interest in science. Pupils see scientists as real people with interests like their own. It breaks down the stereotypes around the career. Taking part also encourages the pupils to think about the world of work and future careers.*

— Teacher

*I particularly enjoyed the live chats with classes because the engagement was totally led by them and it was a lot of fun to chat about such a variety of things, from being a researcher, to their questions about dementia, to our favourite snacks, to Netflix - I'll miss doing them a lot! And, in chats, there were some questions that came up frequently, which has given me a better idea of some of the concerns/questions of younger people.*

— Scientist

*We had our first live chat today and the students loved it!! It was so lovely to see them so engaged with the live chat and some of their questions were fab!*

— Teacher

*I'm a Scientist has changed my perspective on science*

— Student