

I'm a Scientist, Get me out of here!
Wellcome Trust funded zones report
November 2015 – March 2016

The screenshot shows the 'I'm a Scientist' website interface. At the top, there's a navigation bar with 'Zone Home' and 'Scientists' tabs, a search bar, and 'Ask?', 'Chat', and 'Vote' icons. A 'Gold Zone Au' badge is visible. Below the navigation, there's a 'Meet the Scientists...' banner with photos of Omur, Maddison, Jimi, Hayley (winner), and Chris. The main content area displays five scientist profiles in a grid:

- Omur Tastan:** Bio about stem cells and brain diseases. Status: 'Best Sci-comm event ever! Thanks everyone!'. Latest Question: 'Why do we feel dizzy when we spin?'.
- Maddison Coke:** Bio about creating tiny structures. Status: 'sad to be evicted but had a blast'. Latest Question: 'how long have you been working'.
- Jimi Wills:** Bio about mass spectrometers. Status: 'thanks for voting :)'. Latest Question: 'What would happen if predators from the ice age still lived?'.
- Hayley Moulding (WINNER!):** Bio about sleep. Status: 'Thank you so so much to Jimi, Omur and Maddison for this week, but most of all thank you to all the phenomenal students!'. Latest Question: 'What causes you to stress sometimes when you are sleeping?'.
- Chris Conselice:** Bio about galaxy formation. Latest Question: 'what planets have the shortest day?'.

At the bottom, there's a footer with 'FAQ House Rules Accessibility Privacy Partners Contact', 'Copyright and produced by Gallomanor 2016', and 'Supported by wellcomme trust'.

1. Executive summary

1. **6 I'm a Scientist zones** were run with Wellcome Trust funding in November 2015 and March 2016, including 2 themed zones, **Fat Zone** and **Heart Zone**, and **4 general science zones**, two of which were for primary schools only.
2. **30 scientists** were able to engage with school students, **including 22 biomedical-related researchers**. Of these, 45% were directly supported by the Wellcome Trust.
3. **2,826 school students logged into the zones**, an average of 455 per zone.
4. **85 schools** got a place in I'm a Scientist Wellcome Trust funded zones. 86% of these schools took part in the event.
5. **£3,000** to be used for further public engagement was distributed among the winners of the zones.
6. **Widening participation in schools** – We developed [criteria to identify schools](#) that would benefit from taking part and 18% of the schools who took part in the zones met one of our criteria for schools underserved by STEM engagement.



2. Introduction

I'm a Scientist, Get me out of here! (IAS)

I'm a Scientist, Get me out of here! is an online event where students get to meet and interact with real scientists. It's an X-Factor style competition between the scientists, where students are the judges.



The event has 3 parts: ASK, CHAT and VOTE. Students ASK questions and have text-based live CHATS with the scientists. Students learn more about the scientists, and let scientists know their opinions. And finally, students VOTE for their favourite scientist to win £500 prize to be spent on more science communication.

The event takes place over two weeks, online at imascientist.org.uk, and it is split into “zones”, which are either general (named after an element) or themed. In each zone there are 5 scientists and around 400 school students in 20 classes. IAS is designed to bring real science to life for students, supported by carefully developed classroom resources.

The Wellcome Trust provided funding for 6 zones to run in the November and March events.

3. Participation

Scientists

30 scientists took part in the 6 Wellcome Trust funded zones during November and March. As well as the biomedical themed zones, we included 3 biomedical and biology related scientists in each of the four general science zones. Of the 22 biomedical and biology scientists, 10 people had their research funded by the Wellcome Trust.

When the scientists apply to take part in the event, they write a one sentence summary of their work. This summary is sent to students and teachers, who rate the scientists based on their descriptions and how much they'd like to see them in the event. We also try to get a mix of research interests and academic levels (from PhD students to Professors), variety of institutions, and a balance of female and male scientists, as well as scientists from minority ethnic backgrounds.

Of the 30 scientists in these zones, 53% were female, 47% were male and 20% were from minority ethnic backgrounds.

Scientists were widely spread in different institutions in the UK, as shown in the map below.



In each zone, there were four rounds of voting with one scientist evicted in each. Students can cast one vote in every round. The winner with the most votes in each zone is awarded £500 to use for engaging the public with science and scientists. Across the zones, £3,000 was awarded to winners. This means that they will be able to continue to engage with the public with the £500 prize money.

Schools

85 schools (red dots on the map to the right) **got a place in I'm a Scientist Wellcome Trust funded zones. 86%** of these schools actually took part in the event, above the expected 20% dropout rate. We oversubscribe zones with 25 classes, when we expect around 20 classes to show up in each zone.

However, school dropouts are particularly unfortunate now that we have to select which teachers get a place in I'm a Scientist UK, given the high oversubscription rates. For example in November 2015, 202 teachers requested a place for 537 classes, and we only had space for 250 classes. Read more at:

about.imascientist.org.uk/2015/too-many-teachers/



Widening Participation

Being online means we can reach those who are currently underserved by science outreach activities, and increasing the diversity of the schools taking part in I'm a Scientist is an important strategic aim. Funding from the Wellcome Trust for the November and March events helped us to identify which schools are priorities in this area. Since there is currently no data available on the level of science engagement done in schools, we have developed our own definition ([read more here](#)), taking into account distance to Higher Education Institutions, and Widening Participation indexes. We are targeting state-maintained schools in the UK (non-independent schools) that fulfil at least one of these criteria:

- the % of students achieving 5 grades A*–C at GCSE is below 45%
- the % of students achieving level 4 in reading, writing, and maths at KS2 is below 45%
- the % of students eligible for free school meals is higher than 41%
- POLAR3 is in the first quintile
- A SEN School
- In England and Wales, a school that is more than 25 miles away from a major research University
- In Scotland, a school that is defined as in a 'remote rural area'

Of the 73 schools who took part in the November and March Wellcome Trust zones, 13 (18%) were in rural or underserved areas, according to the criteria above. Our aim is to increase this number to 30% by targeting promotion to these types of schools, as well as offering them extra support during the activity.

4. Activity in the zones

We ran 6 Wellcome Trust funded zones in November 2015 and March 2016, distributed in two events:

- 3 zones in I'm a Scientist UK November 2015: Heart Zone, Tungsten Zone, Rhenium Zone
- 3 zones in I'm a Scientist UK March 2016: Fat Zone, Platinum Zone, Gold Zone

Two of these zones were for primary students only: Tungsten and Gold zones.

IAS Figures: Historic average since 2012, average of all zones in both events, and Wellcome Trust funded zone average in both events.

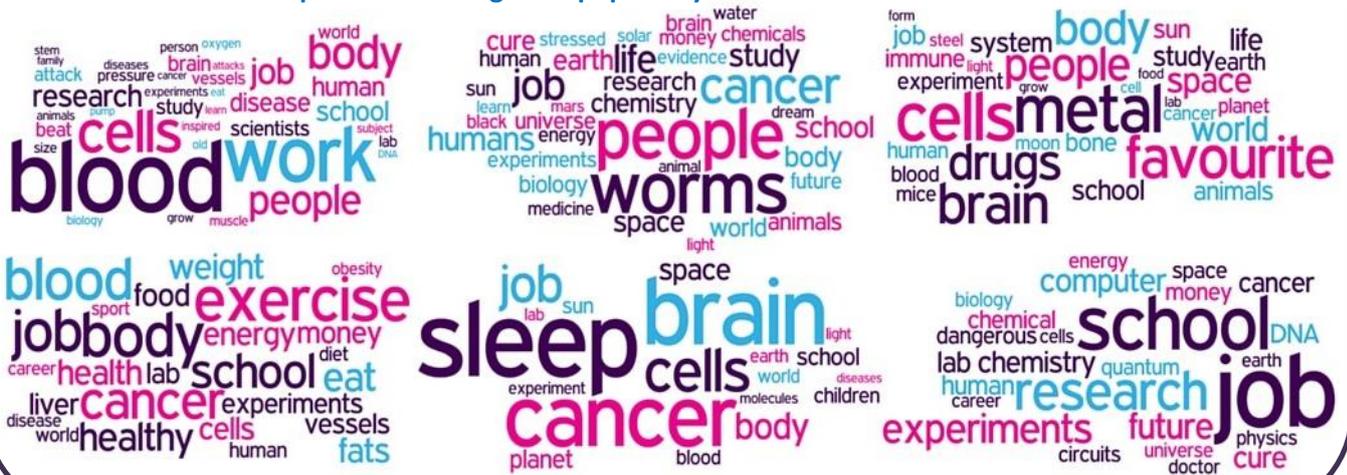
	HISTORIC AVERAGE	N15 & M16 ZONES AVERAGE	WT N15 & M16 ZONES AVERAGE
Registered Students	360	471	455
% of students active in ASK, CHAT or VOTE	85%	89%	91%
Questions asked	---	622	771
Questions approved	306	314	328
Answers given	555	457	488
Comments	80	96	144
Votes	286	365	372
Live chats	15	20	19
Lines of live chat	4,970	6,417	6,851
Average lines of live chat per chat	339	339	370
Schools	10	14	14
Answers given per approved question	1.8	1.6	1.5

The average number of comments in the Wellcome Trust zones were well above the average for the events, as was the average number of lines of live chat, pointing to how busy and engaged they were. The historical number of questions asked isn't compared as we have adjusted how we measure this to disregard deleted questions.

5. Questions and live chats



Most popular words from the Wellcome Trust funded zones live chats. The size of the word represents its usage and popularity



The word clouds above reveal some popular keywords across different zones like “blood”, “work”, “job”, “cancer”, “body”, “cells”, “brain”, “experiments”, “research”, “space”, “human”. The majority of popular words are biomedical and biology related.

The most striking words above probably are “worms” and “sleep”, both of which relate to specifics of scientists research. In Rhenium Zone, Rachel McMullan was researching the effects of stress in worms and students often asked what this was like in practice as well as how research in worms relates to human biology. In the Gold Zone, winner Hayley Moulding researches the neuroscience of sleep and this was a very popular topic with the primary school students in the live chats and ASK questions.

Example questions in the Wellcome Trust-funded zones

[Aren't women protected from heart disease because of oestrogen?](#)

[How can each and every human being reduce his carbon foot print to help avert climate change?](#)

[In the future, do you think Artificial Intelligence will rule and would that be a good or bad thing?](#)

[Do you study blood vessels in humans and mice because there is a link between the two circulatory systems or vessels?](#)

[How many different types of autism are there?](#)

[How do stem cells change into nearly any other type of cell?](#)

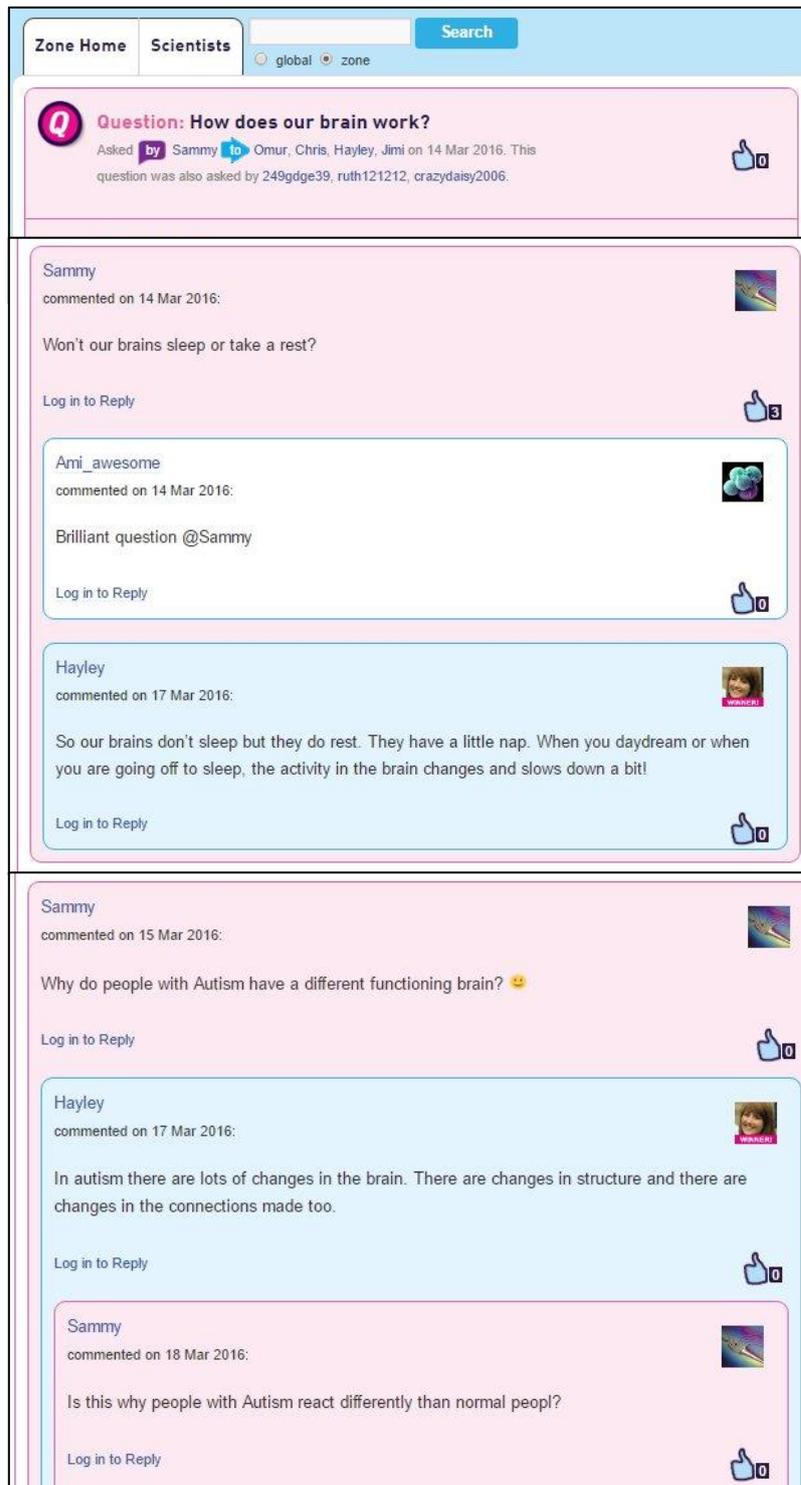
[I heard that there are some carcinogenic chemicals in plastic, do you think we should reduce the amount of plastic made?](#)

[Which food is primarily responsible for the high energy content of cheese?](#)

Examples of good engagement

Most of the scientists in the Wellcome-funded zones in November and March were enthusiastic and engaging throughout the events. Here are some examples of engagement, to give a flavour of how students and scientists interacted.

In the Gold Zone, the primary school students took advantage of the comments facility to continue conversations resulting from the question with each other and the scientist. [Read the full thread here.](#)



The screenshot shows a discussion thread on a website. At the top, there are navigation links for 'Zone Home' and 'Scientists', a search bar, and location filters for 'global' and 'zone'. The main question is 'Question: How does our brain work?' asked by Sammy on 14 Mar 2016. Below the question, there are three replies:

- Sammy** (commented on 14 Mar 2016): "Won't our brains sleep or take a rest?"
- Ami_awesome** (commented on 14 Mar 2016): "Brilliant question @Sammy"
- Hayley** (commented on 17 Mar 2016): "So our brains don't sleep but they do rest. They have a little nap. When you daydream or when you are going off to sleep, the activity in the brain changes and slows down a bit!"

Below these replies, there are two more replies from Sammy:

- Sammy** (commented on 15 Mar 2016): "Why do people with Autism have a different functioning brain? 😊"
- Hayley** (commented on 17 Mar 2016): "In autism there are lots of changes in the brain. There are changes in structure and there are changes in the connections made too."

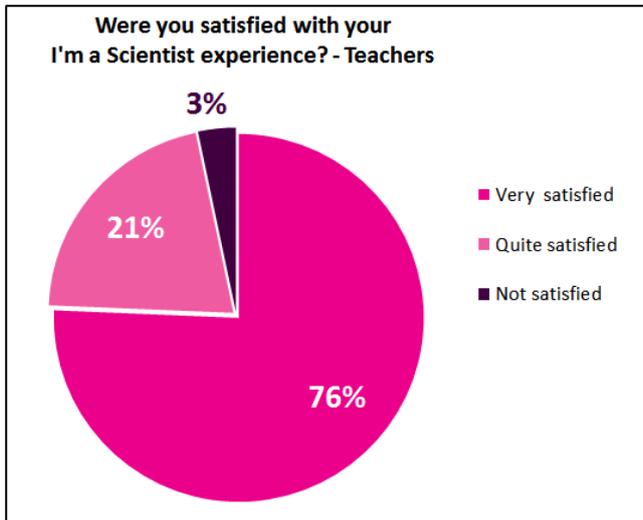
At the bottom, there is a final reply from Sammy:

- Sammy** (commented on 18 Mar 2016): "Is this why people with Autism react differently than normal peopl?"

6. Impact

After each event we ask the scientists and teachers what they thought about the event in online post-event surveys. These surveys are anonymised so the results include responses from participants across all the zones in the November and March events, as well as those funded by the Wellcome Trust.

Teachers



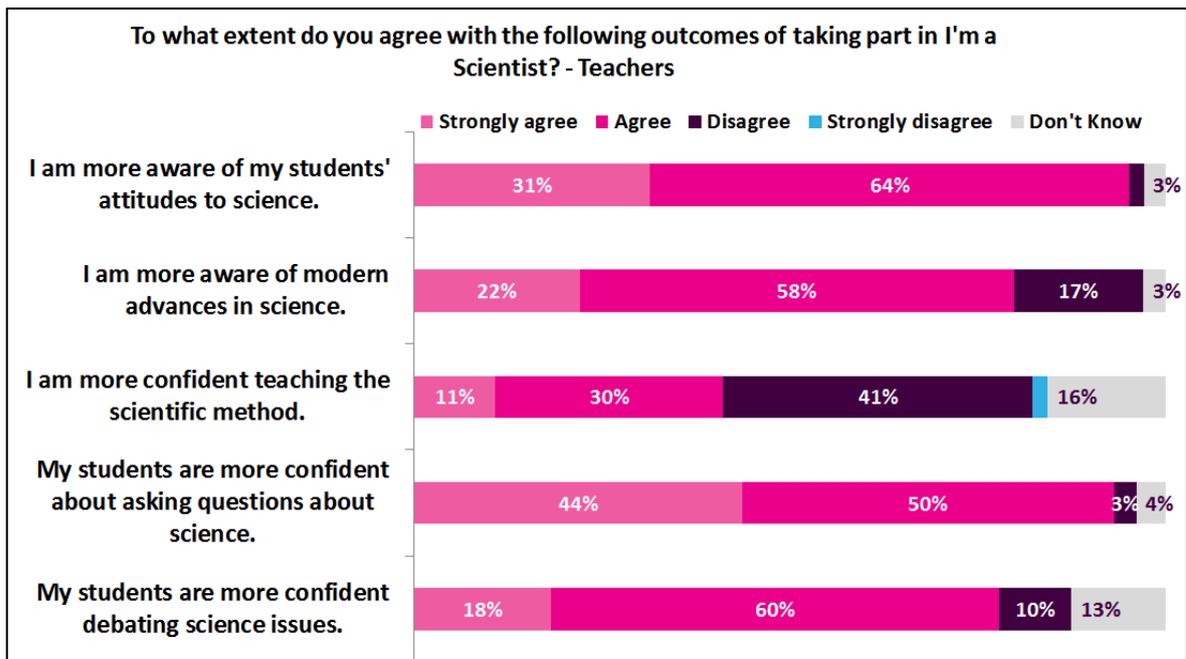
Overall, the feedback is very positive. In total, 97% of the teachers who responded from the November and March events were satisfied with the event. Teachers feel their students are more confident in asking about science (94%) and debating scientific topics (78%).

Teachers also send in written feedback during and after the event, which provides insights into how the students are using the site and what they find valuable about taking part:

"My school is absolutely buzzing about 'I'm a Scientist'. Children are spending hours at home

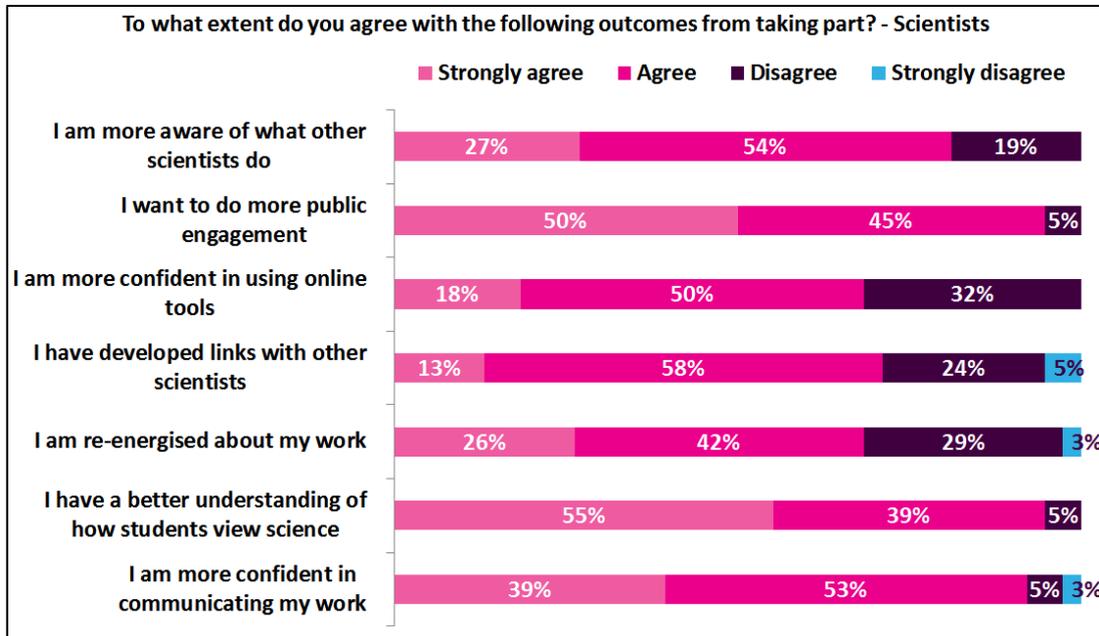
looking at questions. They don't want to go out for lunch, so they can spend time on it!" – Teacher, Gold Zone

"The pupils are really engaged and firing off questions to each other across the room!" – Teacher, Tungsten Zone

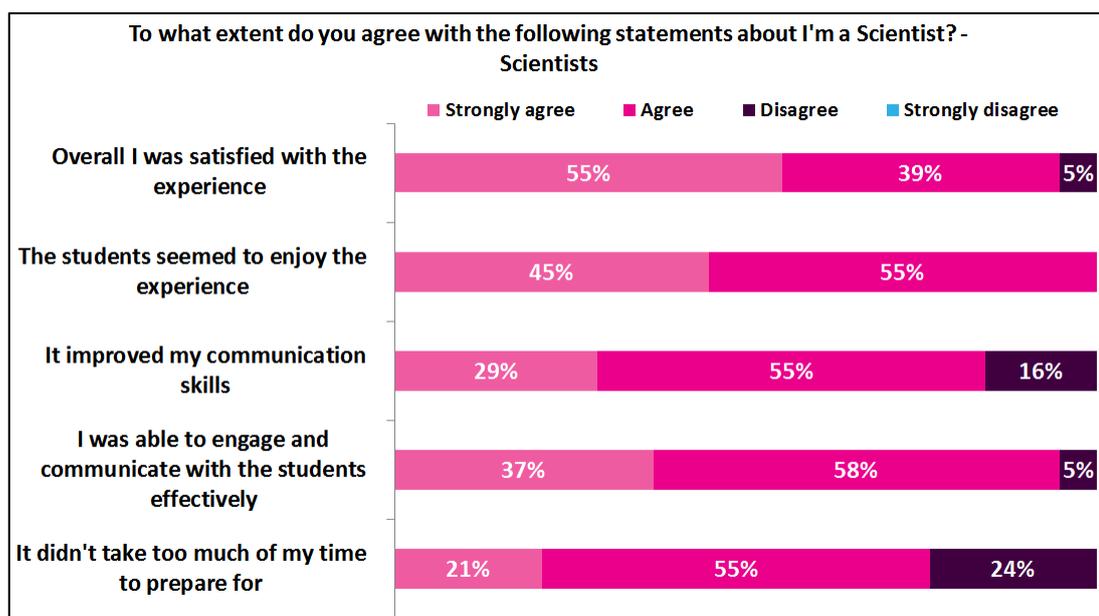


Scientists

Of the 38 scientists who completed the surveys, 97% enjoyed taking part, 100% would recommend the event to a colleague and 95% agreed that they now better understood how students view science. 95% of the respondents also felt they wanted to do more public engagement after taking part.



In total, 84% of the scientists agreed that doing the event had improved their communication skills and 95% found the event an effective way to engage with students. These outcomes are echoed in what scientists said themselves about the events, *"It's been fun and manic all in one... Overall it's been a great lesson in science comms!"* – scientist, Rhenium Zone. Read more on what scientists said in November [here](#), and March [here](#).



7. Publicity

I'm a Scientist (@imascientist) regularly tweeted updates and popular questions from the events. There was also engagement on Twitter between scientists and teachers. Here are just some examples, and you can find more at #IASUK. Scientists taking part also wrote their own blogs and articles on the experience, such as [David Nunan from Rhenium Zone](#).

