



Tori



Titus



Stuart



Hannah



Gill



Alessandro

March, 2019

The Dubnium Zone was a general science zone supported by the Science & Technology Facilities Council. In the zone were six scientists:

- Tori Blakeman, who informs the public about the science innovation happening at STFC.
- Titus Mutwiri, who teaches at the Kenya Methodist University and does research for the International Livestock Research Institute.
- Stuart Higgins, the zone winner and whose research group uses Diamond Light Source, is trying to understand how stem cells 'feel' and how those cells change.
- Hannah Dalgleish, who studies star clusters to gain clues about how the galaxy formed and how stars evolve and whose research institute is funded by STFC.
- Gill Harrison, who teaches obstetrics, abdominal and gynaecology ultrasound.
- Alessandro Novellino, who works at the British Geological Survey.

The Dubnium Zone saw 688 students logging in over the two-week activity, which makes it the busiest *I'm a Scientist* zone since 2012. The students had 972 questions for the scientists, covering a range of science topics, careers questions, advice and more.

Key figures from the Dubnium Zone and the averages of the March zones

PAGE VIEWS	DUBNIUM ZONE	MAR '19 ZONES AVERAGE
Total zone	29,471	15,399
ASK page	2,432	1,114
CHAT page	2,317	1,291
VOTE page	2,732	1,327

	DUBNIUM ZONE	MAR '19 ZONES AVERAGE	IAS 2012-19 AVERAGE
Dubnium Zone Schools	10	8	10
Students logged in	688	388	391
% of students active in ASK, CHAT or VOTE	93%	92%	86%
Questions asked	972	443	675
Questions approved	381	216	297
Answers given	761	437	532
Comments	32	29	71
Votes	551	312	308
Live chats	26	19	16
Lines of live chat	10,805	6,732	5,711
Average lines per live chat	416	352	358

Popular topics

Students in the Dubnium Zone asked a huge variety of questions to the scientists, not just about their work but about the processes behind the science, and also their educational backgrounds and career history.

Gill's work with ultrasound was popular in live chats, as was Hannah's research into stars. This prompted more general 'space' questions too, about the sun, planets, space travel and aliens.

When asking questions about the scientists' lives, students wanted to know about their career decisions and personal experiences at school and university.



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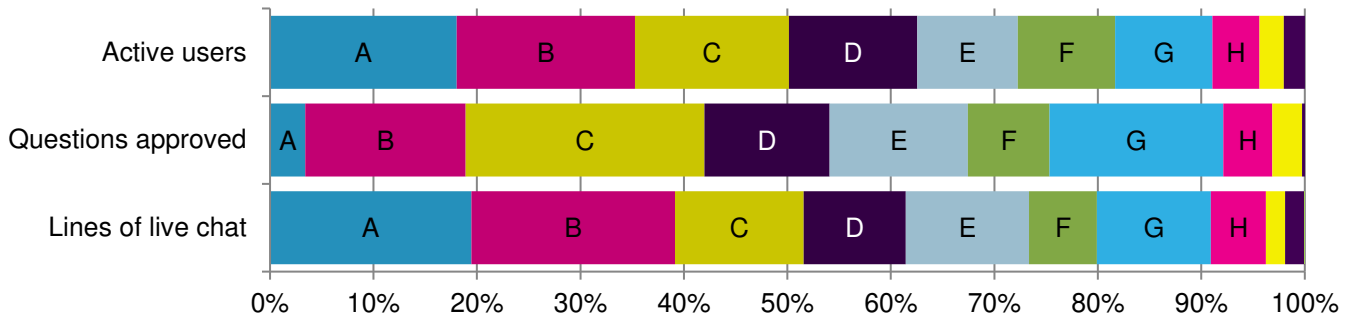


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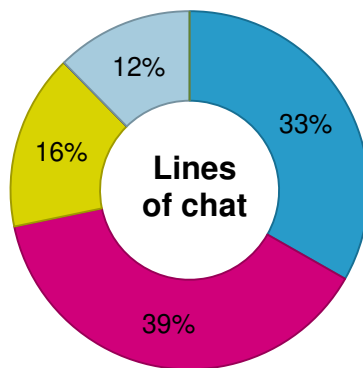
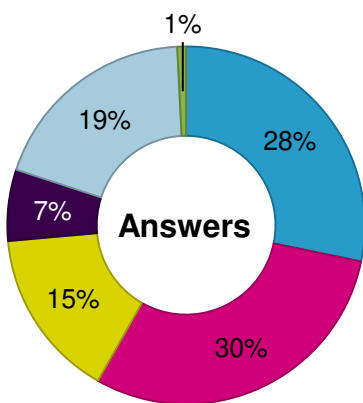
School data at a glance



School	Year/s	Classes
A Robert May's School, Hook, U	Y9	5
B Somervale School Specialist Media Arts College, Radstock, U	Y7, Y8, Y9	4
C Simon Balle All-Through School, Hertford, U	Y8	3
D Gordano School, Bristol	Y8	4
E Allerton High School, Leeds	Y7	2
F Queen Elizabeth School, Lancashire	Y9, Y10	2
G Summerhill School, Kingswinford, U	Y8, Y9	2
H Silverdale School, Sheffield	Y7	1
I Ryburn Valley High School, Sowerby Bridge	Mixed STEM Club	1
J The James Hornsby School, Basildon, WP/U	Y9	1

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



SCIENTIST	PROFILE VIEWS	POSITION
Stuart Higgins	1,362	Winner
Hannah Dagleish	1,080	2nd
Tori Blakeman	1,753	3rd
Titus Mutwiri	1,338	4th
Gill Harrison	991	5th
Alessandro Novellino	793	6th



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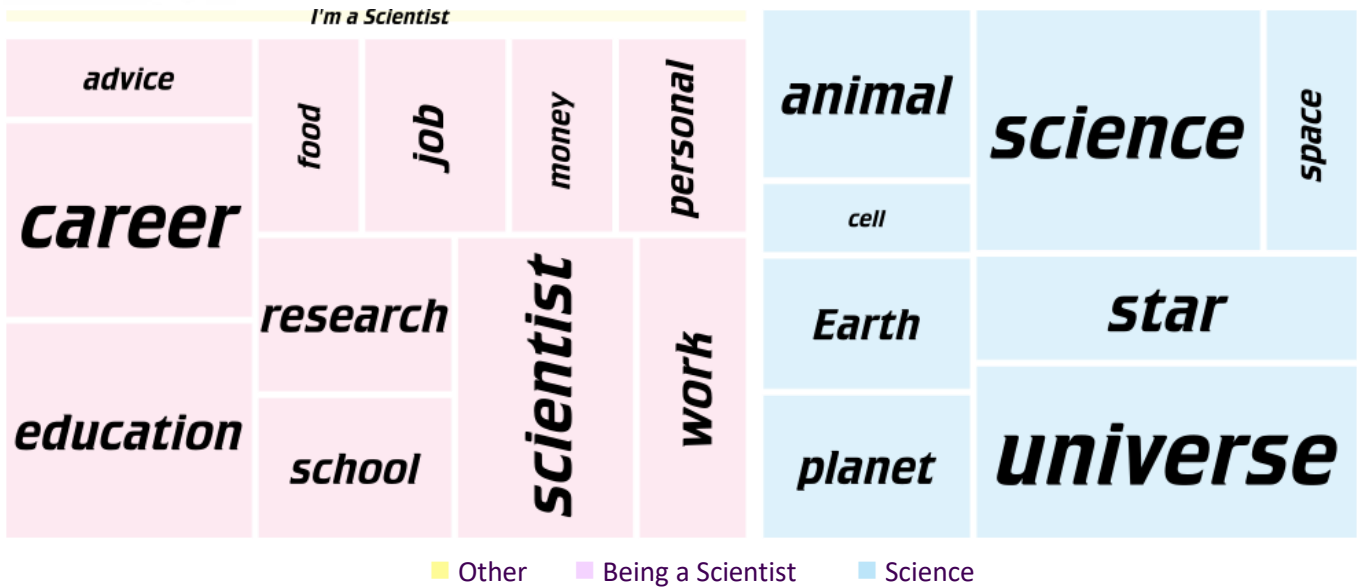


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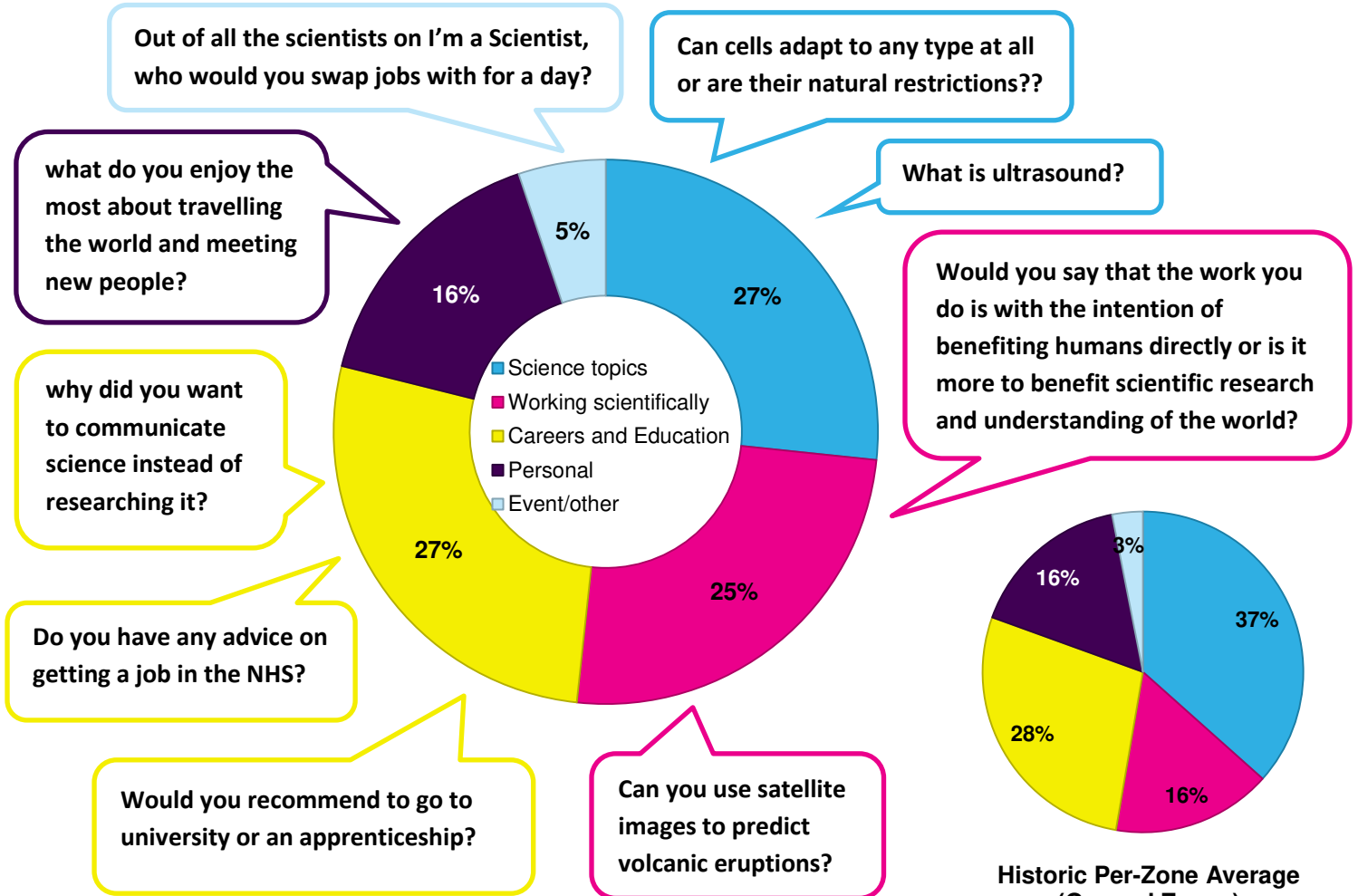
Top Keywords of questions approved in the Zone

Area represents frequency of use



Question themes and example questions in the Zone

Find out about how we've coded the questions at about.imascientist.org.uk/what-do-students-ask-about/





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Chat

Frequent words used in live chats by students and scientists. Size of the word represents its popularity



Examples of good engagement

Students were interested in the ethics behind science, and the scientists gave informative and personal answers:

"Do you think it is okay that animals are tested on?" – **Student**

"Yes – honestly, after working with animals in research they are treated SO well!! You have to think as well... we wouldn't have half of the medicines we have if it wasn't for animal testing. I agree animals shouldn't be used if possible, however, some things just need to be tested in an animal model before humans... otherwise, humans could be hugely at risk of death when testing new drugs, for example. If you'd like to know more, check out these websites:

gov.uk/guidance/research-and-testing-using-animals and

manchester.ac.uk/research/environment/governance/ethics/animals..." – **Tori, scientist**

"that is quite controversial" – **Student**

"I've just been asked that on the live chat too. As an animal lover I think the answer is very complex and also depends on the circumstances. It's not always a straight yes / no answer (science is not often black & white, it's like ultrasound – many shades of grey – what's why I love ultrasound 😊) There are many different circumstances where animals are tested (& humans too). When there is a new medication or type of surgery they have to be tested on us before they can be released for use on everyone. Humans are involved in lots of clinical trials to see if the medication will work. Vets have to do the same with animals, to make sure that the treatments will be the best way of making an animal better." – **Gill, scientist**



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The scientists often used images or linked to other websites to explain their answers to the students:

Question: What is the most dangerous frequency to humans?

Keywords: dangerous, frequency, human

Asked by **b** 🐼🐼🐼🐼🐼🐼 to **Gill** on 1 Mar 2019. This question was also asked by **PMJV**, **saffie&alisha**.



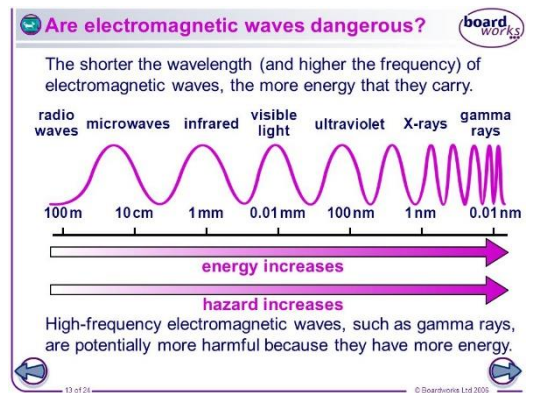
Gill Harrison answered on 1 Mar 2019:

Good question.

I tend to work with ultrasound, which is generally less dangerous than many other frequencies.

Gamma rays have a very short wavelength (so have high frequency), which makes them more likely to cause harm.

I think this slide shows it well

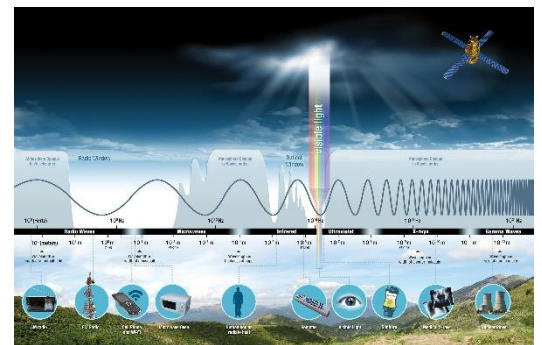


Hannah commented on 3 Mar 2019:

Whilst gamma rays are definitely the most dangerous, I would say that ultraviolet (UV) and X-rays can be dangerous too (especially in large doses).

As an astronomer, the Earth's atmosphere causes a lot of problems for us because it makes it much more difficult to observe objects in space. However, if we didn't have the atmosphere we wouldn't be protected from all of the harmful frequencies (i.e. ultraviolet, X-rays, and gamma rays) that the Sun gives off.

I quite like this image as well. 😊



Brayden & Jono commented on 5 Mar 2019:

Good answer



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Scientist winner: **Stuart Higgins**

Stuart's plans for the prize money: "Last year I started a project called 'Science in the Supermarket'. We spent the weekend in a Tesco in Somerset running science activities for young kids and talking to their parents about how studying science can give you lots of job options in the future (not just becoming a scientist – there are loads of cool engineering/coding jobs out there too). I'd use the £500 to run more of these events."

Read Stuart's [thank you message](#).

Student winner: **Sci-fi Sofie**

Sci-fi Sofie from Allerton High School was nominated by scientists for asking engaging questions to all the scientists' in the evening live chat. Their questions in ASK included: "What has been the most inspirational thing that has ever happened to you? (in or our of your career?)" and "Is you job anything like what you would've expected 10 years ago?"

As the student winner, Sci-fi Sofie 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 the Dubnium Zone...

I have learnt that the diversity of jobs in science is much larger than I thought. – **Student**

I have learnt about all sorts of different scientists that I never knew and their jobs. I think that I'm a scientist is really cool as it lets students/ young people find out more about different jobs available in science as well as asking questions and getting answers firsthand. – **Student**

I have a learnt about different jobs that I didn't even know existed. Such as making beds of nails and applying cells to them. – **Student**



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And here are a few made about March's *I'm a Scientist* activity...

It was fab! The children were engaged, there was a buzz around the room! What a pleasure to witness and inspire them! – **Teacher**

[I have learnt] a lot really about the level I should keep in a conversation to keep interest and how to give students little snippets of info so they do become curious... a crash course in communication really.

And I think I just became passionate about them, who they are what they think, what interests them – **Silvia, scientist**

[I have learnt] scientists are normal people aswell not just nerds – **Student**

Thank you very much for answering all of our questions. we have learnt a lot today and we really appreciate it because it has truly inspired us to follow our dreams and not worry about all the bumps in the way – **Student**

I sign up every term as it is a great addition to help students engage with science. It also ticks an Ofsted box of helping disadvantaged students to relate what happens in the classroom to the real world. – **Teacher**

love the live chats! It gives students the chance to ask anything and they really do! I have grown so much through my participation in this event! Thank You! – **Scientist**