



Scott



Ryan



Maggie



Hannah



Daniel



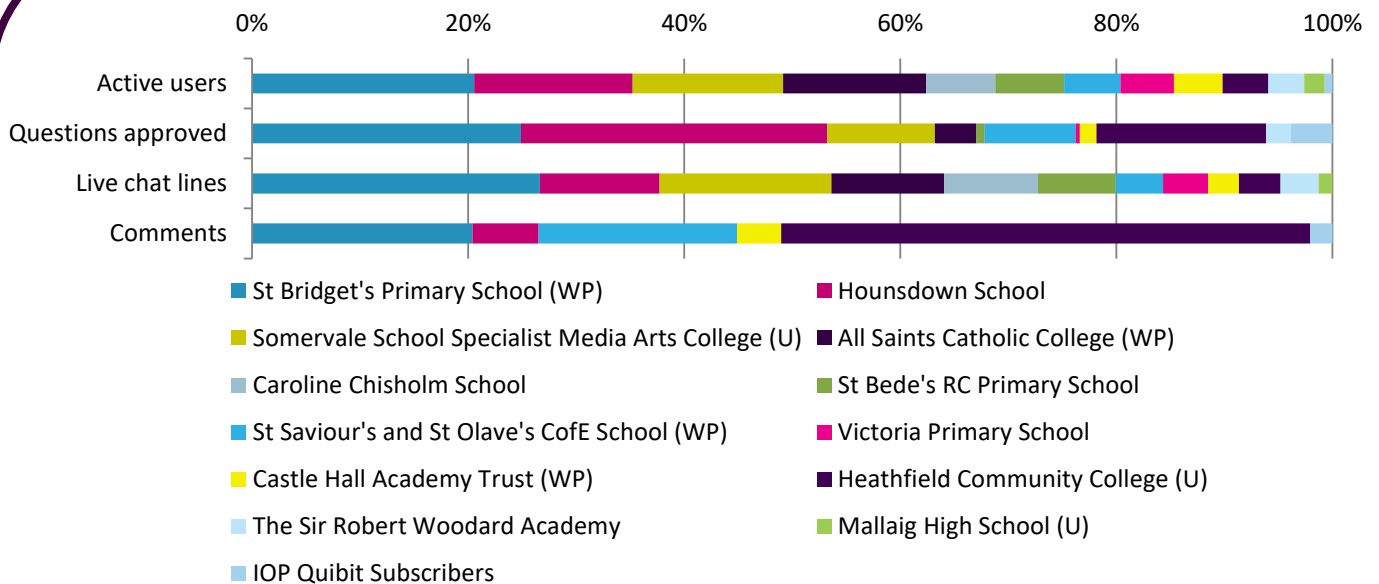
November 2017

The Gravity Zone was a themed zone, funded by the Institute of Physics. In this zone, students met five scientists including Scott, a PhD student researching theoretical physics and Ryan, who is studying explosions caused by black holes and neutron stars. Maggie is a researcher at the European Space Agency mapping out dark matter, Hannah is a PhD student studying gravitational waves and black holes and Daniel studies the data from gravitational wave detectors and simulations.

Students in this Zone were very engaged with theme of gravity and space in general, with a mix of both factual and conceptual questions. All of the scientists were great at explaining sometimes quite complicated topics in a way that younger students could understand, especially within the fast paced Live Chats. The topic seemed to really capture the students' imaginations and the Chats were lively with lots of positive reactions from students about what they had learnt.

We also provided access in this Zone to the Institute of Physics Quibit Subscribers, three of whom logged in asked ten questions.

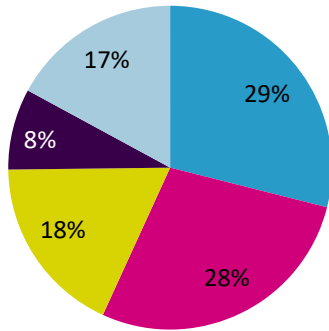
School data at a glance



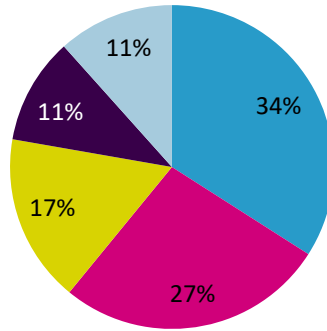
We want to increase the participation of under-represented groups going into STEM careers. Find out what we mean by our under-served (U) and WP schools (WP), and how you can support us in working with more of these at about.imascientist.org.uk/under-served-and-wp/

Scientist activity

Answers



Live chat lines



| SCIENTIST | PROFILE VIEWS | POSITION |
|------------------|---------------|----------|
| Ryan Cutter | 818 | Winner |
| Maggie Lieu | 810 | 2nd |
| Scott Melville | 728 | 3rd |
| Daniel Williams | 469 | 4th |
| Hannah Middleton | 454 | 5th |

Key figures from the Gravity Zone and the averages of the November zones

| PAGE VIEWS | GRAVITY ZONE | NOV '17 ZONES AVERAGE |
|------------|--------------|-----------------------|
| Total zone | 24,830 | 23,372 |
| ASK page | 1,565 | 1,777 |
| CHAT page | 2,609 | 1,997 |
| VOTE page | 2,185 | 1,892 |

| | GRAVITY ZONE | NOV '17 ZONES AVERAGE | IAS 2012-17 AVERAGE |
|---|--------------|-----------------------|---------------------|
| Schools | 13 | 13 | 10 |
| Students logged in | 535 | 483 | 385 |
| % of students active in ASK, CHAT or VOTE | 79% | 87% | 85% |
| Questions asked | 416 | 588 | 705 |
| Questions approved | 261 | 273 | 305 |
| Answers given | 667 | 569 | 544 |
| Comments | 73 | 68 | 75 |
| Votes | 459 | 378 | 302 |
| Live chats | 18 | 19 | 16 |
| Lines of live chat | 10,316 | 7,384 | 5,394 |
| Average lines per live chat | 573 | 398 | 350 |

Popular topics

There were lots of imaginative questions about gravity, such as what would happen if we had no sun, how our daily lives would change if gravity weakened on Earth and whether comets passing close by to Earth could affect the tides.

Maggie's work research into dark matter interested students who wanted to know what it is and how we can identify it. Students also wanted to know about gravitational waves, relating to Hannah's research, asking her how we can detect the waves and what we can find out from them.

Students were really interested more generally in space, especially black holes, the planets in our solar system and the sun and moon. They asked how the universe is expanding, how far we can see with a space telescope and what space smells like. There were questions about space travel too; what astronauts eat, how they sleep and how space suits work.

Off topic, students bonded with scientists over personal interests and hobbies, chatting about their pets, music and books.

Chat

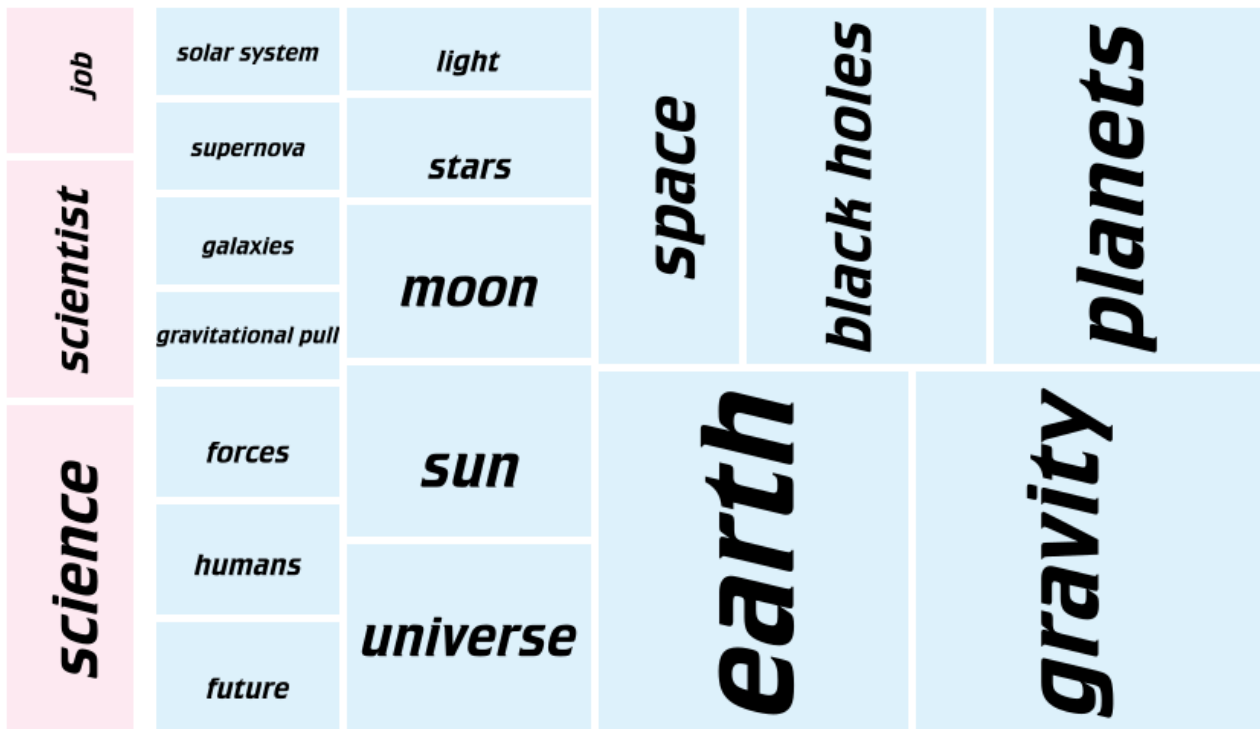
Keywords from live chats in the zone, size of the word represents its popularity



Ask

Top Keywords of questions approved in the Zone

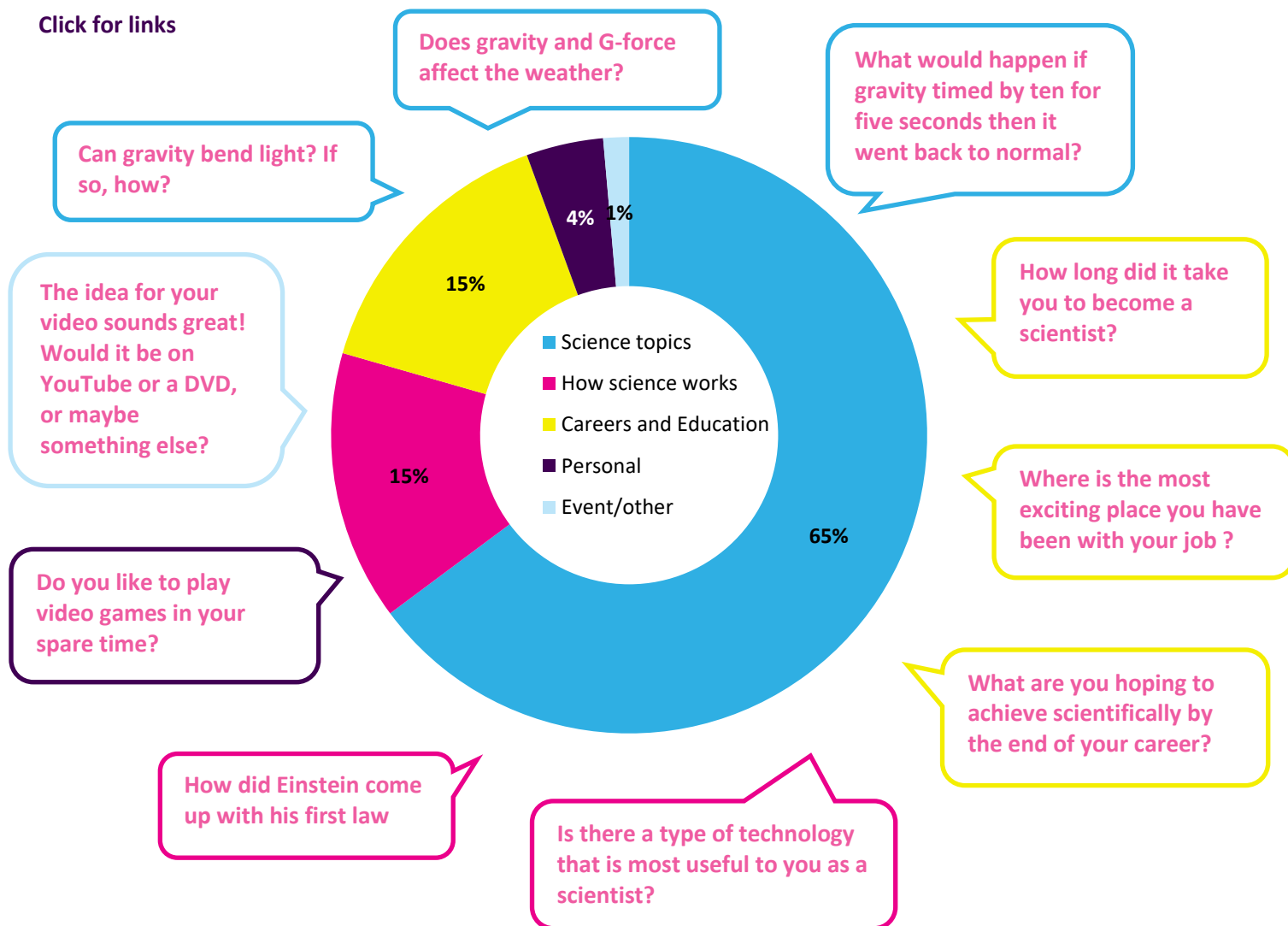
Area represents frequency of use



■ Being a Scientist ■ Science

Question themes and example questions in the Zone

Click for links



Find out about how we've coded the questions at about.imascientist.org.uk/2017/student-question-coding

Examples of good engagement

Students in the Gravity Zone were really interested in the zone theme and space in general. There were lots of imaginative conversations between students and scientists about the effects of gravity:

"If we had no sun what would all the planets be pulled to? would anything happen at all?" – Student

"Most likely it will be towards the next biggest thing in our solar system, Jupiter!" – Maggie, scientist

"What would happen if the earth or sun was flat? Curious :D" – Student

"That's a really interesting question. I never really thought about it until now. But did you know when the sun formed, all the planets were a disk of dust and particles around it, the disk fragmented into rings just like saturns and eventually the particles snowballed into planets. So I guess that is what would happen to if the Earth or Sun was flat, eventually they would end up with more little objects orbiting them!" – Maggie, scientist

There were also lots of factual, space related questions with students asking for information on complicated topics:

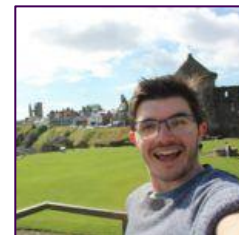
“What is anti-matter, and what does it do?” – Student

“Anti-matter is like matter but it's made of anti particles. When anti matter meets matter they turn into pure energy! We think there should be equal amounts of matter and antimatter in the universe and we don't know why that's not true.” – Ryan, scientist

“Sounds quite interesting, I hope more is discovered about it” – Student

Scientist winner: Ryan Cutter

Ryan's plans for the prize money: *“I would like to host a talkshow that I can put online for people to watch or listen to. The idea being that I can get early career scientists from around the UK to discuss their science and answer general scientific questions in an informal setting. By asking scientists questions outside their field the viewer can receive a scientific opinion without it being outrageously complicated.”* Read Ryan's [thank you message](#).



Student winner: JakeMScientist

For great engagement during the event, this student will receive a gift voucher and a certificate.

Feedback

We're still collecting feedback from teachers, students and scientists but here are a few of the comments made during the event...

“[I'm a Scientist] is refreshingly different - the Live Chats are a very constructive experience, and help you to solidify ideas and concepts down to single simple sentences.” – Scott, scientist

“A fantastic experience for all involved. The children were so motivated and every child could participate no matter their ability.” – Teacher