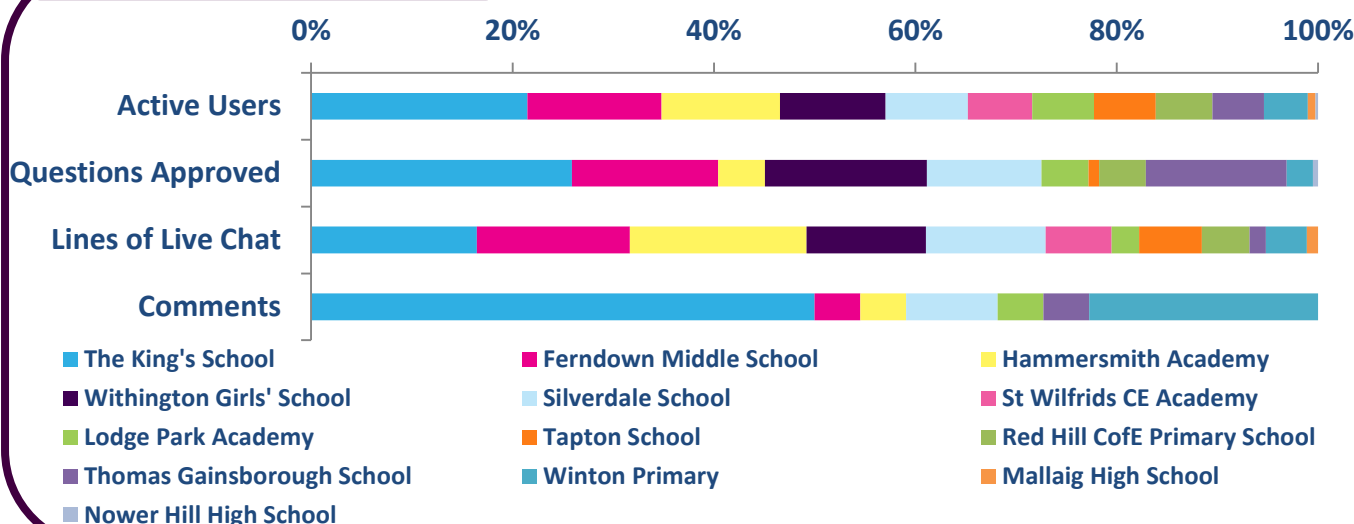


## March 2016

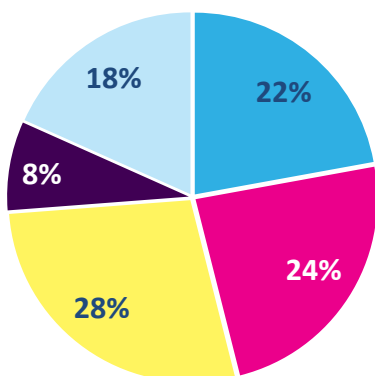
The Gravity Zone was a themed zone funded by the Science and Technology Facilities Council and Steve is a Post-Doctorate researcher who works on the Large Hadron Collider. The other four scientists are all supported by STFC; Emma studies how neutron stars emit gravitational waves, Bose studies gravity at a galactic scale working on testing gravity theories, Alice models explosions on neutron stars and Christian is a physicist who builds experiments to detect gravitational waves. The majority of the questions were thoughtful and on topic with interest in current scientific discoveries, black holes and space in general. Most of the scientists were highly active throughout the event and were very encouraging towards students who wanted to learn more about physics. Steve contributed most within the ASK section, and Emma and Alice accounted for over half of all lines of live chat from the scientists.

### School data at a glance

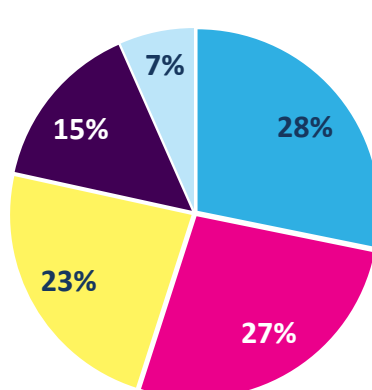


### Scientist activity

#### Answers



#### Lines of Live Chat



Scientist	Profile views	Position
Emma Dean	963	Winner
Alice Harpole	682	2nd
Steve Marsden	777	3rd
Christian Killow	528	4th
Benjamin Bose	546	5th

## Key figures from the Gravity Zone and the averages of the March zones

PAGE VIEWS	GRAVITY ZONE	MAR '16 ZONES AVERAGE
Total zone	23,282	26,007
ASK page	1,755	1,896
CHAT page	3,620	3,412
VOTE page	1,798	1,820

### Popular topics

Lots of questions within the zones were hypotheticals, asking about time travel and the future of space exploration, for example. Some students asked more philosophical questions, such as the nature of humanity's existence as well as whether there is life on other planets. There was particular interest in current issues such as gravitational waves and the LIGO discovery.

Students had clearly read the scientists' profiles and asked for further information on certain issues such as how Bose's dog had inspired him to become a scientist. Christian received questions on whether gravitational waves were visible to the human eye, for example, and Steve on his proposed YouTube channel which he was going to set up if he won the competition.

There were also questions relating to science in general, with students asking about what is involved when proposing new theories, salaries and other job related issues.

	GRAVITY ZONE	MAR '16 ZONES AVERAGE	IAS 2012-15 AVERAGE
Schools	13	12	10
Students logged in	443	461	360
% of students active in ASK, CHAT or VOTE	88%	87%	85%
Questions asked	644	642	712
Questions approved	208	287	306
Answers given	393	586	555
Comments	30	132	80
Votes	347	352	286
Live chats	19	19	15
Lines of live chat	6,081	6,750	4,970
Average lines per live chat	320	364	339

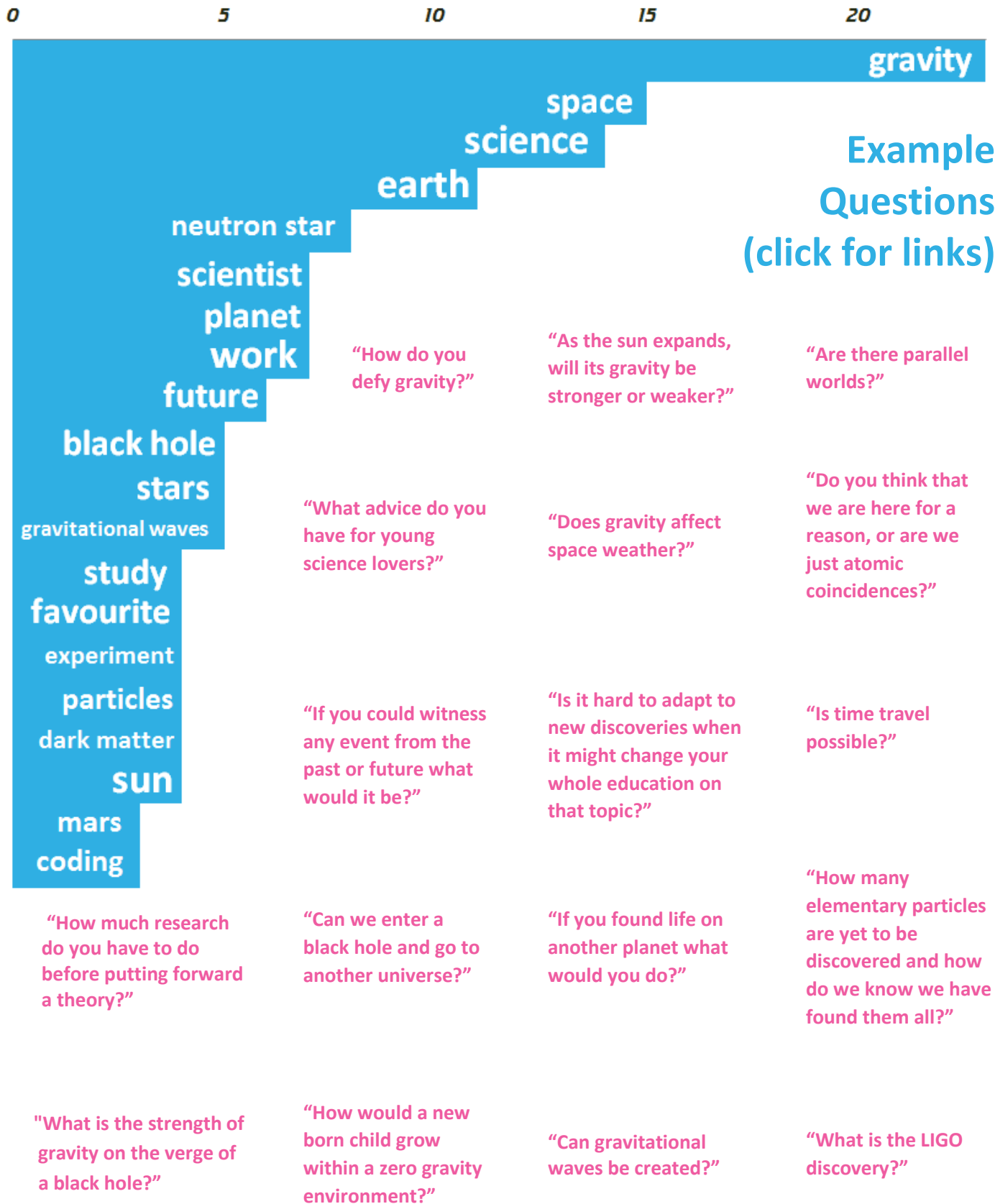


Keywords from live chats in the zone, size of the word represents its popularity





Keywords of questions approved in the zone, length of bar represents frequency of use



## Examples of good engagement

There were many questions within the live chat about gravitational waves, showing the students' awareness of current scientific discoveries and their interest in learning more about them:

*"Can gravitational waves be created? If yes, how?" – Student*

*"A gravitational wave is caused by massive accelerating objects distorting spacetime. So, you could make one right now just by waving your arm about, but it would be incredibly weak. Gravity is much, much weaker than the other forces, so to make a gravitational wave strong enough for us to detect, you need some of the most extreme events we know of in the universe, e.g. the collision of black holes." – Alice, scientist*

*"You ask a good question – scientists were asking this question a few decades ago! It would have been nice to have a piece of kit in the lab to test the detectors with. Alas, they soon realised that you would need to move so much mass around that it was even harder than building a detector!" – Bose, scientist*

Students often asked questions that allowed scientists to reflect on the value of their work:

*"What would the world be like with no scientists?" – Student*

*"Without scientists, humanity would never progress. Without constantly increasing our knowledge of the universe, there would be no computers, no electricity. Almost all of modern life would be impossible. We know that modern life is not sustainable, and that we are using up this planet. In the long term, we have two choices. Either revert society to a pre-industrial age, or progress our technology to a point where we are less damaging." – Steve, scientist*

## Scientist winner: Emma Dean

Emma's plans for the prize money: *"I would hold gravitational wave workshops at local schools and buy equipment to build table top laser interferometers (what we use to detect gravitational waves). This would enable students to understand how the experiment works and the physics behind the detection. The schools would get to keep the interferometers, so the students can explain what they have learnt to other students."* Read Emma's **thank you message**.



## Student winner: Tara

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 was impressed by how enthusiastic the students were and the fascinating questions they asked. I found answering the questions very addictive!" – Emma, Scientist*

*"I have learnt things about science that I have never know before...you can discover things that you have never know before and you can find them out before any one else have even heard about them." - Student*