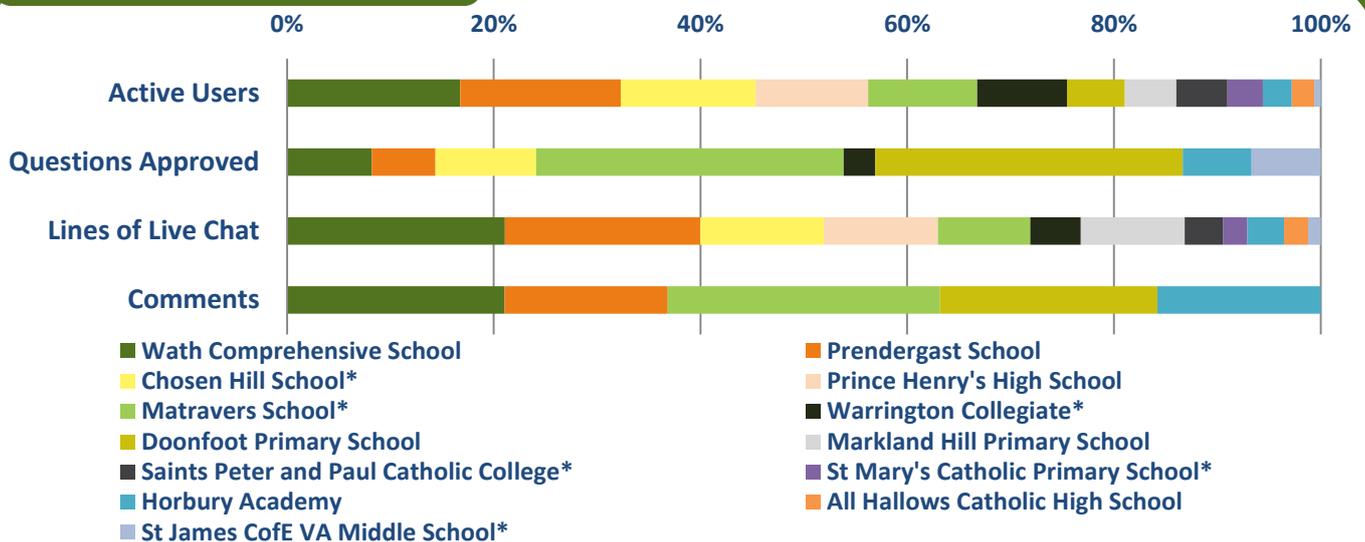




June 2016

The Kilogram zone was a general engineering zone, funded by the Royal Academy of Engineering's Ingenious Grant. Yip is the UK Transport Operations Manager for Amazon, Jarrod works for a materials science company researching how to make everyday objects from rocks and crude oil and Iona designs machinery that helps provide safe food worldwide. Eloise is a PhD student researching how to build big systems, like cities, that can survive unexpected challenges in the future, and Adam is a roboticist working on a large military communications project. Eloise took part in the final two days of the event from Glastonbury Festival, and Jarrod took part from Mexico and California, where he was travelling for work. This resulted in lots of conversation about travelling, and more personal questions about the engineers' hobbies and interests, making the atmosphere within the live chats and ASK section friendly and relatable.

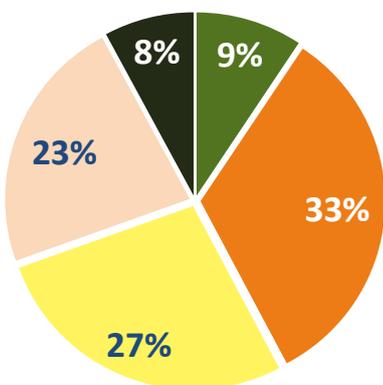
School data at a glance



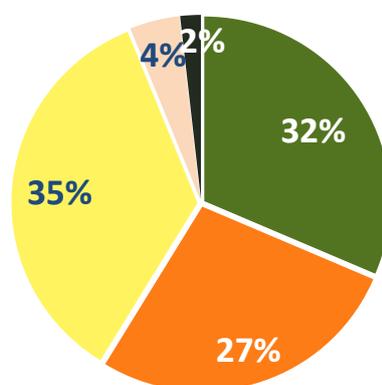
* Widening participation schools, as defined at <http://about.imascientist.org.uk/2016/widening-participation-2016>

Engineer activity

Answers



Lines of live chat



Engineer	Profile views	Position
Eloise Taysom	471	Winner
Jarrod Hart	516	2nd
Iona Strawsom	343	3rd
Man Hang Yip	464	4th
Adam Drake	310	5th

Key figures from the Kilogram Zone and the averages of the June zones

PAGE VIEWS	KILOGRAM ZONE	JUNE '16 AVERAGE
Total zone	15,574	19,051
ASK page	1,002	1,397
CHAT page	2,863	2,696
VOTE page	876	1,146

	KILOGRAM ZONE	JUNE '16 ZONES AVERAGE	IAE AVERAGE
Schools	13	10	10
Students logged in	374	416	374
% of students active in ASK, CHAT or VOTE	86%	84%	85%
Questions asked	402	554	533
Questions approved	195	220	199
Answers given	407	424	425
Comments	32	45	39
Votes	235	285	285
Live chats	23	19	17
Lines of live chat	5,025	4,909	4,916
Average lines per live chat	218	263	295

Popular topics

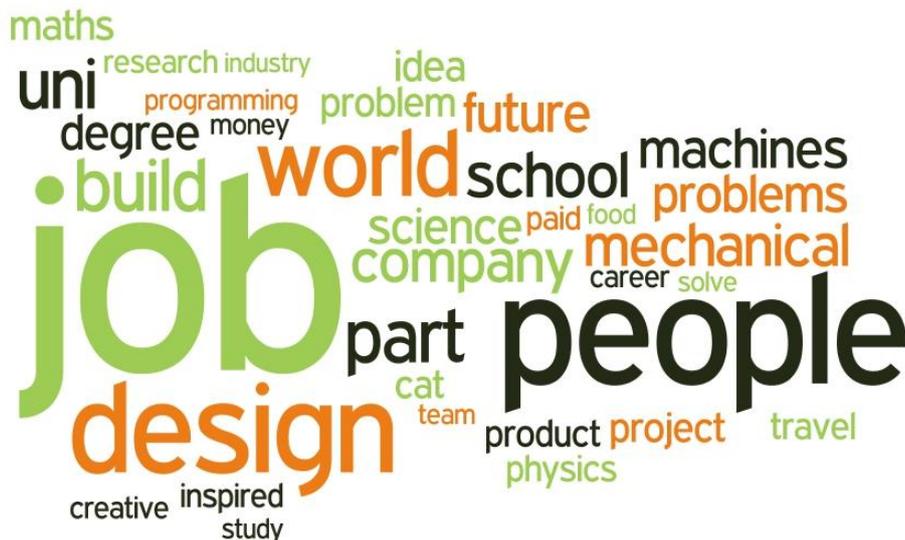
Most questions in the zone were concerned with the engineers' jobs and what life is like as an engineer. Students were interested in the types of equipment they used for their work, different problems they have had to solve and the degree and grades they had needed for their current jobs. There was some interest in the engineers' specific research areas, with Eloise being asked

about how she tests her systems and Iona her design work, and they were also asked about their plans for the prize money. Lots of students asked for advice on career paths and ways to get into engineering, as well as guidance with revision and deciding what courses and subjects to take.

Students asked Jarrod a lot of questions about his cat, which was in his profile picture. There were other more general questions where students wanted to get to know the engineers better, asking them all about their pets, hobbies and what super power they would pick, for example. Travel was a popular topic, especially within the live chats where Jarrod was taking part from different countries, leading to conversations about travelling for work and holidays.

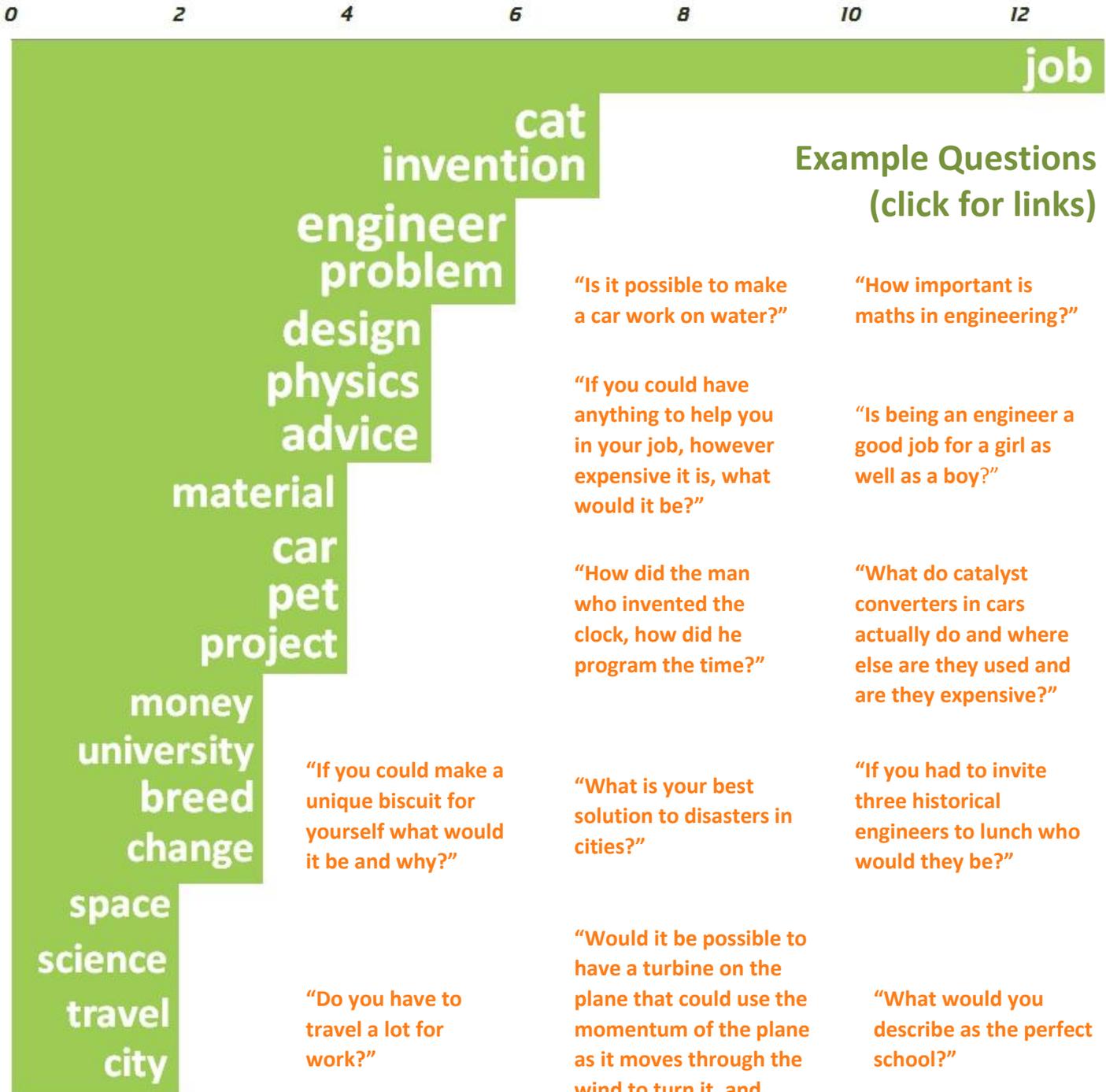


Keywords from live chats in the zone, size of the word represents its popularity





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



Example Questions (click for links)

“Is it possible to make a car work on water?”

“How important is maths in engineering?”

“If you could have anything to help you in your job, however expensive it is, what would it be?”

“Is being an engineer a good job for a girl as well as a boy?”

“How did the man who invented the clock, how did he program the time?”

“What do catalyst converters in cars actually do and where else are they used and are they expensive?”

“If you could make a unique biscuit for yourself what would it be and why?”

“What is your best solution to disasters in cities?”

“If you had to invite three historical engineers to lunch who would they be?”

“Do you have to travel a lot for work?”

“Would it be possible to have a turbine on the plane that could use the momentum of the plane as it moves through the wind to turn it, and generate more energy?”

“What would you describe as the perfect school?”

“I really like physics but it can get quite confusing so what would your best tip for understanding physics more?”

“What is the invention of the century in your opinion and why?”

“Is your job stressful?”

“What is the most used material in your workplace?”

Examples of good engagement

There were a lot of students who took the opportunity within both the chats and ASK to ask the engineers for advice, and would often be comfortable enough to discuss openly what they struggled with. Engineers gave extremely helpful, detailed and practical advice.

“Hi Iona I have picked triple science for my GCSE for yr 11, however I am not that keen in physics. I can get extra help from school however I have difficulty remembering everything. I revise and revise but my grades don't show it. When I'm older I want to be a vet pathologist but I need good marks in science to do so. Have you any advice or tips?” – Student

“Hi! Try and find a study method that works for you. Maybe you could record yourself talking through your notes and listen back. Past exam papers are really useful so you know the sort of thing to expect. Break things down into small chunks that are easier to digest. I used to put notes up on my bedroom wall to just look at them . . . I guess the best advice I could give is not to be too hard on yourself. Remember to take some time to relax, pushing yourself too hard will make it harder for you to remember stuff. You need to give your brain time to process the information. Make sure you are getting a good nights sleep and eating lots of brain food! Good luck with your exams. I'm sure you'll do great and I hope this helped!” – Iona, engineer

Students were keen to discuss their own interests in engineering and the projects they had been working on in school, which the engineers were able to relate to and expand on.

“What kind of detectors are you using.....are they based on vision systems such as the ones by hexagon metrology?” – Student

“The cameras detect bad product and send a signal to the ejectors. It's all written in the software and not my area of expertise I'm afraid. Are you interested in that area of engineering?” – Iona, engineer

“Yeah, I'm very interested in metrology.....and lamp posts! I'm doing a school project and we have designed a filter that will be fixed round lamp posts to improve air quality.” – Student

“Love the idea to filter the air around us - there is an idea to make paint that is covered in catalysts that convert nasty hydrocarbons to co2...” – Jarrod, engineer

Engineer winner: Eloise Taysom

Eloise's plans for the prize money: *“With the money I would create kits for kids to build toys with technology. I believe that all people should have the chance to play and build with technology, not just engineers! I want to make kits that have everything you would need to build a simple toy using basic electronics and craft.”* Read Eloise's [thank you message](#).



Student winner: velociraptor

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 engineers but here are a few of the comments made during the event...

“The children in our school really loved taking part in the project. It was so meaningful for them to talk to real scientists and engineers and I think it will inspire them to become scientists in the future.” – Teacher

“I thought the dialogue was more reflective of individual personalities. Other forms of interaction are usually set up around the 'instructors' and 'students'. This felt like it empowered the students a bit more to be honest and prevented intimidation.” – Engineer