



Sufia



Sophie



Ian



Chung Han



Cat



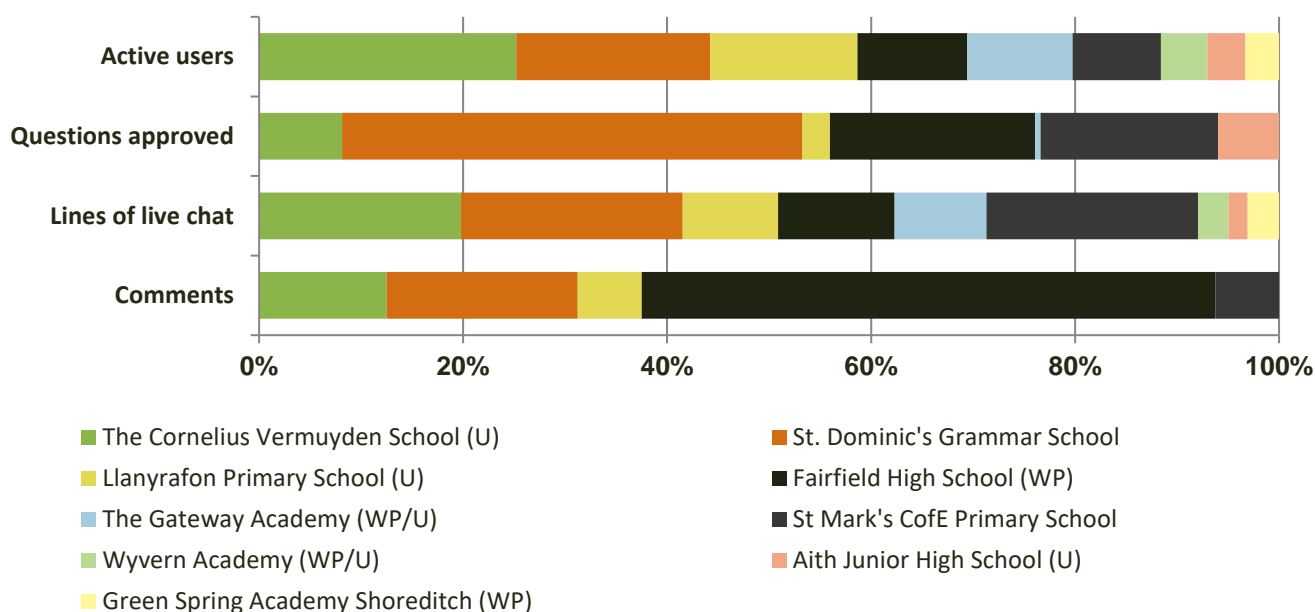
Boris

**June 2018**

The Artificial Body Zone was supported by Wellcome, with six engineers taking part.

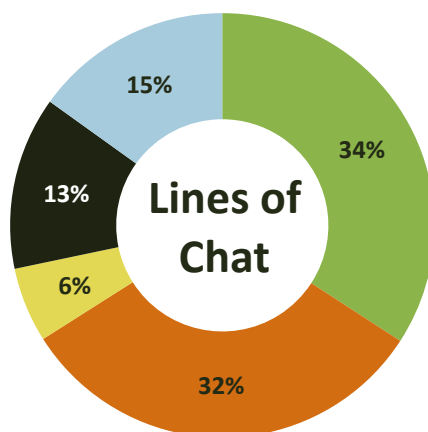
- Sufia is looking at the metals used for vaccination needles, and figuring out ways to make them less painful when inserted into the body
- Sophie is a medical research engineer using 3D printing to make metal bones
- Ian is a PhD researcher who designs surgical implants to help people with joint-related injuries
- Chung Han is undertaking a PhD, currently testing different upper-limb prosthesis designs using a virtual simulation
- Cat works as a clinical scientist in a hospital developing new pieces of medical equipment to improve patient care
- Boris, the winner of the zone, is a PhD student using machine learning techniques to teach a robot how to process visual sign language

### 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/](http://about.imascientist.org.uk/under-served-and-wp/)

## Engineer activity



ENGINEER	PROFILE VIEWS	POSITION
Boris Mocialov	365	Winner
Cat Macleod	406	2nd
Chung Han Chua	616	3rd
Sufia Fatima	429	4th
Sophie Louth	351	5th
Ian Richards	318	6th

## Key figures from the Artificial Body Zone and the averages of the June zones

PAGE VIEWS	ARTIFICIAL BODY ZONE	JUNE '18 ZONES AVERAGE
Total zone	14,181	15,237
ASK page	1,089	1,168
CHAT page	1,262	1,456
VOTE page	1,368	1,187

	ARTIFICIAL BODY ZONE	JUNE '18 ZONES AVERAGE	IAE 2012-18 AVERAGE
Artificial Body Zone Schools	9	11	11
Students logged in	263	332	400
% of students active in ASK, CHAT or VOTE	92%	92%	85%
Questions asked	439	458	588
Questions approved	184	206	223
Answers given	462	476	437
Comments	40	33	43
Votes	202	233	296
Live chats	15	17	17
Lines of live chat	6,199	6,950	5,425
Average lines per live chat	413	409	313

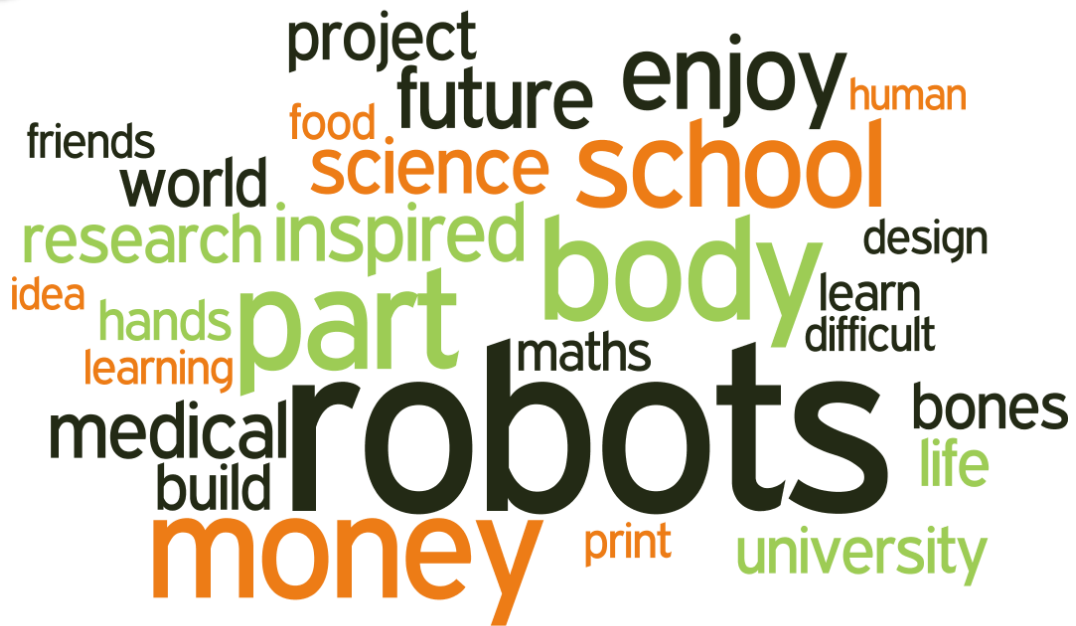
## Popular topics

Robots and robotics were popular topics in this zone, with students wanting to know about Boris's work teaching a robot sign language: how he does it, how long it takes to build and about the butler robot he is currently working on. Chung Han also received lots of questions about the robotic hands he designs and the types of hands he has worked with. Students were interested in what the hands are made from, how he can 3D print a hand and how it can connect to a person's arm for them to operate it.

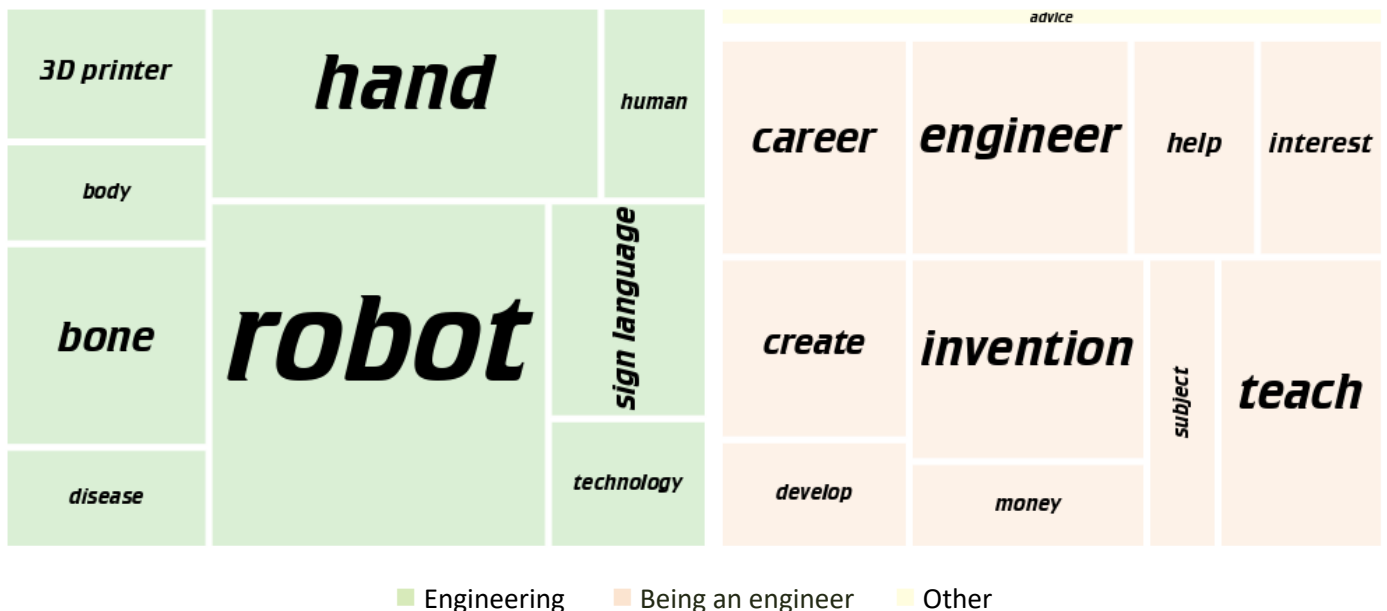
Lots of students asked about what the engineers had invented, the design process in their work and what tools and materials they used. They wanted to know whether specific organs or body parts could be enhanced or made artificially, and whether this technology could help humans live longer in the future.



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

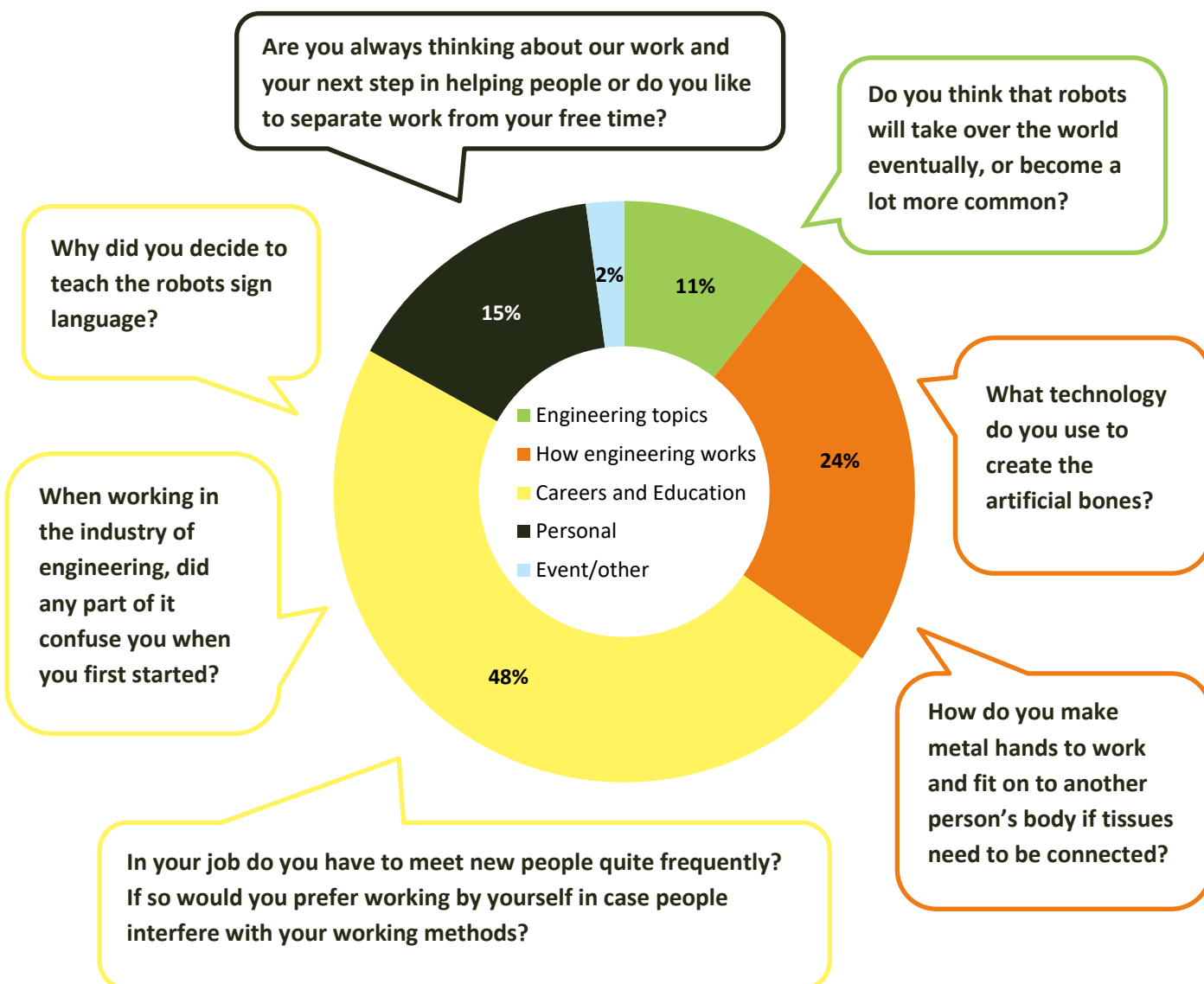


### Top Keywords of questions approved in the Zone



## Question themes and example questions in the Zone

Find out about how we've coded the questions at [about.imascientist.org.uk/2017/student-question-coding](https://about.imascientist.org.uk/2017/student-question-coding)



## Examples of good engagement

Students were interested in the day-to-day lives of the engineers, and their likes and dislikes about their job. There were often good back and forth conversations between the students and engineers, for example in this interaction between a student, Cat and Chung Han in the evening drop-in live chat:

*"What are bad days like?" – Student*

*"Bad days are when nothing works, you have lots of things to do with deadlines... I'm never bored though :)"*  
– Cat, engineer

*"Engineering, give it 7/10. Like most of engineering except the paperwork. Sometimes you just hit a wall and takes ages to get over it." – Chung Han, engineer*

*"Why do you not like paperwork and deadlines?" – Student*

*"Do you like paperwork and deadlines?? I wish I did!!" – Cat, engineer*

*"Not really but deadlines just get you hot on your heels" – Student*

*"Good point. If I didn't have deadlines I would probably never finish the work!" – Cat, engineer*

*"I'm just really bad at writing. Takes me ages to get into the groove to write things up. I also tend to find other things to do which are still work related... I have designed lots of random things just because it's not my report." – Chung Han, engineer*

*"I do the same!" – Cat, engineer*

*"Huh! I hate writing but I have to do it at school." – Student*

*"Yeah I hated it at school though. It's a good skill to have though." – Cat, engineer*

There were some thoughtful questions in the chats which gave the engineers an opportunity to reflect on their time as a school student:

*"What advice would you give to your 14 year old self?" – Student*

*"Good question! Probably tell myself that everything will be fine, go travelling, have fun" – Cat, engineer*

*"Take on more opportunities that come your way. and just keep doing what you're doing. I enjoyed life as a teen" – Sufia, engineer*

*"I would tell my 14y.o self to be less shy. Took me far too long to be comfortable talking to other people I didn't know" – Chung Han, engineer*

*"Possibly some advice about looking for national projects for science and engineering while still at school, my school didn't tell me about any and then I met people who had done all sorts of interesting things. Oh also that you can have a job where you do experiments, for some reason I got it in my head that experiments were just something we did in school so it was easier for us to learn." – Sophie, engineer*

*"Great advice :)" – Student*

### **Engineer winner: Boris Mocialov**

Boris's plans for the prize money: *"I will finish building my butler robot and make more of them to teach general public about robotics during science festivals."* Read Boris's **thank you message**.



### **Student winner: 658artn36**

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 about the Artificial Body Zone...

"I learnt that there are many different branches for engineering and not just the basic stuff like an electrical engineer." — **Student**

"[I have learnt that] robotics is way more interstellar than I originally thought." — **Student**



**Miss Page**  
@Ms\_hpage

Follow

Thank you so much to [@IAEGMOOH](#) and the Engineers Sophie, Sufia and Cat for the live chat today with 8S, we all learnt lots! [@FHSBristol](#)  
Parents you can join in with a live chat tomorrow at 7pm!

