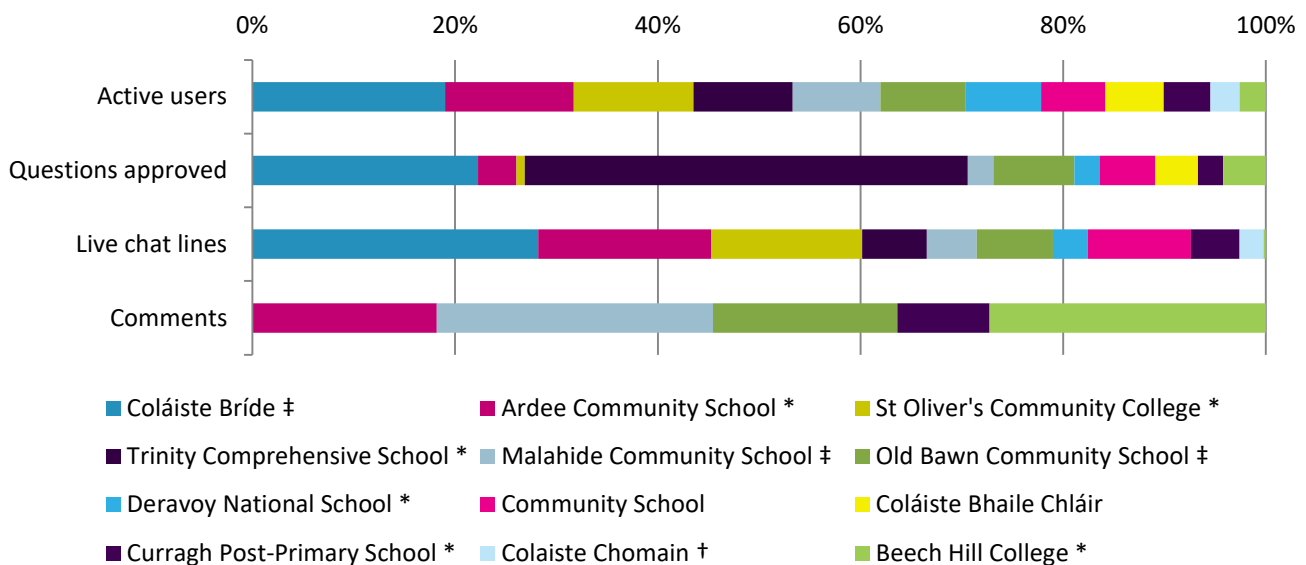


November 2017

The Fluorine Zone was a general science zone, funded by Science Foundation Ireland. Sarah, the winner of this Zone, is a PhD student who is finding ways to generate energy from amino acids, Kieran is a PhD student working on ways to personalise our experience using different digital technologies and Kathryn is a Marine Botanist studying seaweeds such as kelp. Joanne is a microbiologist working with barnacle DNA and Chris is a computational scientist looking at climate change.

As this was a general zone, conversations were varied, and students were interested in the scientists' individual research areas, as well as making the most of the opportunity to ask about a variety of different science topics. The scientists were all good at explaining their work in a way that students could understand and relate to, as well as answering lots of questions outside of their research areas.

School data at a glance

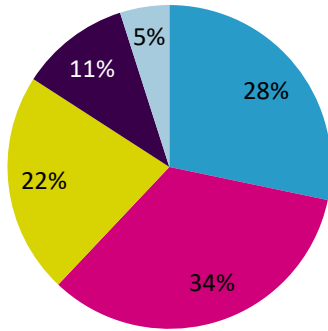


We want to increase the participation of under-represented groups going into STEM careers. Priority schools are noted above. Read more at about.imascientist.ie/2016/widening-participation/

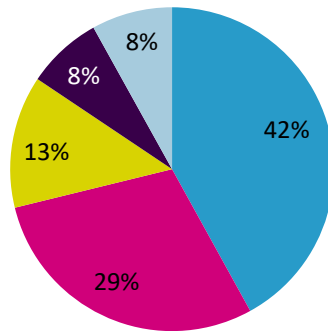
DEIS schools in SFI target counties (*), other DEIS schools (†), and other non-fee-paying schools in target counties (‡).

Scientist activity

Answers



Live chat lines



SCIENTIST	PROFILE VIEWS	POSITION
Sarah Guerin	652	Winner
Chris Werner	445	2nd
Kathryn Schoenrock	368	3rd
Joanne Duffy	371	4th
Kieran Fraser	401	5th

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

PAGE VIEWS	FLUORINE ZONE	NOV '17 ZONES AVERAGE
Total zone	14,222	17,978
ASK page	1,484	1,807
CHAT page	1,101	1,306
VOTE page	1,172	1,696

	FLUORINE ZONE	NOV '17 ZONES AVERAGE	IAS 2012-17 AVERAGE
Schools	12	12	11
Students logged in	376	385	369
% of students active in ASK, CHAT or VOTE	92%	90%	85%
Questions asked	601	640	593
Questions approved	237	255	262
Answers given	548	542	497
Comments	34	51	64
Votes	289	361	300
Live chats	16	17	16
Lines of live chat	4,531	4,469	4,136
Average lines per live chat	283	261	271

Popular topics

Lots of students asked the scientists about their work and wanted to know more about what they had read on their profiles. They were interested in Kathryn's job as a Marine Botanist and why she chose to do this, as well as asking her about different types of seaweed and how kelp can be useful. They wanted to know about pollution in the oceans and the different things Kathryn had seen whilst diving.

Sarah was asked about the crystals she grows from amino acids, the process behind it and how they can be used to create energy. Students were curious about how much energy the crystals could produce - could they power a whole city?

Many students asked about space and astronomy. They wanted to know about black holes, wormholes, the moon, planets and the future of Earth. There were general questions about diseases such as cancer, and interest in different animals.

Students also asked about working as a scientist, wanting to know how the scientists come up with a hypothesis and for information about studying science at University. They also asked for advice on how they can make science easier to understand in school as well as for tips on exams.

Chat

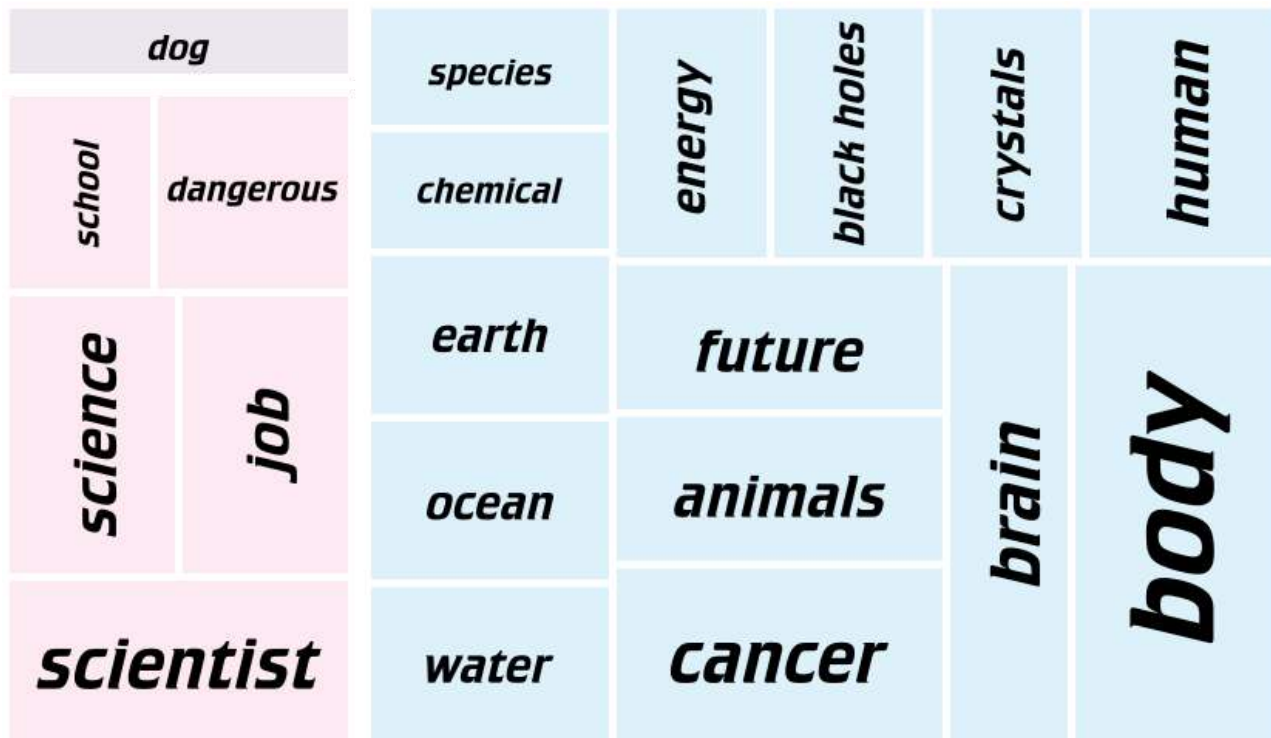
Keywords from live chats in the zone, size of the word represents its popularity



Ask

Top Keywords of questions approved in the Zone

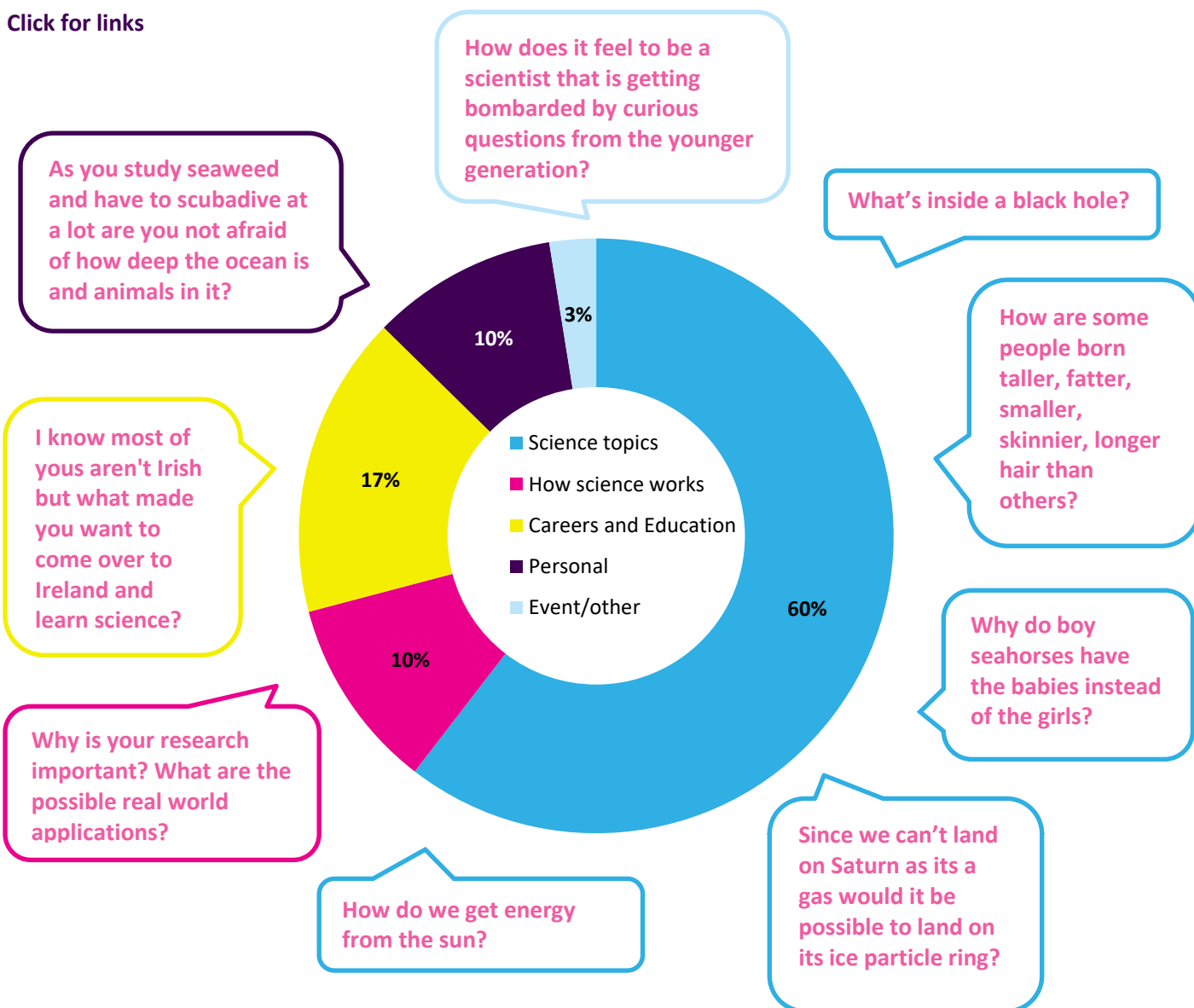
Area represents frequency of use



Being a Scientist Science Other

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 really engaged with Kathryn's work researching seaweed, asking her about scuba diving and the different things she has come across while studying the ocean:

"Have u seen the effects of plastic in the ocean?" – Student

"I see plastic everywhere in the ocean. Actually we were just talking about how we should record trash in kelp forests- it's almost as common as sea stars in certain places. Gross." – Kathryn, scientist

"Will the rubbish in the sea effect the seaweed/other plants in the sea?" – Student

"Yes..yesterday we saw many nets, clothes, rubber gloves, and plastic wrapped around the kelps, cutting into their trunks, and covering their blades..." – Kathryn, scientist

Lots of students were interested in climate change and environmental issues. There were some good hypothetical questions in the

“Do you think it will be possible in the near future to create machines that turn carbon dioxide into oxygen faster than trees?” – Student

“Really interesting question Daniel- scientists have been able to convert carbon dioxide to oxygen in the lab- the coolest way I’ve read about is by zapping it with a laser! This is probably close to the speed that individual leaves do it naturally, but there are just so many leaves in the world you would wonder how we could make a machine that could compare to all of those plants working all the time.” – Emma, scientist

“Great question Daniel. Sarah has mentioned zapping it with a laser, so it is possible but unlikely to go into mass production, the best machine we could use to reduce CO2 is to just plant more trees. Sometimes nature is the best cure! We don’t want to get rid of all the CO2 though, it is damaging to the environment in quantities like we are producing it but at the same time it is an important greenhouse gas.” – Chris, scientist

“The problem with planting trees is that the companies will just cut them down again. Also they don’t grow that fast and by the time they’re fully grown a lot more CO2 would have been created.” – Student

“Some companies do plant trees to offset the amount of CO2 you generate by flying etc. I am sure they manage them in a way that they can be sustainable.” – Kathryn, scientist

Scientist winner: Sarah Guerin

Sarah’s plans for the prize money: *“I would develop stargazing workshops for primary and secondary schools. UL Astronomy Society are a group of students in the University of Limerick who organise star-gazing events, as well as talks on space and astrophysics. They host fun social events for science students in UL like table quizzes and trips to observatories. I would use the money so that activities like these can be expanded to primary and secondary school students.”* Read Sarah’s [thank you message](#).



Student winner: MKiselova04

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...

“Overall it was a very engaging, enjoyable and exciting experience for the students in my class. They were interested in the individual scientists background and career paths they had taken, which was something I hadn't anticipated” – Teacher

“It's been one of my favourite activities that I've done - I like the ease of everything being online so that it can be a part of your day. The live chats are a great idea, they should happen all the time in schools!” – Scientist