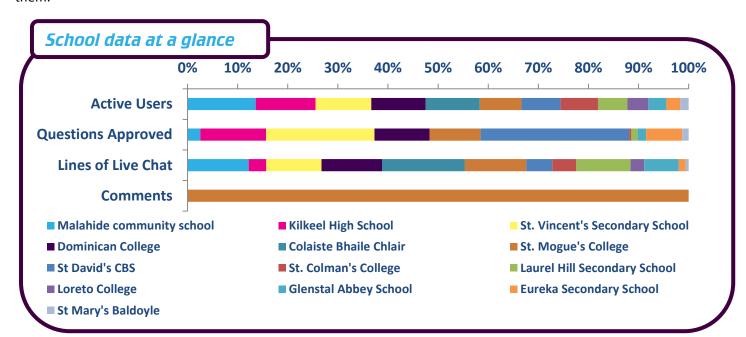


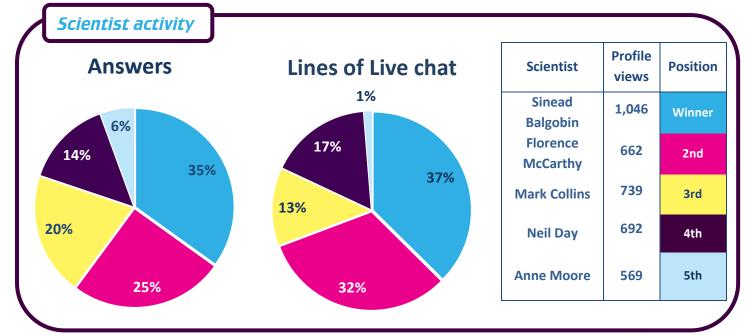




### November 2015

The Drug Synthesis Zone was funded by the Royal Society of Chemistry for schools in Ireland and, of the scientists, Sinead, Mark, Florence and Neil were members of the Society. It was a themed zone where the scientists had a link to the processes of producing and synthesising pharmaceuticals, for example researching catalyses to improve drug synthesis, leading a team that analyses drugs during their production, or lecturing in Pharmaceutical Chemistry. Discussion in the Zone was overall broader than the theme of synthesis, and questions from students covered many areas relating to drugs. Most of the scientists engaged well with students, especially when asked about complex issues. The final two, Florence and Sinead, accounted for two-thirds of lines of live chat and answers in ASK between them.









### Key figures from the Drug Synthesis Zone and the averages of the November zones

PAGE VIEWS	DRUG SYNTHESIS ZONE	NOV '15 ZONES AVERAGE
Total zone	21,463	21,241
ASK page	1,543	1,860
CHAT page	2,732	2,420
VOTE page	1,245	1,433

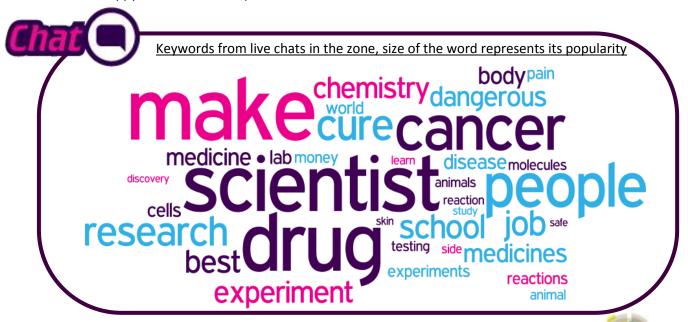
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Questions in the zone were mostly on a variety topics connected to drugs, rather than on the specific theme of synthesis. Students were interested in how drugs worked, possible side effects, vaccines and antibiotics, illegal drugs, future research and how different illnesses or conditions could be treated, for example cancer, pain or radiation sickness. Drug-related stories in the news were also brought up in questions about ebola, local health scares, and doping scandals in sport.

	DRUG SYNTHESIS ZONE	NOV '15 ZONES AVERAGE	IAS IRELAND AVERAGE
Schools	13	12	11
Students logged in	424	409	355
% of students active in ASK, CHAT or VOTE	87%	91	84
Questions asked	645	746	649
Questions approved	236	192	250
Answers given	484	447	533
Comments	4	35	63
Votes	303	326	280
Live chats	18	17	15
Lines of live chat	3,491	2,551	3,926
Average lines per live chat	194	226	266

Questions about the research or career of the scientist were those closest to the theme, for example Sinead was asked about the chemical reactions she was researching.

Questions about the scientist's personal lives and personalities were also popular. Several students asked general science questions that were unrelated to the zone topic or the scientists, such as about space or marine life, but the scientists were happy to answer these questions too.





CHEMISTRY



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

0 2 4 6 8 10 12 14 16 18 20 22 24

## drug

### cure

# favourite vaccine cancer

time science scientist space medicine bad

element antibiotics work prescription marijuana

dangerous illegal harmful effects

> "I heard that there are some carcinogenic chemicals in plastic. Do you think we should reduce the amount of plastic made products because of this?"

"How close are scientists to curing cancer?"

"Are there effective treatments for drug addiction?"

"Have you made a new reaction that has aided the making of a new medicine?"

"Should everyone get the flu vaccine? how long does it take to make a new vaccine?"

"Do you think it is possible to reverse the effects of radiation on the human body through the use of modern medicine?"

"Are you for or against antibiotics?"

"Are antibiotics bad for you? Why do you have to finish the

bottle?"

"Does your job include a lot of risk depending on the work you're doing, or cause moral issues for anyone on how it is tested?"

"If Ebola breaks out again will the drug be fully developed to fight it?"

"Is it possible to live forever? I know that we're dying slowly every day BUT! Can't someone just make some type of medicine to preserve our DNA?"

"Has anyone ever promoted the reactions you make?"

Example Questions (click for links)

"Can you explain
what happened
with the recent
scare in
chemotherapy
drugs?"
"What is your
opinion on drugs
such as ritalin
which have side
effects such as
slowed metabolism
leading to health
issues later in life?"

"Do you think marijuana should be prescribed to patients with chronic pains and/or illness?"

"Are growth supplements and protein tablets for body builders harmful?"

"What's at the bottom of the ocean?"





### Examples of good engagement

Sinead was particularly good at engaging with students, both in the ASK questions and the live chats. A good example of how she made her answers accessible is shown in the question <a href="What is a vaccine">What is a vaccine</a>?

Students often brought up topical issues like the recent Olympic drugs scandal, and the scientists engaged well on these points:

"How could the Russians hide their drug taking when tested" - Student

"It looks to be very complex but the State Lab for analysis of the athlete samples in Moscow has been implicated in negligence and bribery so I would start there" – Florence, scientist

"I think there were a lot of missing scheduled tests which is a flag for WADA and also the State Lab in Moscow have been implicated in losing some of the samples" – Neil, scientist

Students provided some very thought provoking questions on controversial topics, which the scientists answered honestly:

"in your profile it says that you wish to help kids with learning difficulties, what's your stance on using medicine to help correct these kids behaviour as opposed to specially designed exercises and hands on approaches" – Student

"Great question - I have seen personally the effects of using drugs to treat conditions in kids which have been counter-productive so I would fully advocate a hand-on approach where possible first" — Florence, scientist

### Scientist winner: Sinead Balgobin

Sinead's plans for the prize money: "I will be using the money to help produce a series of videos (published on YouTube) that are are science-themed- questions with scientists, and more info/story based content too. There will hopefully be an accompanying podcast." Read Sinead's <a href="thank-you message">thank-you message</a>.



### Student winner: ADawg

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...

Thank you so much for all your hard work this was a wonderfully organised event. Well done!!!!! – Teacher "It was the first time I had ever really thought about those questions, and being able to reflect on my choices with you has been pretty inspirational!" – Sinead, scientist



