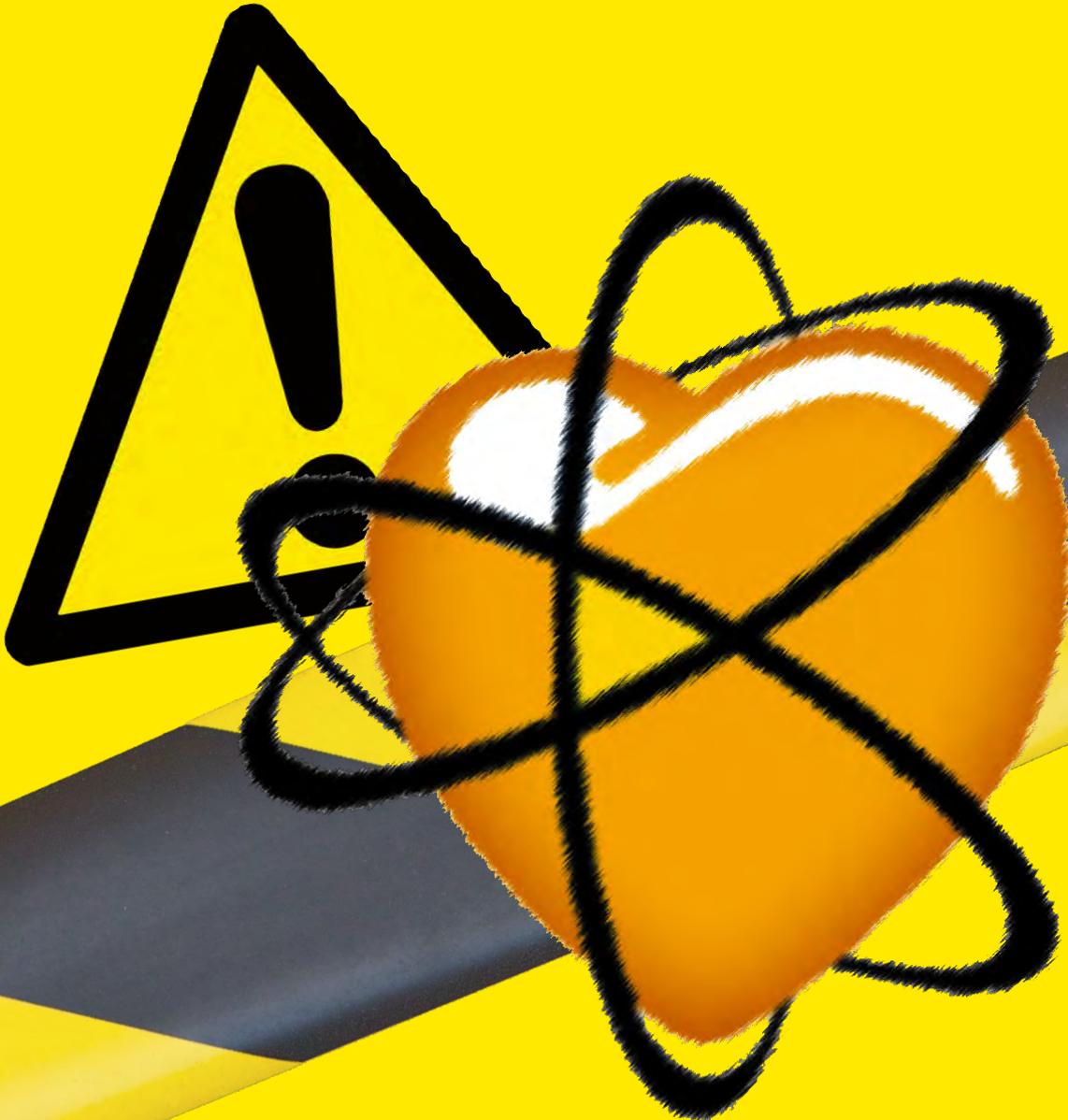


Chairman's Report & Evaluation 2015



science4
Survival
showcasing exciting careers in science



#science4u2015



science4u.info
showcasing exciting careers in science

**UNIVERSITY OF
WESTMINSTER**

Science for Survival
The 12th Annual Schools Science Conference | Presented by science4u.info in collaboration with University of Westminster | 22nd April 2015

Chairman's report

On the morning of 22 April almost 150 volunteers prepared to describe to 250 secondary school students the role of science in the world at the 12th Annual Schools Science Conference, **Science for Survival**. Registration was swiftly followed by some brief housekeeping guidelines and then the students started the day with a fantastic talk by Dr Sheena Cruickshank who talked about *Parasites - The Master Manipulators*. The students were fascinated by these creatures although glad they were not infected.

This was our 12th Annual conference and the first at the **University of Westminster**. There was a real buzz of excitement and anticipation from the students and presenters. Throughout the day, the university hummed with discussion and laughter as the students learned about the blood and bugs, presented their own projects and interacted with volunteer scientists.

There were four exciting sessions:

Blood and Bugs

Hosted by the Royal College of Pathology

This Interactive session demonstrated medical developments that occurred during WWI.

Science in Practice - 1 & 2

Supported by the Society for Applied Microbiology and specific workshops sponsored by the Royal Society of Chemistry

Almost 50 hands-on interactive displays showcasing what healthcare and other scientists do. This gave the students a chance to meet scientists, discover what they do and why, as well as trying some of the tasks for themselves. In this informal and fun session, the students were able to see the practical application of what they have been learning in the school classroom and gain an insight into the different career paths available to them. The activities ranged from blood transfusion, microbiology, transplantation, radiotherapy, resuscitation, physiotherapy, perfusion, immunology, histology, haematology, audiology, cardiology, genetics, pharmacy, chemistry to nuclear medicine and much more. There were opportunities to win prizes for participation. The students asked lots of searching questions, including what the scientists enjoyed about their jobs and what qualifications were needed.

Science for Experimentation

Supported by The Association for Clinical Biochemistry & Laboratory Medicine

This was an opportunity for the students to present research of their own. The projects ranged from testing the cleanliness of equipment to testing the thermal properties of cups. The standard of research and presentation was excellent, and the judges had a difficult time in determining the winners, however, St Augustine's CE High School won.

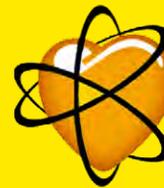
Taking the Buzz Back to the Classroom

Supported by CA Redfern

The conference also hosted a teachers' workshop. Provided by Dr Kimberly Gilmour and the teachers shared ideas about easy experiments. In addition Dr Gilmour spoke to them about gene therapy and provided slides that they could share with their students. Not only did this enable teachers to take the conference back to their schools so more students could benefit, but it also provided information so they could stretch the more enthusiastic and able students.

The Conference Overall

250, years 7 to 11, students (ages 11-16) and their teachers took part in the day. They were split into groups of about 70 per session. The sessions were repeated 4 times, but each was very different because of the involvement, enthusiasm and questions from the different groups of students and the volunteer scientists. Importantly, many of the students who attended state that they will continue to study science at A-level and beyond. Equally important, a number of students who plan to leave education at 18, are now considering careers in science and the NHS. Several of the students wrote excellent reports of the day for the Reporter Competition and these along with photographs can be seen on the conference website: www.science4u.info



Feedback has been very positive. All teachers found the event was of benefit to their students.

Most importantly the students had a great educational time with comments including 'Amazing' and 'Excellent' as well as praise for the speakers and volunteers. Some students wrote –

'It was very informative and entertaining. I feel fortunate to have learnt so much and I've enjoyed this experience'

'It made me think about choosing a degree in science, especially in medicine'

'We would like more events like this to happen - It was really educating'

Of the students who completed the evaluation after the event, when asked whether they would recommend this event to their friends 90% said 'YES'.

The Organizing Team and I are very grateful to all of our presenters for giving their time and for their inspirational sessions. We are also indebted to the **University of Westminster** and our many sponsors. This event would not have been possible without them.

Kimberly Gilmour

Kimberly Gilmour

Chairman of the Organising Committee

Schools Science Conference Organising Group 2015

Don Henderson (Founder & Co-Chair)

Kimberly Gilmour (Chair)

Great Ormond Street Hospital For Children NHS Foundation Trust

Sue Alexander (Secretary)

The Royal Marsden NHS Foundation Trust

Manfred Almeida (Treasurer)

Imperial College Healthcare NHS Trust

Sarah Armstrong

The Royal Marsden NHS Foundation Trust

Mike Carter

Public Health England

Jamie Harris

British Society for Immunology

Lucie Houghton

The Royal College of Pathologists

Patrick Lees

University of Westminster

Ayuen Lual

Public Health England

Rebecca Macrae

University College London Hospitals NHS Foundation Trust

Maria Rossini

British Science Association

Sharon Gage (Event Organiser)

SRG Project Management

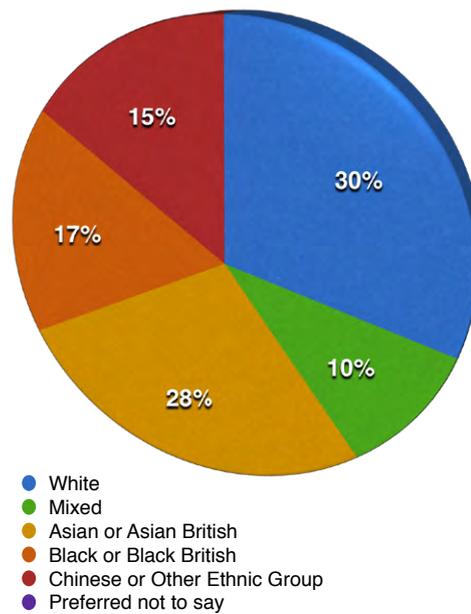
Chairman's Report

Evaluation Report

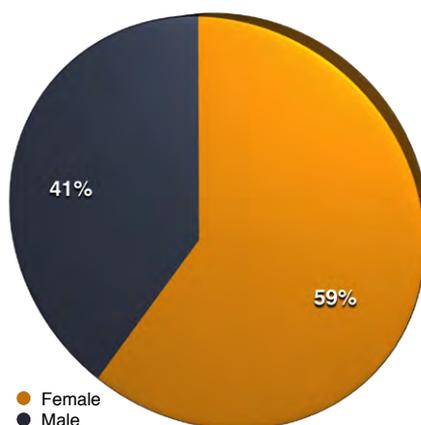
The 12th Annual Schools Science Conference - **Science for Survival** - was held at the University of Westminster on the 22nd April, 2015. This is a conversational event aiming to bring scientists and students together to discuss science and science careers. A total of 250 students in years 9 to 11 from secondary schools and colleges across London attended. They were accompanied by their teachers and teaching assistants. The event was organised by an enthusiastic group of volunteers consisting of scientists from various London

Diversity

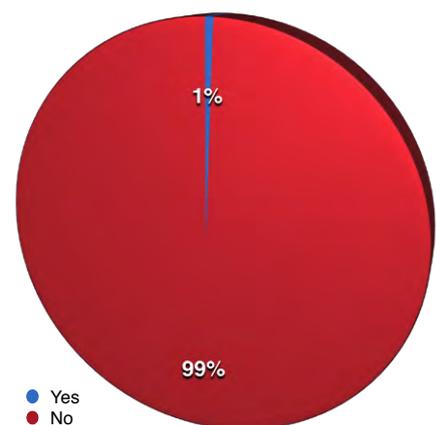
What is your ethnic group? - Overview



What is your gender?



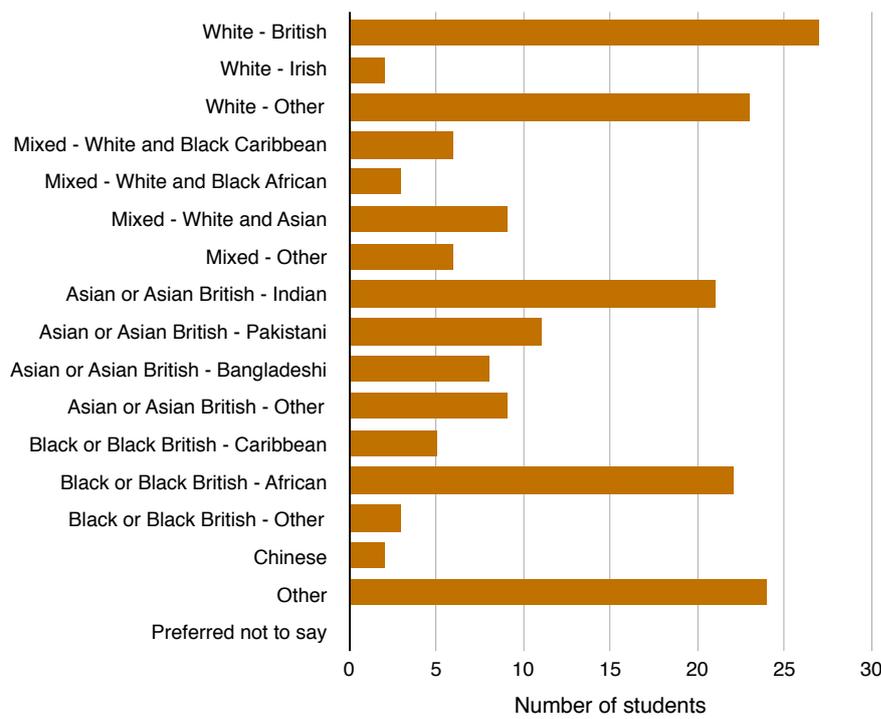
Do you consider yourself to have a disability?



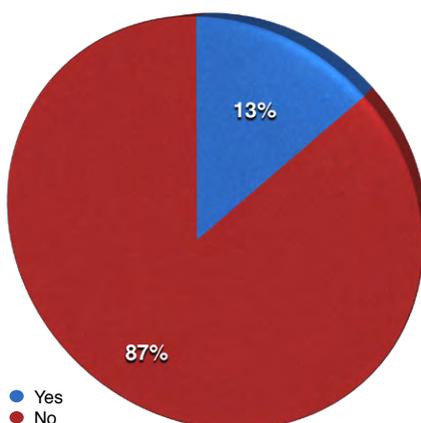


hospitals, colleges and associated organisations. 150 volunteer scientists mainly from the healthcare sector were recruited to showcase their professions. Students from the Health Protection Agency acted as hosts conducting the students around the different activities. Dr Sheena Cruickshank kindly gave the opening address and spent time participating with the students in the various activities. The students, teachers and volunteers were asked to complete an evaluation form and this is the summary of the responses.

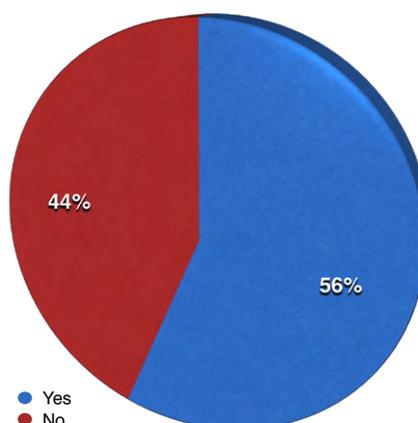
What is your ethnic group? - Detail



Do you receive free school meals?



Is English the main language you speak at home?



Evaluation Report



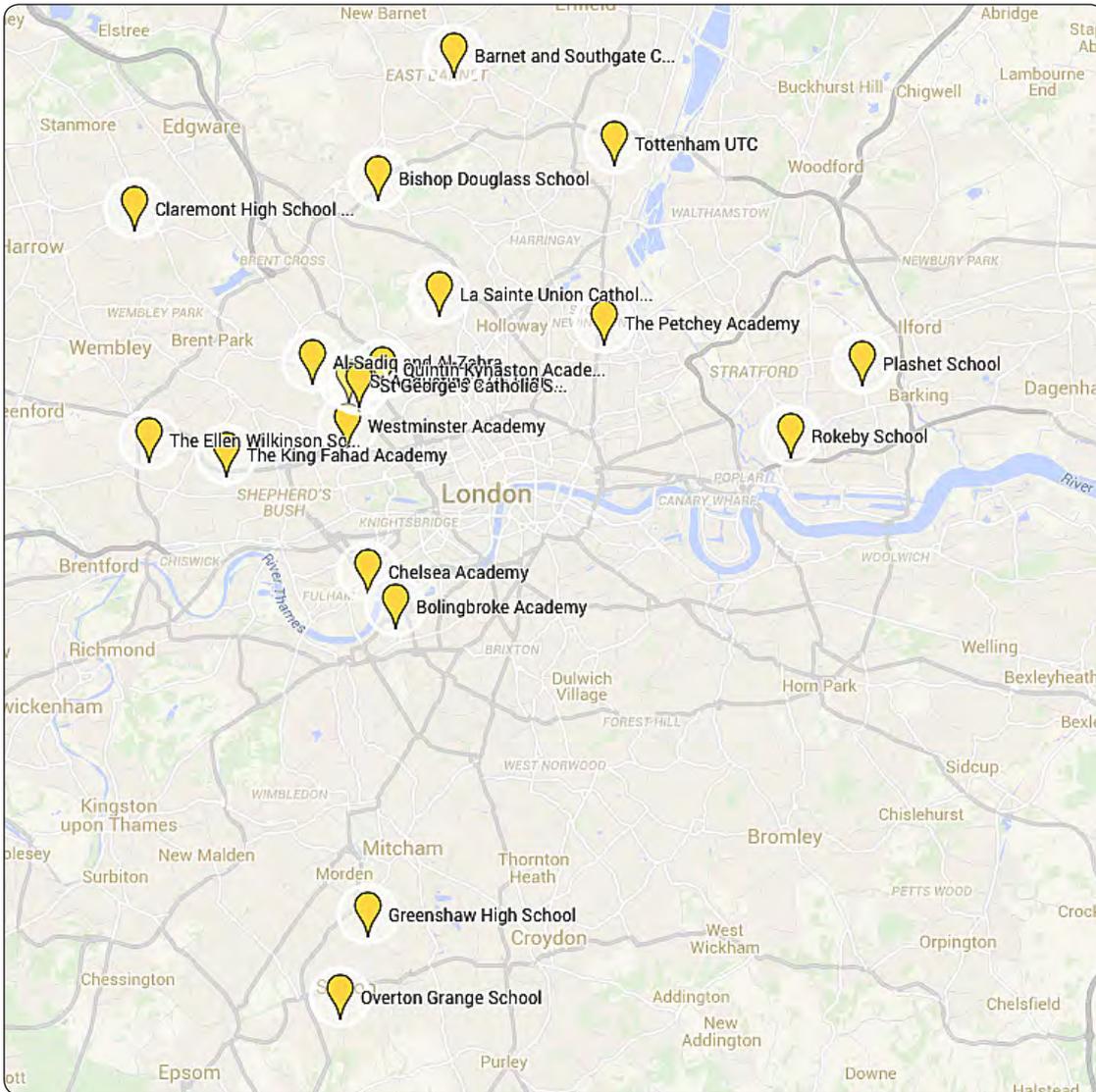
Science for Survival

Parent/Guardian occupations were wide-ranging ...

Accountant	Driving instructor	Maintenance	School Meals
Accountant	Driving Instructor	Supervisor	Supervisor Assistant
Accountant	Economist	Manager	Secretary
Accountant	Embassy	Manager	Self employed
Architect	Embassy	Manager	Self employed
Architect	Engineer	Microbiologist	Senior Teaching
Artist	Engineer	Mini-cab driver	Assistant
Banker	Engineer	Nurse	Shop assistant
Banker	Engineer	Nurse	Social worker
Banker	Engineer	Nurse	Social worker
Beautician	Engineer	Nursery manager	Taxidriver
Biochemist	Finance director	Nursery nurse	Teacher
Black cab driver	Finance manager	Nursing	Teacher
Builder	Financial Services	Office manager	Teacher
Builder	Foster carer	Ophthalmologist	Teacher
Bus Driver	GP	Optician	Teacher
Bus driver	Greenkeeper	Optician	Teacher
Bus driver	Head Nurse	PA	Teacher
Care assistant	Head of Customer	PA	Teacher
Care worker	Response	Painter decorator	Teaching assistant
Carer	Head teacher	Paramedic	Teaching assistant
Cashier	Healthcare assistant	Pharmacy assistant	Telecoms
Chef	Housekeeper	Plumber	Train worker
Chef	Housekeeper	Policeman	Transporter for
Childcare assistant	Housing Association	Politician	Royal Mail
Civil engineer	Coordinator	Project manager	TV Producer
Civil Servant	Import/Export	Project manager	Unemployed
Cleaner	Interior designer	Radio producer	Unemployed
Cleaner	Interpreter	Restaurant	Unemployed
Cleaner supervisor	IT	Sale manager	Unemployed
Computer programmer	IT	Sales assistant	Unemployed
Courier	IT	Salesman	Unemployed
Diplomat	Landlord	School Administrator	Vet
Doctor	Learning Support	School Administrator	Writer/director/ producer
Driver	Assistant	School chef	



Location of schools attending Science for Survival

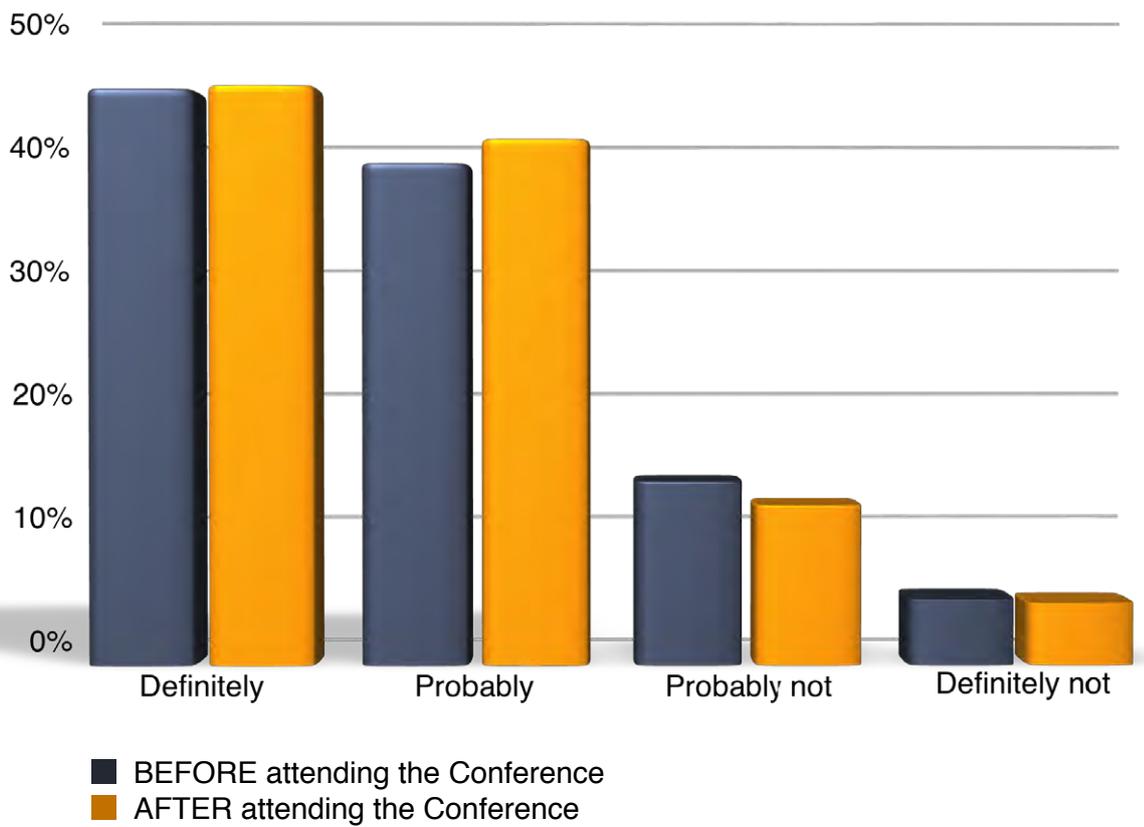


Evaluation Report

Science for Survival

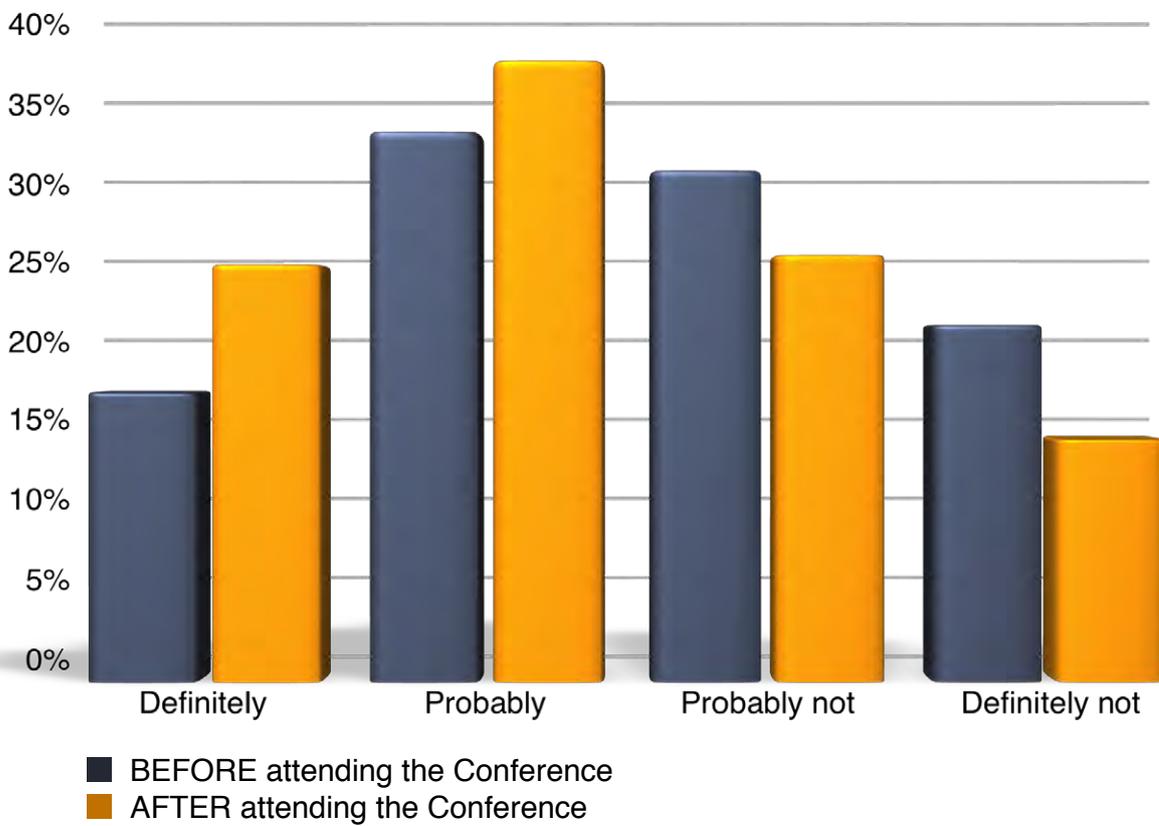
Students' Comments

Had you considered a career in science?





Had you considered a career in healthcare within the NHS?

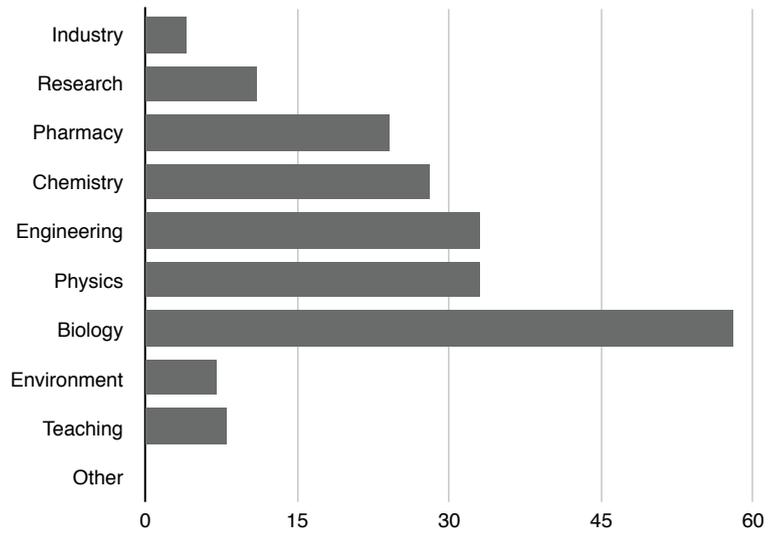


Evaluation Report

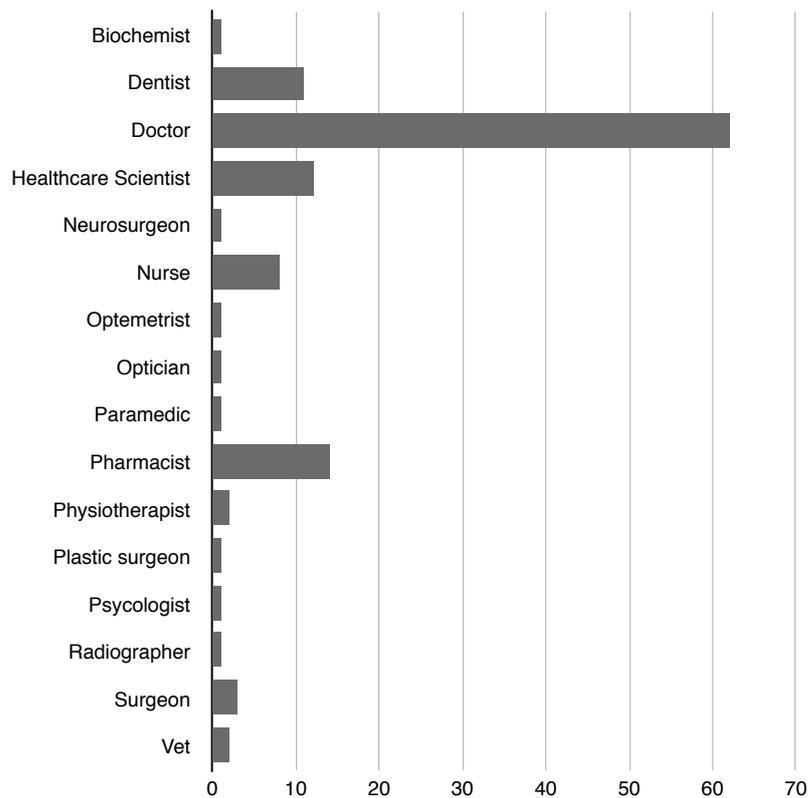


Science for Survival

BEFORE ATTENDING:
If you answered definitely or probably, in what area?

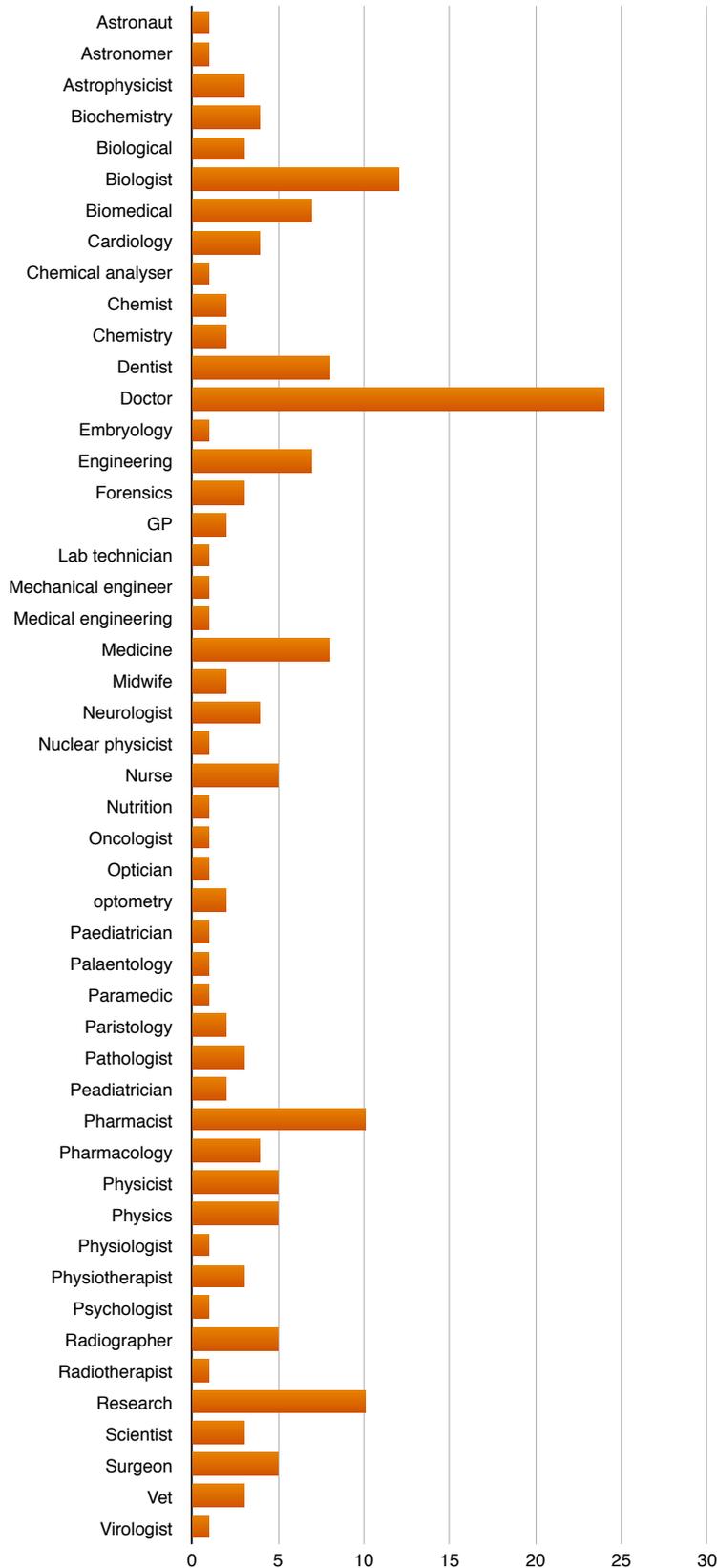


BEFORE ATTENDING:
If you answered definitely or probably, what as?





AFTER ATTENDING: Which science careers would you consider taking up in the future?

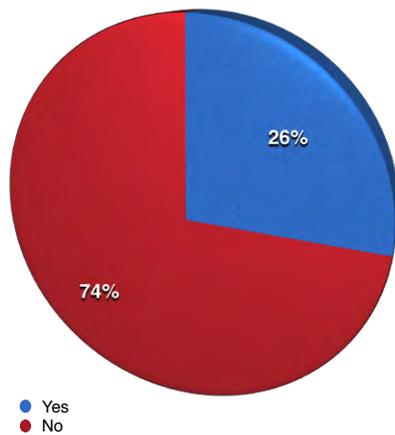


Evaluation Report

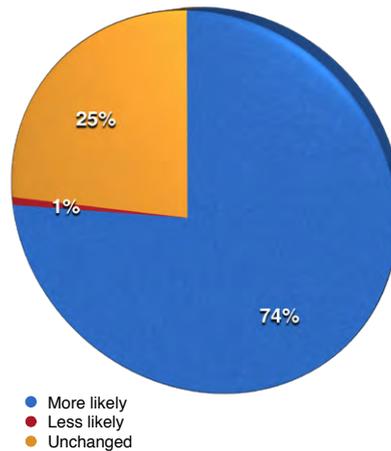


Science for Survival

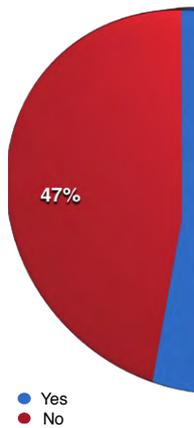
Were you aware that there are healthcare science careers that do not require a university degree?



Are you more likely or less likely to consider going to University?

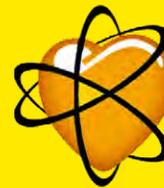


Has this event changed your subject choice?

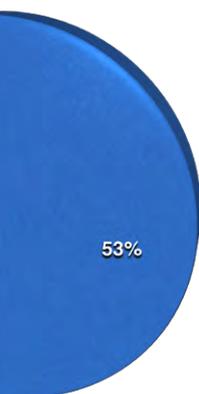


Are there any comments you would like to make about today's event?

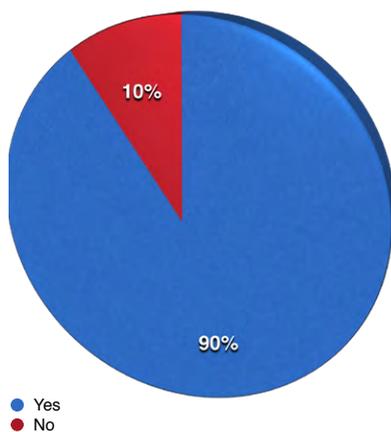
- An amazing experience
- Excellent
- Extremely informative
- Fun, interesting
- Go on for another year!
- Great event - workshops were great but there was very little time
- Great programme, but did drag on
- Great!
- I enjoyed coming here
- I feel that I have gained insight into what careers are available in science
- I found the events amazing!!! I would love to come again!!!
- I found this event very interesting and I learned a lot
- I loved it
- I really enjoyed it and want to do it again :)
- I really enjoyed one of the stations for Blood and Bugs as the man there was very enthusiastic and made me laugh - The man was called Robin
- I really enjoyed the event because I was able to learn more about Pathology and the career in general - I was able to ask questions
- I really enjoyed today's event! We could have had more time for Science in Practice 1as we didn't get to see everything
- I was very good and interesting :)
- I'd like more time at Science in Practice
- If there were more breaks to sit down and relax it would be much better! really enjoyed this because it gave me a wider choice for my career
- Interesting and informing
- It made me think about choosing a degree in science, especially in medicine
- It was a fun, interesting and educational experience
- It was a great experience
- It was a lot of fun and I would love to come again especially with more friends
- It was a very educational event and very imaginative
- It was a very informative and interactive event which was very interesting
- It was a very interesting event
- It was a very nice and interesting event. I thought it was very successful - I hope more events like this are held
- It was a wonderful experience
- It was all good and fun
- It was amazing
- It was an amazing event - i learned a lot of information I didn't know before
- It was an educational and enjoyable day
- It was an enriching experience
- It was awesome :) Thank you for inviting us
- It was excellent and I loved that we interacted with objects
- It was fun and I would do it again but i am more interested in other subjects
- It was fun but could be less crowded or compact - open it up more
- It was good but more clarity was needed
- It was great and it made me understand the human body and how it works
- It was partially boring
- It was quite interesting especially the stalls about radiotherapy and genetics
- It was quite interesting, however, only really revolved around biology - It would have been better if it was around other science courses such as chemistry and physics
- It was really engaging -



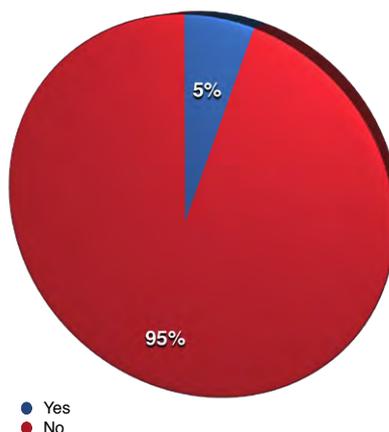
aged/influenced your choices?



Would you recommend this event to your friends?



Have you used the conference website www.science4u.info?



- I hope this will be held again
- It was really good
- It was really great!
- It was really helpful
- It was really interesting and enjoyable
- It was very enjoyable
- It was very fun - enjoyed my time
- It was very good and fun and educational
- It was very informative and entertaining. I feel fortunate to have learnt so much and I've enjoyed this experience
- It was very intriguing although some parts were too long
- It was very useful - there should be more trips to places like this
- Just amazing - Thank you
- Lunch seating areas need to be more organised
- Make the Science in Practice 1 session longer
- More gaps in-between sessions
- More sitting areas, please!
- Not enough time spent at stands
- Our group particularly enjoyed the the station with Robin who was talking about ways to find out diseases in the blood
- Overall I had a fun time
- Really great
- Scientific workshops were very interesting and engaging. However, Blood and Bugs was ill-orchestrated and slightly boring
- Simply just great :) Good event! Amazing eye-opener
- Some parts were more interesting
- Something that I have never had the opportunity to see before - I am simply amazed
- Sometimes I felt we didn't have enough time to test specific things
- Thank you - I enjoyed a lot

- Thank you for an awesome time
- The event was good
- The people giving talks about WWI blood transfusions and how they have developed since then seemed incredibly happy
- The people in the Practice areas were very enthusiastic and gave great detail
- The Skype call was terrible
- The stands which were about ultrasound and chromosomes were very interesting!
- Today changed my perspective on Science :)
- Today was awesome! Amazing :)
- Today was informative, useful and opened my choices and ideas of what I want to be when I am older
- Today was the best day of my life - I got to learn about diseases
- Today was very inspiring for me and very fun
- Today's event helped me get a better idea of the different fields of work involved in science
- Very enjoyable and interactive
- Very entertaining, informative event - a good experience
- Very fun! First time in a University-style lecture - Positive atmosphere
- Very good, interesting and motivating
- Very informative and interacting
- Very informative but needs a break during the activities
- Very informative in enhancing the focus of my desired career. Thank you!
- Very informative, interesting and interactive!
- Very intriguing and interesting day
- We didn't have enough time in the first 2 rooms but it was good!
- We would like more events like this to happen - It was really educating

Evaluation Report

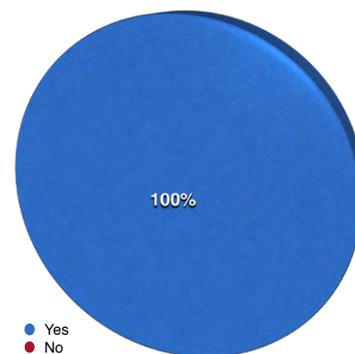


Teachers' comments

What was the most benefit to you and your students?

- Science in Practice
- Science in Practice
- Science in Practice
- Science in Practice
- Science in Practice 1
- Blood and Bugs Meeting and seeing a range of scientists
- We got a range of experiences the students were exposed to
- Looking at the different careers (stands)
- The demonstration of occupations
- Interacting with the people at the stands
- Meeting science professionals and students from a range of fields
- Epilepsy talk/Career guide/ King's College
- Interacting with healthcare professionals
- Interactive stands & CPD
- Presenting in front of a large audience at the workshops
- The activities and the presentations
- Interactive stands and career presentations
- Meeting the scientists, the student presentations, most things

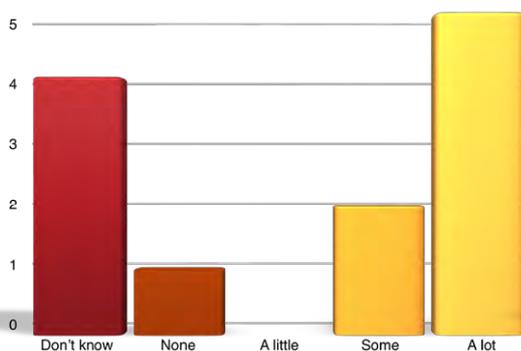
Was this event useful to you and your students?



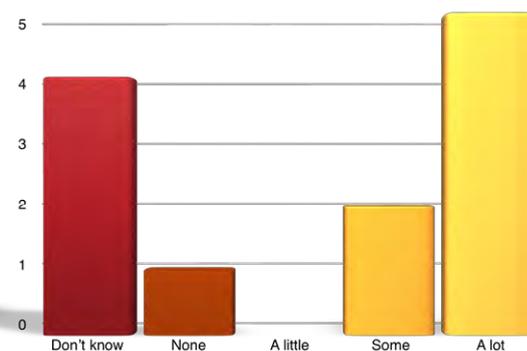
What was of least benefit to you and your students?

- Science for Experimentation
- Introduction in Small Lecture Theatre (could not hear)
- Blood and Bugs as the activity could not be completed
- Hard to say
- Science in Practice (repeat)
- The keynote session
- The immunology talk (it was still excellent - just not as high impact)

If your school has attended one of our previous events what impact did it have on those students' subject choices?



If your school has attended one of our previous events what impact did it have on those students' career aspirations?





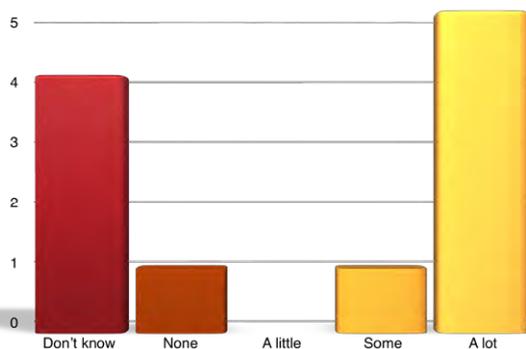
How could we improve this event for you and your students?

- Nothing - The space available for the event worked really well - less crowded than in the past. Also loved the 2 Science in Practice sessions rather than 1
- Space has been improved. Better directions to toilets.
- Improvement on the IT system because some of us could not hear properly the launch and keynote address
- A together for introduction in one room
- get students to do small practicals
- More information about the presenting for new schools
- Structured stands/groups so students get to experience a wider variety of topics
- Lots of interactive activities during these sessions
- More interactive, more demonstrations with 'wow' factor - Maybe some real life insects etc
- Smaller groups / High ability students
- Please ensure that Skype microphones are appropriately muted during guest lecture presentations
- No sound interference during presentations
- Get stewards to stay with school
- A bit more time in Science in Practice
- Better IT support during the Immunology talk (too much feedback on the sound)

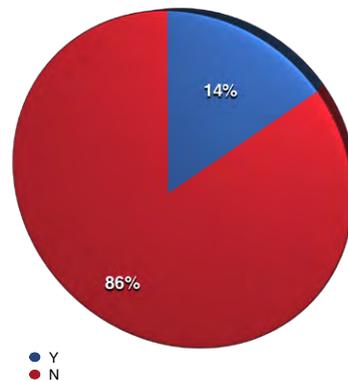
Do you know of any instances where students attending one of our previous events have chosen a career pathway into science?

- 1 gone into nursing
- 2 gone into radiography
- Most that attended last year as year 11 are studying science BTEC in year 12
- Lots of students went to different pathways studying different science specialisms
- They were already interested in science
- Difficult to trace this
 (3 further comments that this is difficult to answer)

If your school has attended one of our previous events what impact did it have on those students' motivation to study science?



Do you know of any instances where students attending one of our previous events have chosen a career pathway into science?



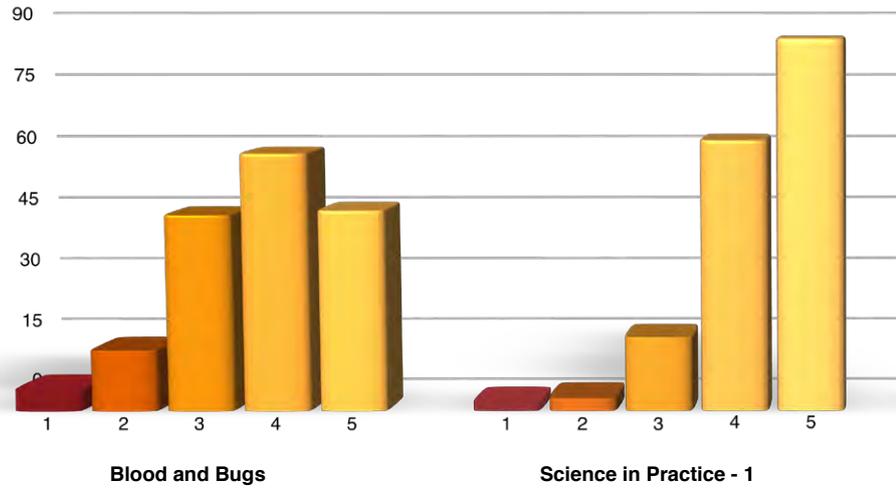
Evaluation Report



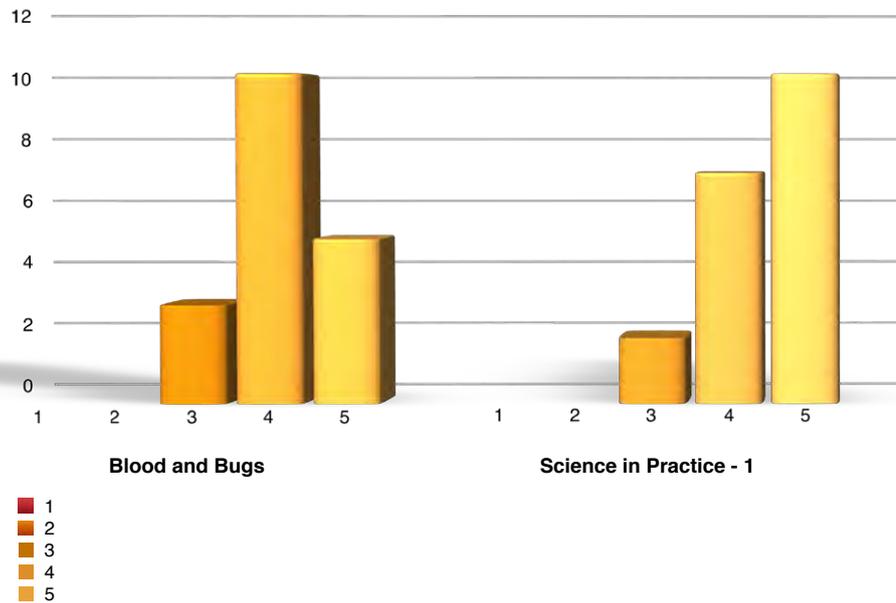
Science for Survival

The Sessions

STUDENTS: How would you rate the session?

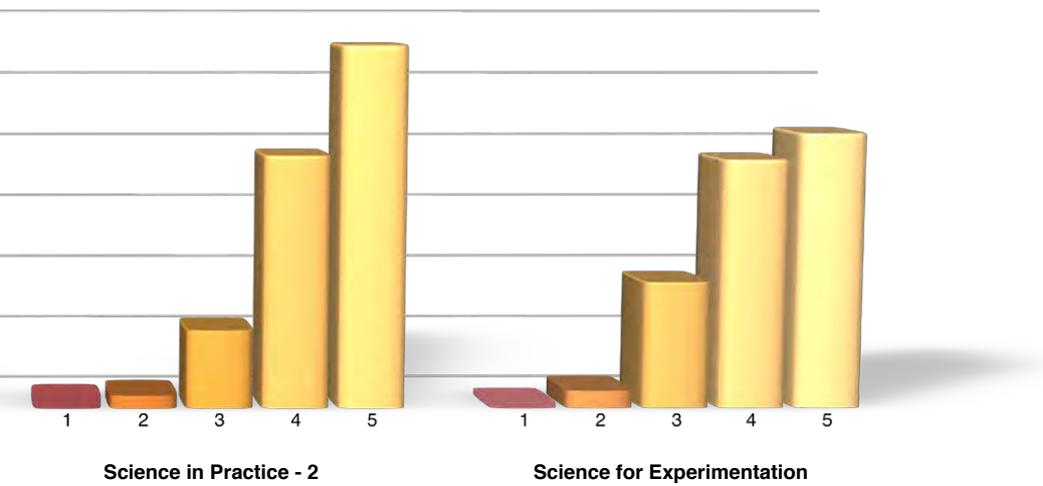


TEACHERS: How would you rate the session?

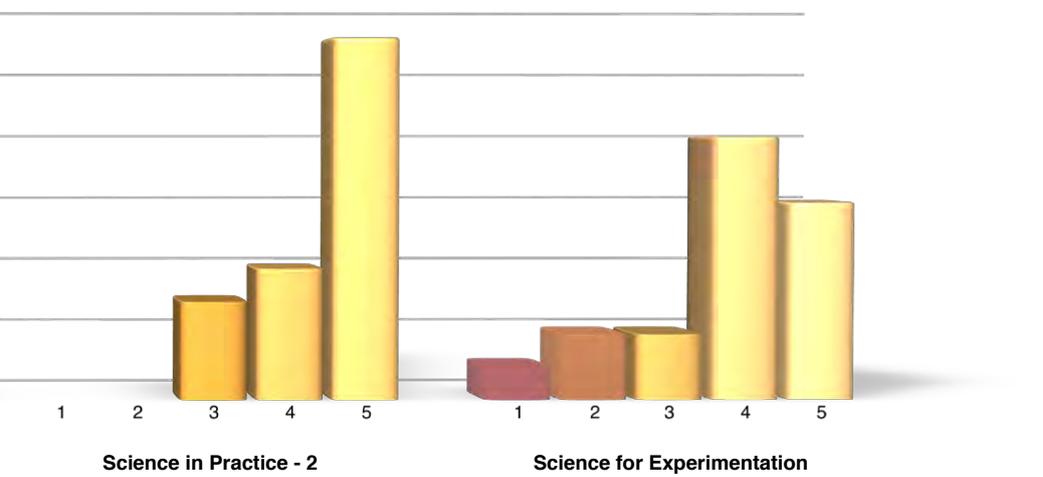




How do you rate the 4 activities?



How do you rate the 4 activities?



Evaluation Report



Volunteers' comments

Why was the conference useful to you/your organisation?

- We were able to showcase our expertise and engage prospective students to the university
- It allowed us to extend our outreach activities.
- Gaining more experience on delivering hands-on activities to grown up students.
- Promotion
- Raising profile of a misunderstood medical speciality
- Do not teach school children
- Useful for me as a trainee on the NHS STP to explain what I was doing, improving communication skills. Useful to IPEM to raise awareness of physics in medicine.
- I'm not sure the organisation gains much from participating in the event - it's more for the benefit of the children. Plus, I enjoy teaching children and raising awareness about how science can benefit and advance healthcare.
- We hadn't expected to benefit personally from it - we think it's a worthwhile event and are very happy to contribute to it, hopefully to benefit the pupils!
- Raising awareness of PHE.
- Public engagement. Potential future recruitment.
- We have the chance to promote science and engineering in a easy way to the kids
- Good for our staff to gain CPD and learn how to explain science
- It enabled us to meet pupils and explain how a deceased donor kidney is match with a recipient. This promotes H&I as a career choice and organ donation as a life choice, it also allows pupils to see that job satisfaction in science can be very high due to the benefit to patients and their families.
- It's very rewarding to engage children in science.
- Opportunity for professional development - developing a stand for students, engagement with young people interested in careers. Opportunity also to demonstrate the wider career choices available.
- Good opportunity to showcase our achievements for perspective students.
- Good experience in engaging with school children

What have you enjoyed about today?

- The greeters on the front desk were a good idea.
- Interactive aspect
- To expand knowledge to the kids
- Great interaction with children, who seemed to enjoy the event very much, great way to make kids aware of our professions
- interacting with engaged pupils and explaining what laboratory diagnostic services entails
- Interacting with the students, meeting other volunteers and viewing other stands.
- The variety of science disciplines and the enthusiasm of the pupils
- Very keen students who like to discuss a lot.
- The students
- Engaging with students to explain my job
- It is nice talking to the young eager to learn
- Seeing kids engage and get excited about science. Doing something different from every day work
- Teaching, having an interactive stand to teach the children about screening tests for diabetes and bowel cancer.
- Meeting and listening to the schoolchildren; watching them learn.
- Interacting with students
- Seeing the youngsters, and a former colleague (I am retired)
- Very well organised. Nice to meet people from other organisations. A good opportunity to meet teachers and students and tell them about our organisation.
- Teaching the children about the role of a pharmacist
- The chance to talk to kids and show our passion for science and engineering
- Feeling of use to some students regarding their awareness of career options
- I enjoyed the interaction with pupils, the opportunity to share what we do and my enthusiasm for it. These events also remind me why I chose to work in an NHS lab where the benefit to patients is so direct and immediate.



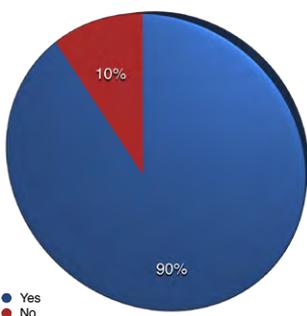
- Meeting students and teachers and other exhibitors
- Atmosphere, seeing other stands, enthusiasm of everyone involved.
- Cardiac Engineering
- Being able to tell young people about different career paths available which they may not have been aware of is quite rewarding. The kids seemed to enjoy the day, which was nice
- Highly interested and enthusiastic students
- Interaction with the children, interesting questions asked
- Rewarding sharing knowledge

What can we do to improve the event in the future?

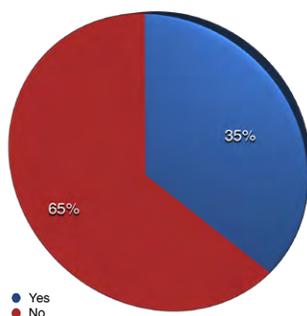
- Advertise for volunteers earlier
- Invite more schools
- All excellent, no issues!
- Better signage to stands
- It all went very smoothly and easy for me as I am employed at the venue used this year.
- Upon arrival, it might be useful to have volunteers standing at corners and stairs to guide demonstrators to the correct room.
- More promotion
- Fewer students per group. Teacher presence would help with "crowd control". A few students were poorly behaved or lacked basic social skills which spoil some of the presentations for the others.
- Less background noise had to almost shout. Ask volunteers what they would like to discuss
- Space was limited, if students were at the stand opposite, no one could come to ours. Each session was very short, but I am not sure you could do anything about that.
- Coffee was far, far away from the hot room I was in. There is a lot of talking throughout the day and not much time for breaks - having refreshments and coffee available in the showroom would make it a lot more comfortable.
- Even out the flow of students to the stands
- Digital camera and monitor on microscope
- Ensure that there is a break between sessions as some sessions ended up running back to back.
- More time with children at the stands
- I think it was well organized
- Not sure!
- Not much I suspect! But limited space is always a problem, possibly arranging the pupils into vaguely standard sized groups might help but would take away from the free flow informality of the day. Lighting was not great for the activities in the room I was in.
- Better floor plan/layout to help flow of students
- More space between stands, more opportunities for volunteers from different organisations to mix.
- More innovative work
- We weren't entirely aware of how much time we'd have with the kids or whether we would have to do a mini presentation or if they would just come up to us in groups. Some of the things we had planned weren't quite relevant so changed on the day.

Evaluation Report

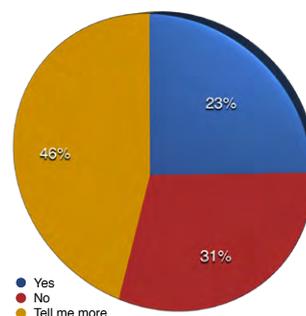
Was the conference useful to you/your organisation?



Have you used the conference website www.science4u.info?



Would you be interested in joining the organising group?





Acknowledgements

Acknowledgements

Thanks to the following organisations and their staff for this year's event

- British Science Association
- British Society for Immunology
- Buckinghamshire Healthcare NHS Trust
- Cambridge Hands-On Science (CHaOS)
- Central London Community Healthcare NHS Trust
- Centre of the Cell
- East Lancashire Hospitals NHS Trust
- Frimley Health NHS Foundation Trust
- GlaxoSmithKline
- Great Ormond Street Hospital for Children NHS Foundation Trust
- Guys and St Thomas' NHS Foundation Trust
- Hounslow and Richmond Community Healthcare NHS Trust
- Imperial College Healthcare NHS Trust
- Institute of Biomedical Science
- Institute of Physics and Engineering in Medicine
- King's College Hospital NHS Foundation Trust
- London Ambulance Service NHS Trust
- London Metropolitan University
- London Pharmacy Education and Training
- London School of Hygiene and Tropical Medicine
- NHS Blood and Transplant
- Public Health England
- Royal Brompton and Harefield NHS Foundation Trust
- Royal Free London NHS Foundation Trust
- School of Engineering and Materials Science, Queen Mary University of London
- Society of Biology
- South West London Pathology – Kingston Hospital NHS Foundation Trust
- St George's University Hospitals NHS Foundation Trust
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- The Royal College of Pathologists
- The Royal Marsden NHS Foundation Trust
- The University of Manchester
- University College London
- University College London Hospitals NHS Foundation Trust
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