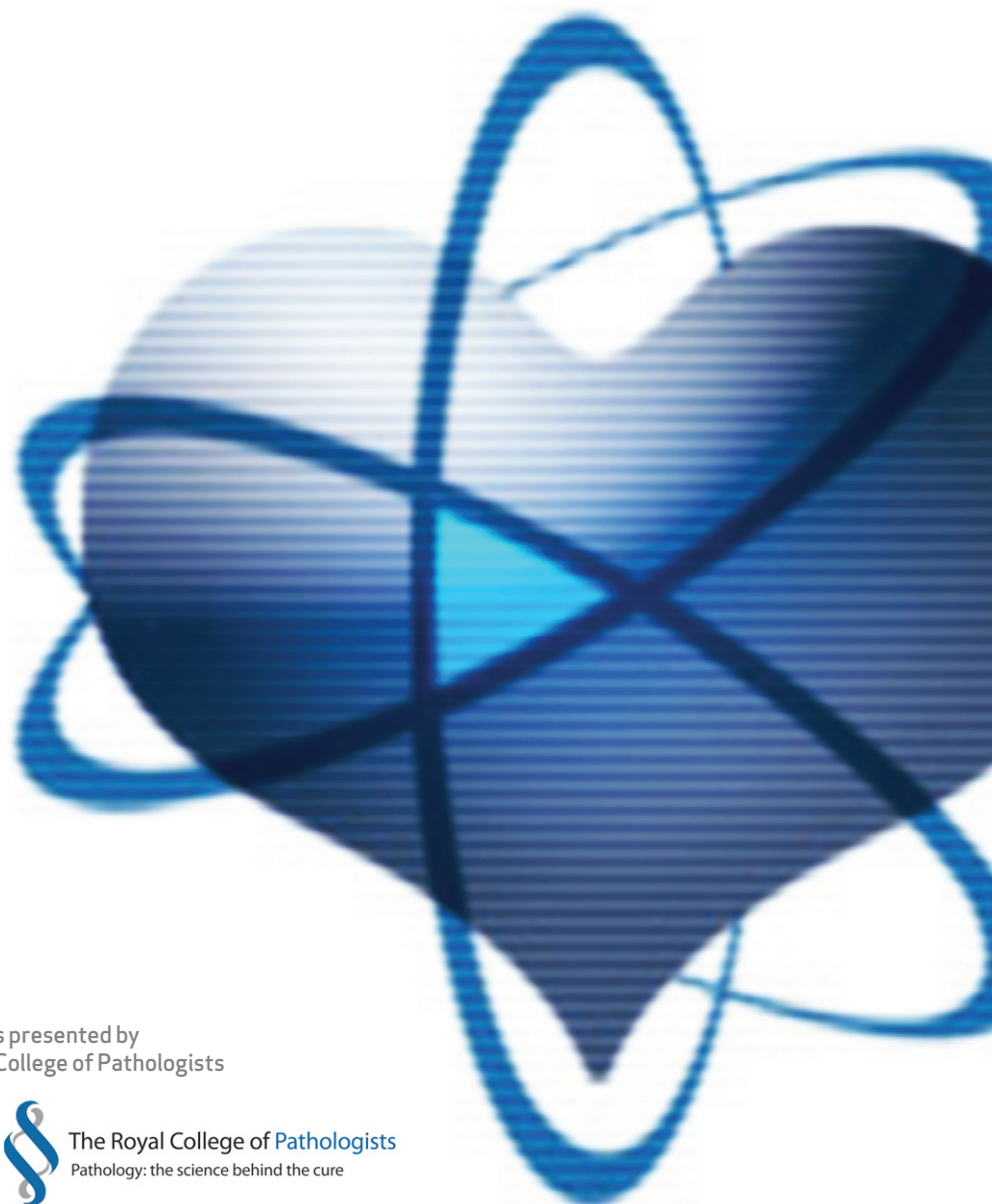


Schools Science Conference 2010

**Science is All
Science is All Around
Science is All Around Us**

Scientists and Healthcare Professionals showcasing exciting careers in science



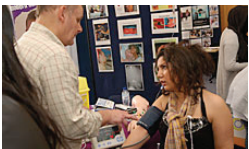
The 7th Annual Schools Science Conference is presented by science4u.info in partnership with The Royal College of Pathologists



science4u.info
showcasing exciting careers in science



The Royal College of Pathologists
Pathology: the science behind the cure



Conference Report

After the drear dank days of a prolonged winter, the 18th March was a bright, warm and sunny spring day matched by the fresh, cheerful and smiling faces of students crowding into the Royal College's Education Centre for a conference devoted to the what, why, how and wherefore of science. These students were getting the opportunity of meeting real scientists and finding out what they do.

At 9 o'clock, the entrance was full of registering students picking up their delegate bags and information en route to taking their places in the Fleming and Jenner Rooms for the welcome address. The volunteer scientists had to squeeze past with their boxes of equipment and bags to set up their displays. This was our 7th annual conference and the first in this prestigious building. There was a real buzz of excitement and anticipation from the students and presenters. Throughout the day, the College rang with the sounds of laughter and honest endeavour, under the gaze of the portraits of the past presidents.

There were four exciting sessions.

Science

In which leading scientists discussed their work telling the students about science in the future, the latest developments in tissue repair and engineering, and all you need to know about viruses. These highly entertaining and informative lectures were well received by the students. Professor Averil McDonald described a magical future world capitalising on scientific discovery to improve quality of life. Professor Robert Brown told the students about Biomimetic Engineering of body parts to remove the reliance on donor organs for transplantation. Professor John Oxford challenged the students to consider if we could live in a world without viruses and told them about the prospects for new antiviral drugs and vaccines. Dr Mark Atkins continued the virus theme discussing pandemics and epidemics.

What is Science?

A session with the choice of two workshops. One facilitated by leading Healthcare Scientists challenging the students to consider what is science, what do scientists do, why do they do it, what makes someone a scientist and who are scientists. The second was Café Scientifique, presented by a team from the Association of Clinical Biochemistry, Institute of Biomedical Science and the Royal College of Pathologists about Point of Care Testing and how to ensure that the patient gets the right result. The students participated enthusiastically and came up with many innovative, unusual and novel ideas.

Interactive Science

A series of hands-on interactive displays showcasing what healthcare scientists do and giving the students a chance to meet the 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. The activities ranged from blood transfusion, microbiology, transplantation, resuscitation, physiotherapy, perfusion, immunology, histology, haematology, audiology, cardiology, andrology, pharmacy and much more. There were lots of opportunities to win prizes for taking part and from quizzes to show what they had learnt. The students surprised the presenters by asking lots of searching questions, including what they enjoyed about their jobs and what qualifications were needed.



Discovering Science

A workshop consisting of two activities. The students were asked to find the hidden science in everyday objects such as the cardboard coffee mug and the biro pen, and then to apply scientific investigation to discover the contents of 6 mystery boxes. This proved to be very popular enthralling the students from start to finish. The workshop was brought to a close by considering the approach of the students and how this fitted with The Scientific Method.



Over 200, years 10 to 13, students and their teachers took part. They were split into groups of about 50 per session. The workshops and interactive science presentations 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. There was a conference quiz to keep the students occupied on arrival and during breaks. The answers are available on the conference website www.science4u.info along with reports from the students taking part in the Reporter Competition and photographs from the day. There were lots of things to collect and the students went home with bags full of pens, toys, sweets, rulers, pads, prizes and leaflets about careers and universities, including the Modernising Scientific Careers programme, and information about the new Diploma qualifications.



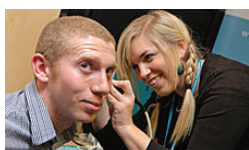
Feedback has been very positive. One teacher wrote *"I just wanted to say a great big thank you as we had a fantastic day yesterday, the feedback from the students was very positive they all found it both educational and fun. I was so glad I was able to make it as it really was amazing. A big thank you to you and everyone involved and I can't wait until next year."* Many of the volunteer scientists have made similar comments. The Students', Teachers' and Volunteers' Evaluations have been universally positive about the content, organization and venue.



The Organizing Team and I are very grateful to all of our presenters for giving their time and for their inspirational displays, lectures and workshops. We are also indebted to the College and our many sponsors (listed on the programme and website). John Rogers, CEO from Skills for Health, one of our main sponsors, said *"Encouraging young people to take up Sciences whilst in school or college is a pre-requisite to developing well informed, well prepared modern healthcare scientists for tomorrow's workforce. Our Labour Market Intelligence tells us that the health sector is the biggest employer of scientists but – like the general population – they are an older workforce, so Skills for Health is very pleased to support employers in London in their efforts to promote a variety of science progression routes at all levels of the health career framework."*



This was the first time that the College had hosted this event and as a fellow of the College it was rewarding to see its Education Centre and meeting rooms filled by so many lively, excited students learning about and experiencing the healthcare sciences. Hopefully, some of these students will become the fellows of the future.



Don Henderson

Don Henderson
Founder & Chairman of the Organising Committee



Evaluation Report

Student Evaluations

Of the 200 students attending, 121 completed the Conference assessment forms. The audience was predominantly aged 15 to 18 years, with more female students giving a ratio of 37% boys to 63% girls.

Figure 1 shows that the age range spanned from 14 year old school students to a small number of college students aged 19 to 23.

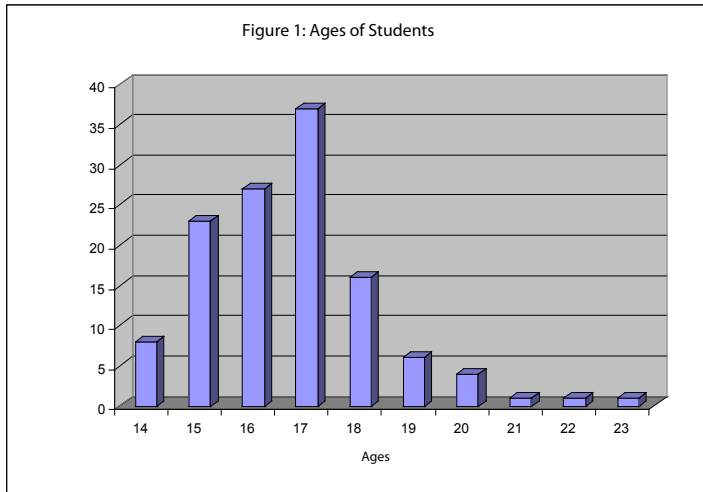
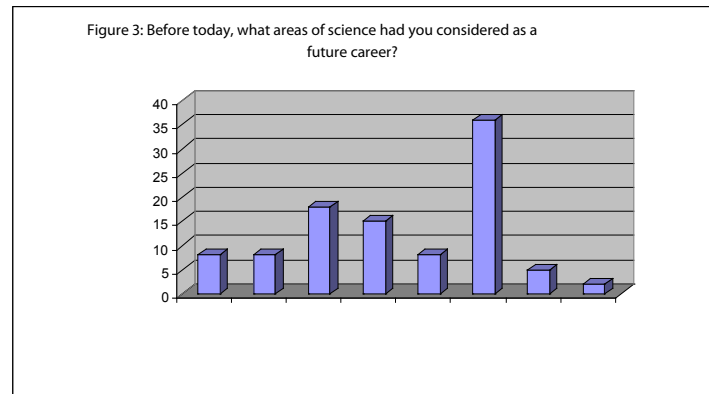


Figure 2 shows some of the student delegates attending the conference.

Figure 3 shows that, before the conference, most of the students were interested in working in a biological science.



Evaluation Report

Figure 4 shows that, before the conference, most of the students wanted to work as a doctor in the health service, with a smaller number considering dentistry and pharmacy as career options.

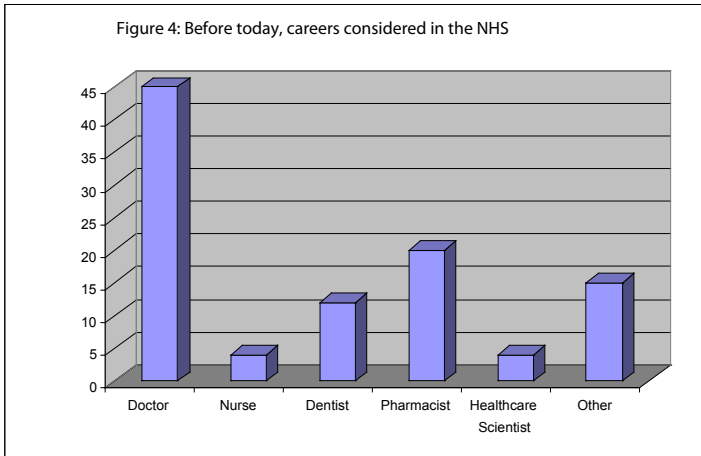


Figure 5 shows that from this conference, the students found that scientists were exciting and interesting.

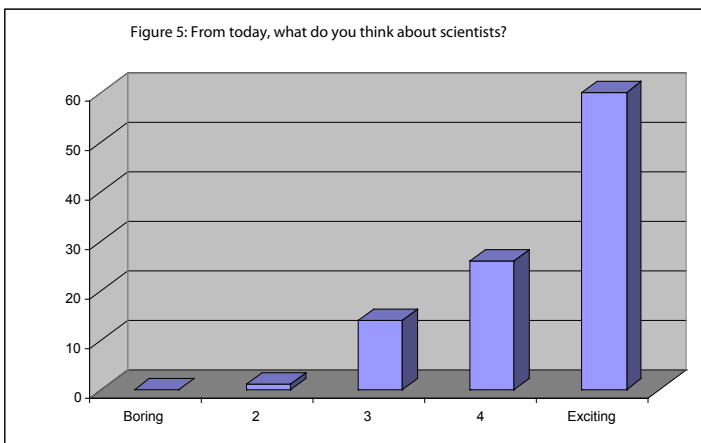


Figure 6 shows that the conference had encouraged the students to consider a career in science.

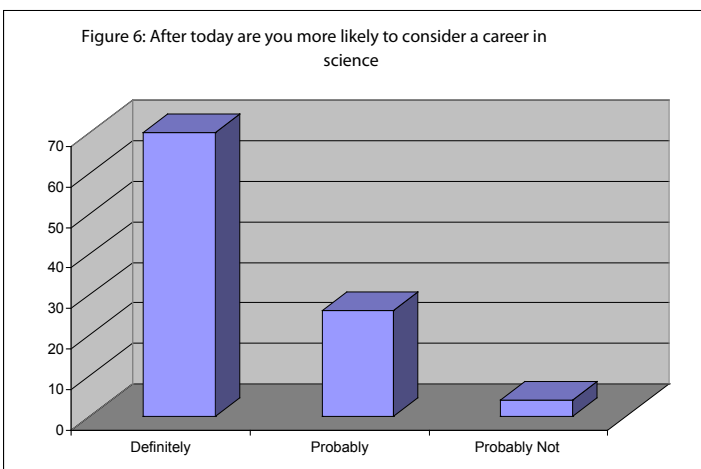
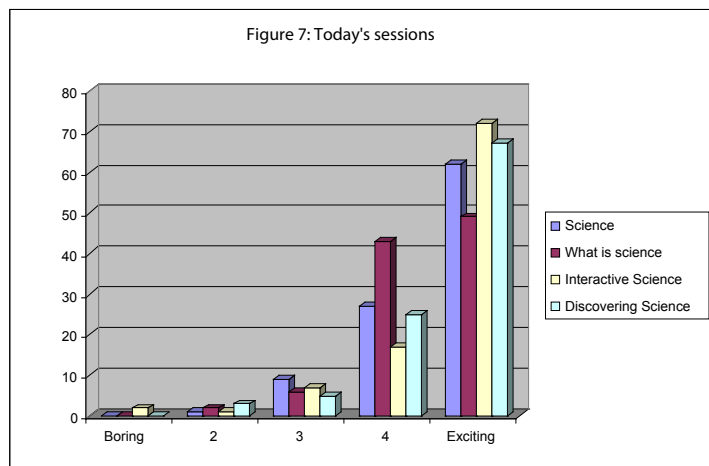


Figure 7 shows that the students enjoyed all 4 of the conference activities. Each session was run 4 times giving each student the opportunity of attending each of the different sessions.



Science: one of 4 stimulating science lectures given by leading scientists telling the students about science in the future, the latest developments in tissue repair and engineering, and all you need to know about viruses.

What is Science: the choice of two workshops. One considering what is science, what do scientists do, why do they do it, what makes someone a scientists and who are scientists. The second, Café Scientifique, discussing diagnostics tests, point-of-care tests, screening programmes and ethics and duties of healthcare scientists.

Interactive Science: a series of informal and fun, hands-on, interactive displays showcasing what healthcare scientists do and giving the students a chance to meet the scientists, discover what they do and why, as well as trying some of the tasks for themselves.

Discovering Science: a workshop consisting of two activities. The students were asked to find the hidden science in everyday objects such as the cardboard coffee mug and the biro pen, and then to apply scientific investigation to discover the contents of 6 mystery boxes. This culminated in describing The Scientific Method.

Additional questions showed that 90 % of the students had heard about the new Diploma qualifications – Society Health and Development, Engineering and Science – and that, after the conference 52% of the students were considering taking a Diploma qualification. 60% of the students reported that the Conference had influenced their subject choice. Only 21% of students had used the Conference website.

Words and phrases used by the students to describe Healthcare Scientists

They have to be able to deal with the public	Passionate about what they do	Very useful and informative	They work very hard and do a lot for us
Help people	Interesting	Dedicated	They seem very excited
Smart, Knowledgeable	Excellent	Cool	Good
Nice	Helpful	They work hard	Helpful and determined
Very experienced	Important	Really good	Brilliant
Some were not that enthusiastic or engaging	They are doing a good job	They are very important in society	Important
They are good	Very interesting	Very helpful	We need them
Nice people	Awesome	Do an important job	Fun and interesting
They're fulfilling people	Very inspiring	Great	Good people

Words and phrases used by the students to describe the Conference

The stalls at the end were fun	I liked the interactive science	Very, very enjoyable from start to finish	Fun filled activity day with loads of freebies
Good event	Amazing	Very informative	Very interesting
Today's event was really good	Very informative	It was brilliant	Rooms too small
Good fun	Thank you	Interesting	Great
Have a wider selection of healthcare professions	Lectures very interesting and gripping	It was good but last year the venue was better	Was very interesting to help me make a decision on my career
I really enjoyed it	Fun	Excellent	I liked all the free stuff
Lunch was not organised	Helpful, I would recommend to friends	Liked the free stuff and the demos	Best experience with science so far
I really enjoyed the lecture about swine flu.	Very useful and interesting. Brilliant event	I enjoyed it a lot as it made me think about the area of science I wanted to go into	It was excellent especially the heart monitor
Good event would attend again	Should happen more often	Brilliant event	Perfect
Thank you for a brilliant time	I enjoyed it	Loved it, very exciting	It was great, thank you

Evaluation Report

Teacher Evaluations

Of the teachers attending, 10 completed the evaluation forms. All found the conference useful to them and their students. Six teachers had brought students to previous conferences and these had influenced their students' subject choices, career aspirations and motivation to study science. They said that following the conferences students were choosing to study science A levels and they knew of several incidences where the conferences had lead students to choose to become microbiologists, molecular geneticists, biomedical scientists, and sports nutritionists. Only 4 teachers had used the conference website, but 6 said that the virtual laboratory would be good for their lesson plans. The most beneficial parts were the interaction with real scientists, finding out the many different careers and the hands-on activities.

Teacher Comments about the conference

Most benefit	Least benefit	Could improve
Range of careers on offer and professionals on hand to speak about their daily work	Nothing, all great	Fewer participants or a larger venue
Awareness of career choices	What is science?	It is more relevant to 16+ group
Very, very useful and refreshing	The lecture format of one of the stops made it hard for my age group to be engaged, more hands on examples would be good, or offer talk.	Would like more university type lectures
Interactive sessions	The short time at the interactive booths caused us to miss some of the lectures	Somewhere to sit and eat lunch
Career conversations with scientists	Possibly the activity with the boxes/design of familiar objects. Useful resource to use back in the classroom	Split some sections into AS and BTEC levels
Meeting science professionals	Students would have liked more time on the interactive stands	Venue was good but a bit cramped
Finding out about different branches of science		Stagger the stops, interactive - not interactive
Hands on activities and real life scientists		It was wonderful
The professors future science award		More interactive stands as you have had in the past.

Evaluation Report

Volunteer Evaluations

Evaluation forms were received from 22 volunteers. The volunteers enjoyed the event and felt that it was worthwhile. They were all keen to be involved in such events and in promoting science. Many signed up to become Ambassadors.

Volunteer comments about the conference

General	Enjoyed	Improve
Has improved my presentation and teaching skills which I can utilise for my job	The children and their opinions	Nothing
Very enjoyable, nice venue, enthusiastic and friendly students, very organised	Direct interaction with kids	More information/guidance about car parking facilities
Changing the opinion of nursing by helping show the science in it. Seeing the children get excited about the skills shown and getting them to understand what nursing involves.	Atmosphere and student interaction	Found the venue lovely, but quite cramped at the back of the room and the student flow was quite impaired to us. Much better in the afternoon, thank you for keeping the students flowing through, now think that the venue is much better.
Enjoyable event with the chance to display your chosen profession and encourage children to be interested in science generally.	Meeting the children from different backgrounds together with meeting up with colleagues.	Feed students to all rooms
Get staff involved in taking science out of the lab and back to roots	I enjoyed listening to the views of the enthusiastic students.	Seem to have less people on first floor, perhaps reduce group numbers?
A good interactive experience to see the children as scientists for the future and hope that we were able to give them a quick insight to immunology and what it entails.	Very rewarding teaching children, hopefully stimulating interest in medical careers	More children
Interacted with young adults who are willing to learn basic life support skills enhancing their knowledge	Interacting and answering questions from students	Combine the sciences that are similar
Nice facilities, may need to rotate students more evenly	Excellent students	More space
Interesting and insightful	The interest of the kids	No interruptions
It allowed us to explore needs of teachers, discover what students want and share our resources and also network with other societies and organisations.	Students were great	Could tie up with Immunology table
Such a great time working with friends and taking science to young minds. Great day overall	Meeting students and explaining what we do	Keep this venue

Volunteer comments about the conference (continued)

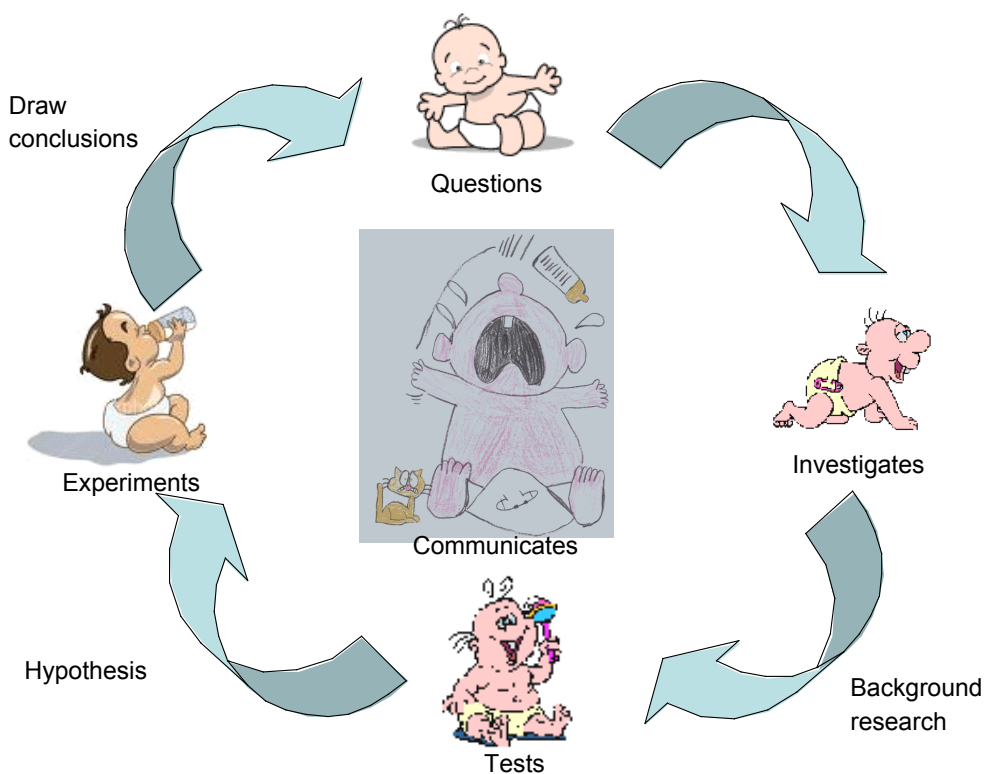
General	Enjoyed	Improve
More awareness of public perception of science	Fun to interact with the kids and teachers	Limit teacher interaction
Making the students know about gene therapy and stem cells as an opportunity in some treatments	Interacting with students	Further Involvement: Some presentations during the year
Need more space	Working with year 12	2- 3 events per year
Feedback from students, ideas from students for future events, learning from other scientific fields	Talking to students who demonstrate an interest in the subject	2 sessions per year would be brilliant on authorisation from my lab manager. This was a very rewarding experience thank you.
Kids don't know where we come from	Kids interest	2 sessions per year
Meeting fellow colleagues and exchanging experiences	Collaboration between exhibitors and interaction of students	2/4 year
	Yes enjoyed the day	2 sessions per year

Evaluation Report

Overall conclusion

This is a worthwhile event which is much enjoyed by the students, teachers and volunteers. The students and teachers enjoyed the range of activities which they found engaging, educational and encouraged them to study science. Of particular benefit was meeting scientists, particularly being able to discuss science, what the different scientific jobs entailed, what qualifications are required and the routes of entry into the different professions. Being able to showcase many different scientific careers was seen as another benefit and the organisers are encouraged to expand this aspect. This was the 7th annual conference and teachers reported that these events are influencing the career aspirations and choices of their students, encourage their students to study science, and encourage the take-up of science A levels. The Teachers also benefited from the conferences which re-ignite their passion for science, refresh their knowledge, and inform them about the many different careers in science. The Teachers enjoyed meeting the volunteer scientists. The Volunteer Scientists enjoyed meeting the students, having the opportunity to talk about their science, and interacting with the other volunteers. The volunteers are keen to be involved in other such events.

End note – The Scientific Method: Child’s play



Don Henderson

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Founder & Chairman of the Organising Committee

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