



Welcome

Welcome to the eighth issue of our Newsletter. This issue is devoted entirely to MathsCity, the major new production from MathsWorldUK.



We are on our way with MathsCity!



MathsCity, our exciting new space, is the initial step towards our ultimate aim of establishing the first Discovery Centre in the United Kingdom devoted solely to Mathematics. This will bring the UK in line with the USA, Brazil, France, Spain, Germany, India, Italy, Korea, China, and many other countries around the world. Initial responses have been enthusiastic:

"I thought it was great and I love the idea behind it. We are finding that nowadays pupils arrive in year 7 and have already made their minds up about whether they like maths or not, or whether they are 'good' at maths or not. This fixed mind-set is a big barrier to learning and, unfortunately, we don't necessarily have the time to be able to play with maths as much as we should. Seeing things like the activities at MathsCity and linking it with the curriculum would definitely provide that added dimension." **Year 7 teacher**



"Not knowing how far we'd come [from Nottingham], the lady who greeted us on arrival told us proudly how lucky we are to have the one-of-a-kind MathsCity in Leeds, and when we said goodbye, she told my [six-year-old] son to tell all his friends to come down. I think MathsCity does an amazing job at its intended mission and provides an entertaining space with a positive view of maths for people coming into Leeds to shop ...

Is it trying to be a national maths centre? Not yet. Does it work well as a playful discovery centre? Definitely. My interest in mathematics communication and my son's general enthusiasm for train rides and maths carried us through a happy day trip to Leeds. I feel I should acknowledge how hard it is to try to launch something like this during the COVID pandemic, where the need to minimize the spread of the virus and changing Government restrictions interact with the desire to get people through the door and demonstrate the viability of the idea. If you're a reader of this blog, you might also go the extra mile to visit, or certainly please do your best to support this fledgling initiative by telling people local to Leeds about it!"

Extract from an article in The Aperiodical by Peter Rowlett.



Photos by Peter Rowlett

MathsCity is located in Trinity Leeds, the main and most popular shopping mall within a few minutes' walk from Leeds Station. It is a thrilling hands-on, interactive experience devoted entirely to mathematics and its applications. The thirty or so exhibits and puzzles have appeal to all age groups, young and old alike. MathsCity opened its doors to the public early in October. By the end of the month 1760 visitors had each spent between one and two happy hours exploring our exhibits.

MathsCity has been made possible with generous assistance from the Leeds BID (Business Improvement District) and Trinity Leeds and the sponsors and donors listed on the final page below. The installation has been designed by the well-known Yorkshire design studios, WorkHaus.

Due to health and safety issues and Covid restrictions, tickets must be pre-booked online at mathscity.co.uk and we have to limit the number of visitors at any one time. Visitors may expect to spend about an hour at the exhibition. School and family visits are welcome; special booking rates apply.

More details of MathsCity can be found under the 'MathsCity' tab on the MathsWorldUK Home page, as well as on its own dedicated website mathscity.co.uk



More quotes from visitors to MathsCity

The following is feedback on MathsCity that has been posted on social media, either in tagged posts, comments, or reviews:

"We decided on the spur of the moment to book one last thing during the October half-term and we are so pleased we did. The staff were helpful, friendly and really kind. They took notice of the interests of them both. The children found it easy to talk to any of them and ask any questions they had. We spent over an hour and twenty minutes there and it was talked about all day. Would recommend it to anyone who wants to try something different. Hopefully this can become a bigger space one day!"

"Would highly recommend MathsCity - in particular, it is a great place to visit with people of all different ages. We loved it as adults, but we could see everyone from teenagers to toddlers having a brilliant time. A perfect choice if you have lots of different age groups in your party. We will definitely be returning soon!"

"Absolutely amazing place, would highly recommend to all ages."

"Amazing few hours out, suitable for all. Great learning experience."

"Wow!! What a place MathsCity is, in Trinity Leeds. We went today and spent 90 minutes doing all sorts of puzzles and learning through play. Our children were in their element and found it mentally stimulating, and whilst some bits were too hard, there was plenty to keep them entertained. There are around 30 puzzles and experiments for big and old to play on and the best thing is that if you don't have a child and/or you don't want to bring them, it is suitable for grownups too!!"



"We had the most brilliant time – as one girl put it, 'It was amazing, and I've asked my parents to take me back there'. The exhibits at MathsCity are wide-ranging and they are accessible for everyone, irrespective of their mathematical ability.

"The pupils were fully engaged and shared in a brilliant activity: Leonardo's Dome. Set up by the very helpful staff, the pupils very rapidly built up the dome. It was mesmerizing to see it progress and they loved climbing inside it at the end! I thoroughly recommend MathsCity to anyone who likes to solve puzzles and problems, irrespective of their age."

Head of Mathematics at The Grammar School at Leeds

"We had a great time at MathsCity this morning and it's definitely worth a little visit if you have 'school-aged children' who like solving puzzles and stem activities. Such a fab concept to engage little people with maths and grateful to have it so close to home! 👍 My two boys are aged 10 and 8 and we all really enjoyed exploring each activity. I loved seeing their determination to succeed and witnessed a few 'wow' moments."

"What an amazing place and such a brilliant idea. We spent ages here, the perfect example of how learning can be fun."

Meet the Team

We have appointed Linda Rosen as Manager of MathsCity. Linda is a Mathematics graduate and has extensive experience in running outreach groups and engaging with local communities, in particular exploring and highlighting their ethnic heritages. Also, we have appointed several enthusiastic enablers to assist visitors at MathsCity, and we have a dedicated team of student and retired volunteers to help at peak periods.



Linda writes *"Maths was my favourite subject at school so naturally I went on to further study at university. At Southampton University my particular interests were in Pure Mathematics, quantum Mechanics and Philosophy of Science. I then worked for a few years at the RSA and City & Guilds organising subject panels for maths and science exams.*

Following two visits to China in the 1980's, I became absorbed in Chinese language and culture. Nevertheless, I have retained my interest in maths, games and puzzles, especially variants of Sudoku. I hope being Manager of MathsCity will bring out the best of my talents.

As a musical mathematician (I play the piano and sing in a choir) I am intrigued by these connections. I am sure that we can put together a concert band from our team."

She has written this about MathsCity:

"MathsCity has been open for a month and the feedback has been extremely positive. People of all ages have said how much they enjoyed being here, and are passing the word to friends, family and teachers.

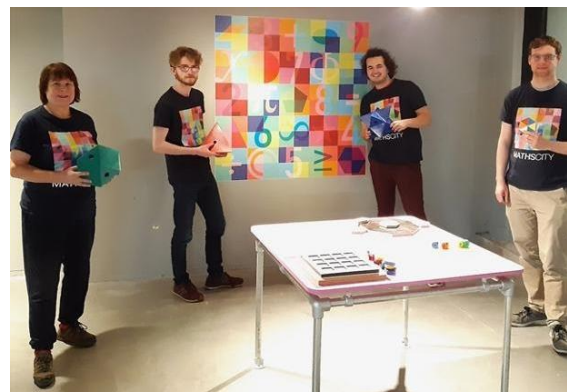


Our most popular exhibits are the bubble chamber, giant kaleidoscope, spinning parabola, Genius Squares, Soma cube, ball pyramid and the fiendishly difficult Letter T.

Pupils from three Leeds schools - two Year 8 and one year 5 class - have been delighted with the MathsCity experience. We can also offer them an exciting and inclusive activity such as building a giant Leonardo Dome.

During half-term we organised a hands-on activity each day exploring different areas of maths such as 3-D structures, symmetry, patterns and mathematical magic!

In November we hosted a school from Middlesbrough and two groups of home educators. We have had enquiries from schools as far afield as Liverpool, Manchester, Preston and Doncaster as well as youth and community groups. We are exploring the possibility of offering the space to students to demonstrate their research projects during group visits, and to artists whose work reflects scientific themes. The future is indeed bright!"



L-R: Linda Rosen, Louis Chicot, Max Hughes and Gerry O'Reilly

Here is a rogues' gallery of our enablers and volunteers, with, in some cases, some additional words provided by themselves:



Originally from Lancashire, Gerry O'Reilly recently completed his PhD in algebra at the University of St Andrews. He has now moved back south of the border, and as well as his Maths Enabler role, he works as a tutorial assistant at University of Leeds and a tutor for the Open University. Outside of work, Gerry enjoys making music and plays the French horn.

Caroline Ainslie is an Enabler. She has been making maths fun since 2005, with workshops and shows. She is an Electronic Engineer and will go to any lengths to encourage everyone to love maths, including climbing Mount Kilimanjaro and becoming a Guinness World Record holder.



Merin Joseph is an Enabler. She is an early career maths enthusiast with an extra interest in shapes and patterns. She is pursuing a PhD in University of Leeds, focusing on aperiodic tiling.



"Hey, I'm Max (Hughes)! I am one of the Enablers here at MathsCity, alongside studying for my Masters in Mathematics at the University of Leeds. When not exploring the wonderful world of mathematics, I delve into all things geeky, from films and board games to running my university's graphic novels and comics society. My favourite exhibit is the ball pyramid due to its counter-intuitive nature and applications in sphere packing."



Jason Anquandah, Enabler

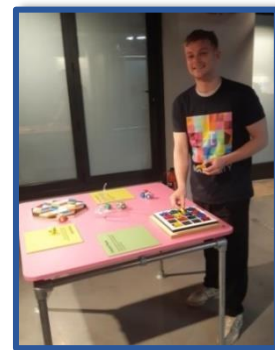
"I'm Louis, a former student of Mathematics from Newcastle University now studying for a Masters in Computer Science at Manchester Metropolitan University. I have always been interested in maths outreach, having previously done such work at the East Gipton together centre, and I see MathsCity as a great way to show people the fun you can have with maths."



Louis Chicot, Enabler



Haleema Ali is a 17-year-old student Enabler, with a great passion for maths. She is eager to explore different concepts and to encourage others to discover maths in different ways, whether through challenging puzzles or exciting competitions.



Daniel Williams, Volunteer

Dr Alan Slomson, Volunteer, taught mathematics at the University of Leeds for forty years. A founder member of the United Kingdom Mathematics Trust, he is still involved in its many enrichment activities for school pupils.



Francesco Gallinaro, Volunteer

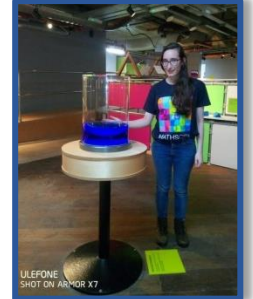


Wanying Liu, Volunteer

"Here is my exhibition photo. I always engage visitors to play the Genius Square. I think this puzzle can make both kids and parents feel involved. Not only can it develop kids' sequencing ability, but it also develops their spatial awareness, speed of thought and strategy planning."



Daniella Bullamore,
Volunteer



Joanna Tumelty,
Volunteer



Official opening of MathsCity (grown-ups can have fun too!)

On the evening of the 18th of November 2021, leading mathematicians, Leeds City council members, and key professionals from tourist attractions and universities across the country were just some of the many guests that attended the bustling launch party for MathsCity, the first step along the route to establish the UK's first maths discovery centre.

Launched at a time when there is a national skills shortage, declining numbers of students choosing maths at university, and vital educational catch-up required for school children who missed out during the Covid pandemic, the value and significance of MathsCity is huge. One of its key aims is to change the discourse about maths in the UK.

The launch was an opportunity to show donors, supporters, and future investors why the innovative new attraction that opened its doors in Leeds City Centre last month is so important for the future.



Katie Chicot welcoming guests at the Official Launch of MathsCity

Dr Katie Chicot, our MathsWorldUK CEO, welcomed the guests with an inspiring speech that declared, “MathsCity is an intervention to change perceptions around mathematics. Our aim is to produce a cultural change to common attitudes towards maths in this country so that mathematics is no longer seen as boring, difficult and irrelevant. We aim to show the many interesting faces of mathematics. It is critical for all areas of research and development, and it appears in many areas of life and careers – from areas as diverse as signal processing, medical research into Parkinson’s Disease and the search for new planetary systems.”

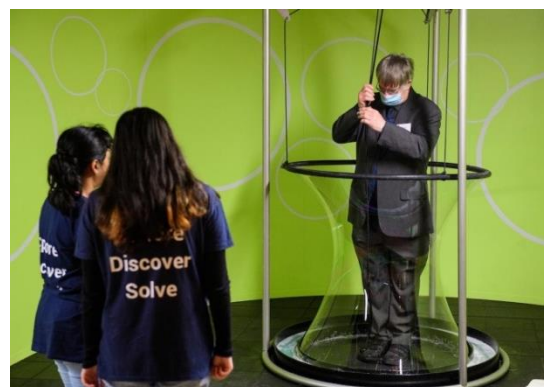
Already the number of visitors since we opened our doors early in October has exceeded expectations.

Katie thanked the many sponsors who have enabled the centre to be launched, especially Leeds BID, CIVA and Trinity Leeds.

The audience then enjoyed Dr Colin Wright’s unique and scintillating talk, and practical demonstration of the mathematics of juggling.



Demonstration by Colin Wright



Inside a giant soap bubble

With plenty of fine food and wine to savour, the enthused audience then grabbed the opportunity to experience the activities for themselves, by climbing inside the venue’s giant bubble and kaleidoscope, experimenting with shapes inside the laser ring of fire, and cracking a variety of fun puzzle challenges. Many of these proved surprisingly challenging.



Head of Culture Programmes at Leeds City Council, Pam Johnson was among the special guests and said: "The World Economic Forum still says that creativity is a top-three skill for employability and it's crucial for children to get into it. There is great creativity in maths and this discovery centre will be part of bringing creativity together with literacy and numeracy."

Joined by Belinda Eldridge, Head of Visitor Economy at the Leeds City Council, Belinda added: "I'm delighted MathsCity has come to Leeds to explore that maths is everywhere, not just in the classroom. MathsCity fits well with Leeds' investment programme to generate thousands of jobs in the city. It's important for the future and we want to appeal cross-sector to the city to ensure that everyone has an equal chance to access maths."



Dr Katie Chicot with Belinda Eldridge and Pam Johnson

Sarah Chamings of Leeds for Learning was also in agreement, saying: "MathsCity is key for closing the numeracy gap for disadvantaged children and also the gender gap. We want to create a child-friendly city - the best city for children to live in - and create people that are ready for the world by engaging them with the world of maths. And not just numeracy, engage them with thinking. MathsCity is going to be vital for parents, children and teachers."

Among the many visitors from educational establishments across the country was Sue Woodhouse, the Principal at The Grammar School at Leeds, who supports the mission of MathsCity: "The world is going to need more problem solvers in the future - and where better to start than MathsCity? We need young people to take an interest at an early age, to prepare for their future and ours."

Professor Kurt Langfeld, Head of School of Mathematics, University of Leeds said: "I think that this is an excellent endeavour. There are lots of things coming together and this is part of the next stage for Leeds in the government's initiative to boost the economy. Outreach starts early and MathsCity has an important role to play in closing the gender gap in mathematics by instigating an early interest in maths. And early interest is vital for the future."

Thanks to significant investment from Leeds BID, CIVA, and Trinity Leeds, MathsCity has a home inside the centre's most popular shopping mall for at least the next twelve months, but the ultimate mission is to create a permanent world-class visitor attraction with potentially multiple smaller venues across the UK.

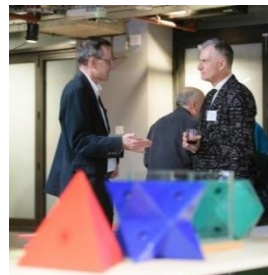
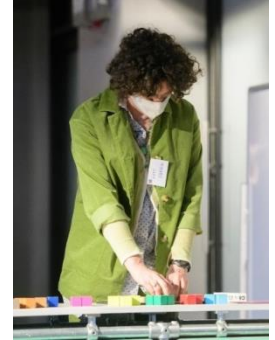
To achieve this, MathsWorldUK is now appealing for significant additional funding and sponsorship. To support this project, donors can contact the charity by emailing mathscity@mathsworlduk.com.



We end this issue with a medley of photographs from The Launch.



Members of the MathsWorldUK Committee and Support Team



Prof Margaret Brown
giving the closing address



With special thanks to our donors and sponsors

