

STEM Day at the Queen Eleanor's Church of England Junior School

Two members of the CoGDeV Lab attended a STEM Day at a local junior school



March 14th is recognized worldwide as Pi Day an annual celebration of the mathematical constant π (Pi), whose numerical representation starts as 3.14. Pi is the ratio of a circle's circumference to its diameter and plays a crucial role in various fields of Science, Technology, Engineering and Mathematics (STEM). Its application extends far beyond geometry, making it a central concept in many STEM disciplines.

It is fitting then, that on Friday 14th March 2025 Rachel Baxter (Project Officer) and Camilla Orefice (Visiting Postgraduate Researcher) took part in the STEM Inspiration Day at Queen Eleanor's Church of England Junior School to help pupils understand how STEM subjects are applied in various careers.

Queen Eleanor's is a mainstream junior school close to the University campus with 360 children ranging in age from 7 to 11 yrs old. The event was set up as a careers fair with 20+ stalls for the children to attend. The children were grouped by Year group and each year had 30 minutes to browse the stalls that they wanted. All ages of children showed great interest in the activities offered by the CoGDeV Lab members, who

brought along examples of real research instruments including block construction tasks and spatial puzzles. The children asked lots of questions about the activities and about careers in STEM and we enjoyed talking about what inspired us both into the field of Science and the most rewarding and challenging aspects of our work. The teachers and teaching assistants who attended were equally engaged and interested in the resources on offer and the findings of CoGDeV Lab's research. We explained how children's spatial reasoning skills are strongly related to their maths abilities and outcomes. How the ability to visualise and manipulate objects in space helps children to solve geometry problems, as well as supporting their mathematics skills, such as understanding how symbols are arranged in equations, solving missing number equations by mentally rearranging the locations of the numbers, and solving addition problems by imagining two sets of dots coming together.

All the children participated enthusiastically in the activities and, for many of them, engaging in construction and puzzle solving served as an icebreaker to allow them to feel comfortable enough to ask questions about working at the University and doing research.

We thoroughly enjoyed our time at Queen Eleanor's and sincerely hope that this experience has helped inspire the pupils and foster their passion and motivation for STEM subjects. We look forward to future opportunities to engage with schools in both our local area and further afield.

