

Maths Champions Case Study

Champion: Olivia Gedney

Setting: Benton Dene Primary School

INTENT
Introduction <i>A little bit about your setting, why you joined the programme and what you wanted to achieve from it.</i>
This Nursery is part of a large primary school. It is a school nursery which has 15 hour and 30 hour children who attend all 5 days. I joined the Maths Champions programme to improve my own knowledge and teaching of maths. I am also new to being EYFS Maths Lead and wanted to ensure I had the knowledge to lead the subject and deliver sessions to the staff in Nursery. Maths has been quite strong in our setting but we wanted to implement more maths outdoors in a fun and engaging way. Problem solving has also been a whole school focus and I wanted some more knowledge about incorporating this in Nursery. We have a lot of new staff members in Nursery also and improving their knowledge was a key aim.
How did you decide what to do? <i>What did the audits highlight, what changes did you consider and how did you identify the change/s to be made? Did the changes you considered come from the online training or resources etc?</i>
We observed the children to assess how well maths was embedded within the continuous provision, not just within the designated maths area. While many adult-led activities were well planned, we found that opportunities for free exploration of maths in other areas were limited. To further understand this, we audited staff to gauge their confidence in delivering maths across the provision. As part of our commitment to improving maths learning, both the Maths Champion and Deputy Maths Champions completed the training courses to upskill ourselves. Additionally, we aimed to enhance the range of maths opportunities available in the outdoor area. To support this, we reviewed our existing resources and also attended an optional outdoor maths course offered through the programme.
IMPLEMENTATION
What did you change or implement? <i>Outline a positive change, or changes, that have taken place as a result of being part of the Maths Champions programme. How did you plan for it and what did you do? How did you plan to assess the benefit of the change on staff practice and children's experiences?</i>
We placed a strong focus on tidy-up time as a way to help children understand maths in everyday life. To support this, we introduced fives/tens frames and numerals beside each small world area. For example, we displayed three dots in a fives frame alongside the numeral 3, providing multiple representations of number. This ensured accessibility for all children, regardless of ability. This approach was highly effective, as I observed children using mathematical language during play. For instance, when there were only two farm animals instead of three, children naturally identified the missing one, saying they needed "one more," which supported their composition skills. Through these changes, the children are increasingly recognising the importance of maths in daily activities. Additionally, we introduced Numicon and numeral pen pots, which further reinforced counting skills, number composition, and number recognition. We focused on supporting staff in challenging the more able children to reach their full potential. I led several staff meetings to help newer staff understand the end goals for Nursery and Reception, ensuring they had a clear vision of how learning can progress. During these discussions, we identified children who would benefit from extra challenge and explored ways to extend their learning effectively. I shared a range of resources available in the development zone and guided staff on using questioning techniques and concrete materials to support and extend

learning at different levels. It was particularly rewarding to observe a lovely interaction between a more able child and a TA. The TA, who was new to Nursery, had initially lacked confidence at the start of the year but has since grown in their role. During the activity, they skilfully used open-ended questions, which encouraged extended mathematical discussions, reasoning, and problem-solving - key next steps in deepening mathematical understanding.

A key aim was to extend problem-solving skills, aligning with our whole-school focus on this area. To support this, I led training sessions to provide examples of effective problem-solving questions and demonstrate what this looks like in EYFS. We introduced a problem-solving question at the end of each lesson to encourage children to apply their mathematical thinking in different contexts. Additionally, we planned and delivered a dedicated problem-solving morning for Nursery and Reception, providing an opportunity for children to engage in rich mathematical challenges. This event also allowed newer staff to observe how problem-solving can be effectively planned and delivered, further building their confidence and understanding in this area.

IMPACT

The success and benefit of what you did:

For children

What has been the impact of the changes on children's learning and development? How has being involved in the programme made a difference for children in your nursery?

This programme has had a huge impact on both staff and children's confidence in maths. Staff are now able to plan and deliver engaging, high-quality maths opportunities both indoors and outdoors, ensuring that maths is embedded throughout the learning environment rather than being confined to one area. As a result, a strong mathematical classroom culture has been created, helping children understand the importance of maths and how it is used in everyday life. The professional development of staff has been instrumental in this success, equipping them with the skills and knowledge to extend children's learning effectively. This has led to significant progress for all children, as every staff member is now confident in supporting and challenging their mathematical thinking. Ultimately, every child has benefitted from this programme, making maths more accessible, meaningful, and enjoyable.

For families

What has been the impact of the changes on families? How has being involved in the programme made a difference for families whose children attend your nursery?

I have created simple weekly maths home-learning activities, providing parents with ideas on how to support their children's mathematical development at home. These activities align with the core learning we have covered as part of the programme, reinforcing key concepts in a fun and accessible way. This approach has had a significant impact, as parents have shared positive feedback, with many expressing that they hadn't realised how easy and enjoyable it can be to incorporate maths into everyday activities at home. By bridging the gap between school and home, these activities have helped to build parents' confidence in supporting their children's learning while fostering a positive attitude towards maths.

For staff

How has being involved in the programme made a difference to your staff team/individual practitioners? What has been the impact on their practice?

Staff have expressed increased confidence in delivering maths activities, using effective questioning techniques, and providing appropriate challenge for the children. They have also become more aware of how maths can be embedded across all areas of learning, including tidy-up time, snack time, and outdoor play. I observed a wonderful interaction between a TA and a child who required more support; the child recognised that there should be three animals but only saw two. With guidance from the staff member, they were able to understand that one more was needed, demonstrating developing number composition skills. Staff have also noted that they feel more confident in using and modelling the correct mathematical language, which has had a positive impact on the children's learning. Overall, staff confidence has significantly improved, and as a result, children have made great progress in their mathematical understanding.

For the Maths Champion and Deputy Maths Champion

How has the programme helped you as Maths Champion and Deputy Maths Champion to develop your own practice? What has been the impact on your practice?

As the Maths Champion, this programme has significantly boosted my confidence in leading maths across EYFS. Now in my fourth year of teaching, I began this course during my first year as the EYFS Maths Lead, and it has been instrumental in developing my leadership skills. The coaching module, in particular, was incredibly valuable, as it helped me understand how best to support, guide, and coach staff effectively. As a result, I have gained the confidence to present key information clearly and explain the changes we have been implementing with conviction. When staff asked questions about why we were making these changes and their importance, I was able to respond with confidence, reinforcing the value of our approach and ensuring consistency across the team.

For the setting

What has been the impact on your environment?

The impact on the setting has been highly positive, with noticeable improvements in both staff confidence and student engagement in maths. As staff have become more confident in their teaching, the quality of maths instruction has improved significantly, leading to a positive impact on data and overall attainment. The learning environment is now more maths-focused, fostering a strong culture where mathematical thinking is embedded in daily activities. This shift has created an atmosphere where children feel happy, enthusiastic, and eager to engage with maths. They now approach mathematical tasks with excitement and enjoy participating in activities, making learning both effective and enjoyable.

Next steps

What further improvements might you make and how will you continue to monitor the quality of maths opportunities within the setting?

The next steps will involve engaging with the Reception staff as part of my EYFS lead role to share key insights and strategies on embedding effective maths teaching within the early years setting. By collaborating with the team, we can ensure that the successful approaches we have developed are consistently applied in Reception, creating a strong foundation for mathematical learning. We will continue to build on our progress, maintaining high-quality teaching and learning practices. Additionally, any new staff who join the team will be supported with training to uphold these standards. Ongoing professional development, including training from the Maths Champion, will further reinforce our commitment to delivering high-quality maths education and sustaining our positive impact.