

## Maths Champions Case Study

**Champion: Claire Roper**

**Setting: Penketh South Primary School**

| INTENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| <p><b>Introduction</b><br/><i>A little bit about your setting, why you joined the programme and what you wanted to achieve from it.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <p>The nursery class is part of a primary school setting. Our nursery takes children from years two to five, and we are open during school hours, term time only. The nursery class shares the outdoor area with the reception class. We attend forest school for 1 day per week. We have a mixture of funded children who attend between 15 and 30 hours per week. We also offer some places for paid 2-year-olds and for additional hours for three- and four-year-olds to 'top up' their funded hours.</p> <p>I am the EYFS Leader and as part of the role, I lead in supporting and developing the quality of provision across the EYFS setting. My role is also to lead on staff CPD and there was recognition that the staff felt less confident with the teaching of mathematics following the changes in the new EYFs curriculum. I was nominated as Maths Champion and my colleague was nominated as the Deputy Maths Champion. The Maths Champions programme was an excellent opportunity for our nursery to take part in and we felt that it would have a positive impact on the staff as well as the children and their families.</p>                                                                                                                                                                                         |
| <p><b>How did you decide what to do?</b><br/><i>What did the audits highlight, what changes did you consider and how did you identify the change/s to be made?<br/>Did the changes you considered come from the online training or resources etc?</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <p>I completed the on-line training courses. I shared the essential knowledge from some of these courses with the rest of the staff team and also used some of the resources to hand out to the staff. The courses were extremely informative and introduced us to a wider range of maths concepts and the resources of the maths trajectories. We enjoyed the webinars that were available to either watch live or as a recording. The whole staff team and I were able to attend some of these sessions and we gained some great practical ideas to implement. I then carried out the staff confidence and learning environment audits. One of the things highlighted for us was that we needed to review some of the resources we had available across the setting and that in some areas staff knowledge / confidence was weaker. This was particularly true of a more inexperienced member of staff who had joined the team full time in September. Through the use of the resources, disseminated staff training and the webinars we were able to upskill the member of staff so that she now feels mathematically confident when moving the children on during her interactions in play. She also feels more confident to assess the level the children are working at and share her findings with the rest of the staff team.</p> |
| IMPLEMENTATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <p><b>What did you change or implement?</b><br/><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></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <p>As soon as we completed the action plan stage for the learning environment, we were immediately able to make some quick fixes. This included the way in which we utilised the loose parts area – adding some five frames, number log slices, number tracks and scales. We also used an under used table in the classroom to ensure that the children had daily access to a range of puzzles – we made sure that these were accessible to the different age groups across the setting. One of our main actions was to look at the outdoor area and develop a space dedicated to maths. We took part in the webinar and spent some time researching different resources and ideas. We met as whole EYFS team as our outdoor area is for 2–5-year-olds and unpicked the curriculum using the learning trajectory resources to think about what resources would be beneficial to move the children's learning and</p>                                                                                                                                                                                                                                                                                                                                                                                                                      |

development on. We decided to start with adding a number line, making a large-scale clock, adding an outdoor thermometer, a large 10 bead string, hand scales, books and a chalkboard. We then added a small range of loose parts organised into baskets and keeping with our natural theme added some logs slices with numbers on and large log slices with images and vocabulary on. The children were encouraged to access the area independently. We then observed the children to see what happened. Staff spent dedicated time supporting children who were very curious about the new resources. Staff explained and described what the resources were, and they modelled using them in play, focussing on the use of mathematical language. We observed the children engaging in a range of activities including using the rainbow sticks to make shapes, ordering the numbers on the slices from 1 to 20, weighing different objects, making patterns with the loose parts, writing and numbers and number sentences on the chalkboard, sharing mathematically themed books, counting objects and matching numerals and measuring.

## 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?*

The Maths Champions programme has led us to make some changes to our environment and the resources available to children. Our main environmental development was in the outdoor area, where we created a specific maths area and purchased / created some resources. Children's engagement in maths outdoors has increased massively through the introduction of the outdoor maths area and equipment. We have seen an increase in open ended play and an increased use of mathematical language when children are engaged in their play. #Some of the children who would not naturally engage in maths related activities indoors have been curious by the resources on offer outdoors and have engaged in the area. As the adults work within the provision area, the children are continuing to build confidence to use the resources and develop their mathematical knowledge.

#### 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?*

Parents have attended parent's evenings and have commented that they feel the staff know their children well and could talk about the progress they have made. We have supported our families in discussions about how they can support their child at home, and we have provided weekly reports on google classroom to share what we have been learning through the week. This has also given us the opportunity to explain how they can support further at home by providing specific activities or asking questions. Parents have engaged with this and have posted photos / comments from the children about their learning at home. We have included these in the children's Learning Journey books.

#### 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?*

Following the staff audit, the staff feel they have benefitted from the training I have shared with them; especially in the areas in which they felt less confident in such as creating developmentally appropriate resources, assessing and planning to develop children's understanding and talking to parents to support learning at home. Through observations of the staff in practice I have watched them playing and working with the children using appropriate questioning where required to move the children's learning on or deepen their understanding of a concept. Where staff have been less confident, I have acted as a good role model to demonstrate how to play an active role in supporting and enhancing children's learning by asking the correct questions and using everyday experiences to use maths language. Staff feel that not only has their knowledge increased but, they now feel confident to suggest and carrying out engaging activities through the children's own interests and at an appropriate level.

#### 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 Maths Champion and deputy Maths Champion, the programme has given us access to a range of CPD opportunities which have inspired us and increased our knowledge. It was helpful having resources available and phone / email support from to share ideas with and keeping the project on track. We enjoyed the webinar training, giving lots of points for professional discussion as well as practical ideas to use within the setting. This helped us develop a vision for the setting, the children, the staff and our families.

### **For the setting**

*What has been the impact on your environment?*

Maths has become more prominent in our nursery since being involved in the Maths Champions programme and the children are benefitting from this, which can be seen by observing them and by their attainment. The introduction of the contextual resources in the role play area as well as the developed outdoor area has had a big impact on children's play and learning. There are lots of new resources available to support maths across the whole nursery and in fact the whole EYFS now, such as numbers lines, measuring tapes, timers, clocks, tills, scales, five frames etc. These have all come about through our audit of the environment and we will continue to look for new and exciting ways that the environment can support children's maths learning.

### **Next steps**

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

We plan to collect / make / purchase resources for our outdoor area – we have a wish list and are now working towards getting everything we want on it. We plan to continue to develop parental engagement by working closely with the maths leaders in the school. We are currently in the process of creating a parental workshop and resources that can be shared on the Google Classroom platform as well as on the school website.

Thank you for taking part in the Maths Champions programme.