

Case study:

Outdoor Mathematics



National Day Nurseries Association

Name of setting: Penny Bridge Nursery

Date submitted: July 2019

Information supplied by: Shannon Curwen (Maths Champion)

Title: Outdoor Mathematics

Key points of your Maths Champions improvements

- Better understanding of how to implement mathematics into the setting.
- Being able to develop and help children thrive within mathematics e.g. problem solving, counting, measuring etc.
- Increasing the confidence within staff to do with helping the children with mathematical problems
- Increase the awareness of number, shape, space and measure between children and staff.
- Involve parents and carers in the overall development of their one child's mathematical skills.
- For the children within my setting to enjoy mathematical challenges.

Background detail

My setting is based in the North West of the United Kingdom, centred in a small village called Penny Bridge, Greenodd. Penny Bridge Nursery provides outstanding childcare for children aged two, three and four and supporting those children in the school setting due to the close link that we have with the school children, teachers and head teacher. We joined the programme due to myself and the directors of the setting wanting to improve the overall achievement of mathematics within the setting and for the children currently transitioning into Reception. The main aim I had to achieve from the maths champion programme was to be able to relay and direct information to staff to ensure that they had a full understanding of mathematics and how we can all improve the implementation of this for the children who attend our setting and to be able to see a change whether positive or negative within the children's overall mathematic attainment.

Section 2

Highlights and lowlights of the programme so far

Over the past year I have been able to work my way through the maths champion programme and see how I can implement and change mathematics for the children within my setting. I have liaised with staff and managers to be able to understand where their personal key

children are developing within mathematics and understanding how with my new knowledge from the programme how I could develop the children's understanding and development further.

The elements that I have worked with the staff and children have been to add further resources and displays within the setting both indoors and outdoors to encourage the children to point out a shape or recognise a number from displays as well as being able to group natural materials together and divide them by size, shape and weight.

Some barriers that I came up against whilst carrying out the maths champion programme was time management, with myself being a deputy manager of the setting the time that I have is mainly spent in the classroom with the children. With struggling to achieve the desired amount of time to spend on the programme I began to focus on the programme at home where I was able to spend more time thoroughly going through sections. Another struggle was the fact that I am also completing a BA Honours degree in education. With the extra pressure of finishing that the programme was put to the back of my mind whilst I completed this.

The key learning points of the entire programme was that I was able to further my own understanding on mathematics, it has enabled me to think about my own mathematic experiences, it has also prompted me to think about how I was previously engaging with the children when teaching them how to count or measure objects, it enabled me to think about the wording and questions that I used.

Impact of the programme

The overall impact on the outdoor environment has been that children are constantly engrossed by numbers, shapes and measurement. I have created an investigation area with mathematical resources for the children to use throughout their play. The children have been more open to using mathematics within they everyday experiences. The overall development of mathematics within the setting has also developed and had an impact with staff, the staff have been more aware of how they can include mathematics within everyday observations and communication with the children. From comparing February and June's assessment outcomes the children seemed to have improved with their mathematical knowledge, even though this still may be a low attained area the pre-schooler children especially have developed.

Did you achieve what you wanted from the programme? If so, how?

I feel that this programme has helped me gather resources and information about how to implement mathematics into my setting in the correct manner. I feel like now that I have almost finished the online course I will be able to add to staff's knowledge and confidence

within this area. I have been able to see how mathematics can help children much further than just mathematic development.

How has the programme helped you further develop your own practice?

The online course has enabled me to be able to think about my own learning and knowledge within the specific area and help me think about how children perceive mathematics. I feel like I have now be able to make mathematical challenges and problems fun for children within the setting. Within my setting we have added in set circle times for mathematical challenges whether this is finding a shape, counting an amount of objects or counting from a number line, all of these things have ensured that children within the setting have a better understanding of number, shape, space and measure.

Next steps

Within my setting I am hoping to be able to have set days where I am able to take a group of children and present mathematical challenges to them and for them to work within groups to solve the problem. The overall impact of this will be for the children in the setting to communicate with each other, create relationships and overall extend their own knowledge and understanding of mathematics. I am in the process of writing a feedback sheet from the course information to be able to show the ins and outs of the online course so that my staff have a better understanding of what I have been taking part in over the last year. I will also get them to take part in different mathematic challenges for myself to see how they have developed and extended their own knowledge of mathematics.

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