

Maths Champions Case Study

Champion (Deputy): Adèle Younger

Setting: Thomas Bewick C of E 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>
Our school is situated in a former mining town, statistically the town is an area of deprivation, and a high percentage of children access government funded childcare for low income families as well as free school meals. Academically within our school the mathematics subject was recognised as a subject whereby pupils were under achieving. It was thought that the Maths Champions programme would be an opportunity to support and coach the staff within Early Years to embed maths more at a younger age with the aim of increasing children's knowledge and confidence, which will ideally support them as they progress through their school years and hopefully increase children's success rates within the subject over the years. The Nursery Teacher was nominated as Maths Champion and the 2 year provision leader (myself) nominated as the Deputy Maths Champion. Personally I was really anxious when I was told I was going to be signed up to the programme as I consider myself as one of those individuals who has a fear of maths, a fear of teaching it because I'm not confident with it myself. I dreaded the year ahead.
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>
After attending the induction my nerves were still not quite settled. I learned that there would be training modules and webinars as part of the programme. I tried to put aside my worries and get started on the course. As the Nursery and the 2-year provision are in separate buildings, myself and the Maths Champion decided we would split the programme up and each focus on 3 children. That would mean myself as the Deputy would always know what we were doing and where we were at – something which was highlighted as important within the introduction. We decided that we would both do the whole programme even though some parts were optional for the Deputy – again so I was always aware what we were doing without the Maths Champion having to find time to keep updating me herself. I soon started to become aware when I reached the training modules just why this course was important, I really struggled my way through because I had never even heard of words such as 'subitising' and 'cardinality' and I really struggled to get my head around what each aspect of maths was and match them to the correct descriptions in the multi choice questions. I felt out of my depth as the Maths Champion knew what all of this was. Again, we split the audits up the Maths Champion focused on the nursery environment and staff, and I (the Deputy) focused on the 2yr olds environment and staff. It soon became apparent that my team member was on the same lines as me and needed a lot of support. I worried that I had to support her with something I did not know myself, however the coaching module supported me to support her, informing me that I do not need to tell her everything, but direct her to where she can find out things herself. The environment audit showed there was a lot of room for improvement some indoors, but especially outdoors. There was some simple maths embedded within our day to day routine, but there was almost nothing outside. We were not fully utilising the use for maths in areas like the construction area sand the sand/water area and even the

home corner. This was when I started to enjoy the programme. I realised I was going to see changes and was excited about bringing in new ideas. I researched the internet for new ideas, attended the online webinars and realised they gave more ideas and support and were in fact not scary at all. I enjoyed really having a good look at our provision and 'pulling it apart', working out where we were going to go next and plan what we would like to change and implement.

IMPLEMENTATION

What did you change or implement?

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?

When looking on the shelves in the maths area we felt it was quite poor. There seemed to be duplicates of things like shape sorters, too many resources which were possibly overwhelming the children. We started to condense the resources down thinking of minimal but purposeful. We thought about what we could put out to provide a range of learning opportunities. As our provision is inclusive for children with high SEND needs we had to be careful on what we had out. Things like shells and pebbles were recognised as a risk as these children put everything they can into their mouths. Instead we added things like Russian dolls and a selection of wooden puzzles supporting ordering size, learning shapes and balancing weight.

We added maths vocabulary in other areas to support and prompt adults on what kind of language they could use with the children i.e. 'full' and 'empty' in the sand and water area. Each one alongside a photo demonstrating full and empty buckets.

We introduced constructing with various sized junk modelling boxes to the construction area to give the children opportunities to build on a larger scale, and progressed onto the soft play where pieces are very large.

We even added nursery rhymes around our changing area which contain number songs such as '5 little ducks', 'Baa ba black sheep' and '1,2,3,4,5 once I caught a fish alive'. The idea being to prompt staff and sing songs while delivering intimate care to our children.

A dice was added to our existing song bag, as we only focus on 5 nursery rhymes per term, we gave each rhyme a number on the display board accompanied by the same amount of spots. The children roll the dice to see what song we are going to sing, if they roll a 6 they roll again.

The outdoors needed a lot of work we felt there was not much maths opportunity at all. We started off by making a giant abacus on the fence – an opportunity for counting.

My partner - a joiner kindly made and donated a fantastic set of large scales to explore.

I made some recipe cards and added them to the mud kitchen which contain a mixture of numerals and visuals to support all children to be able to follow them.

We pulled together all of the disused old crates, realising their value for large scale constructing with or making obstacle courses with. These are now a popular resource within our garden.

After doing the 10 core activities the parachute is now on our outdoor planning weekly as it is something we did not tend to use before. The children love it and are really getting familiar with how to play the games. They always get excited when we add more than 1 ball!

We added the words 'big', 'medium' and 'small' to the assorted sized cable reel planters – each word also in big, medium or small sized letters – again for mathematical vocabulary in the outdoor area.

Day to day the staff try to be more aware of the importance of maths. The 3 little ducks activity that was put together from the 10 core activities is now a maths resource and we get it out weekly as a whole group activity. Instead of simply singing the song the staff encourage the children to show 3, 2, and 1 fingers, ask children to

subitise asking “how many ducks are left?” and talk the children through how “there were 3 ducks but 1 has swam away now there are 2 ducks”. Aiming to embed composition.

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?

We are seeing a lot more children demonstrate more purposeful maths skills. Some of our 2 year olds are now subitising up to 3 objects – a word I’d never even heard of and a skill I had no idea that 2 year olds should be learning!

Due to a revamp of the maths area the children now have access to a wider selection of resources within the continuous provision. Some children can show you “which side is heaviest?” when exploring scales. We have some children who spend a lot of their time in the Maths area, an area which was not looked at much previously.

We see and hear more maths language outside, the children think they are playing when they explore our new resources. Children exploring our new abacus counting the balls as they move them along.

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?

As part of our annual appraisal, we are asked to choose a task that we will focus on to support the children. This year I have chosen to send home maths themed activities once a month, aiming to find activities and ideas that involve everyday household objects that they should already have in the home for example making patterns with spoons and forks, or counting with tins from the cupboard.

I am also planning to hold a maths themed stay and play session where parents/carers can come in and support their children, understand their development level and follow this on at home. I am hoping this will help the parents to recognise the value of simple things they can do with their child at home to support maths learning.

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?

My colleague feels that we have made a lot of positive changes to our maths area, she makes more of an effort to bring maths into every area of the provision and not just the maths area.

She is now aware what subitising is, and brings it into practice as often as she can.

She is more confident to share ideas such as activities for the weekly planning or what new resources we could source/make.

She makes an effort to carry out maths activities with her key children and assess their abilities/next steps, where as before she was not so confident.

The main thing she has come to understand is the importance of exploring numbers. Supporting our children to understand what 3 is and not just their ability to count in sequence. She now teaches the children what 3 looks like, counting up to 3 objects, subitising up to 3 objects and using their fingers to demonstrate 1,2 and 3.

As our school is part of an academy I have been asked to deliver an information evening to some of the Early Years staff from other settings within our trust. Share ideas and progress we have made with Maths - Something I never thought I would be doing when I first started on this journey!

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?

I feel as though my confidence is increasing all the time, although I still have a lot to learn – the maths champions programme is only the start of my maths journey, and I will continue to implement maths into practice all of the time.

The maths champions programme has been stressful for me at times, however when I look back now everything the programme has asked of me has been purposeful. I leave the programme more knowledgeable in what maths looks like in early years. I feel like I can better support the children and coach any new staff who may join our setting moving forward.

I now understand that maths is as important as stories and songs within early years, and the more confident I am to teach it, the more successful our children are likely to be with learning it.

I have taken away some really useful resources which we will be able to use around our setting. I am thankful to have been given the opportunity to be on this journey and to our Early Years Advisor Paula who has been helpful with feedback, signposting and reassurance when I needed it.

For the setting

What has been the impact on your environment?

We have lots of new resources available to support maths both indoors and outdoors such as scales, stacking toys, shape puzzles and pattern cards. We have also utilised some of the resources we already had better such as the crates that have been lying in our garden un looked at. We have also looked at cost saving resources and collected some junk modelling which support shape, space and measure within the sand/water area and the construction area.

We will continue to look at new and exciting ways that we can deliver maths and keep it interesting and exciting.

Next steps

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

Send home simple maths activities once per month.

Deliver a maths information evening to other Early Years Provisions within the academy.

Paint things like numbers and spots around the outdoor environment.

Continue to research maths in Early Years and keep the environments stimulating.

PHOTO, VIDEO AND CASE STUDY CONSENT FORM

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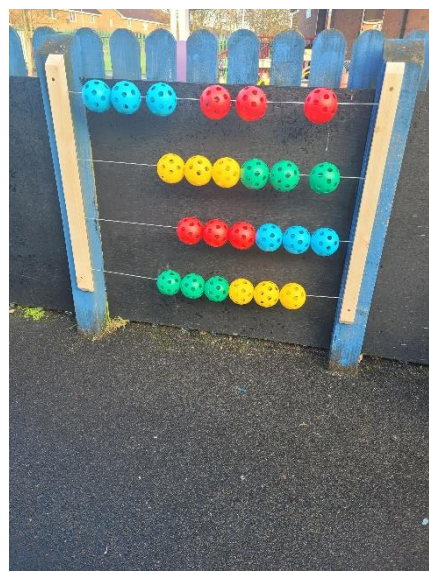
To ensure we comply with the UK Data Protection Act 2018 and the EU General Data Protection Regulation, we need your permission before we can use your case study and any accompanying photos/videos/ that you have sent us.

Nursery name:	Thomas Bewick C of E Primary School
Contact name:	Adèle Younger

Signature: *A Younger*

Date: 14/03/2025

IMAGES (photos and/or videos) within case study





Description of images included in the study

- 1). Maths area overview (does not show resources shelves)
 - 2). Mud Kitchen with recipe cards I've made.
 - 3). Handmade large abacus on the fence outside.
 - 4). Changing area with nursery rhymes to support literacy and numeracy.
 - 5). Shape matching silhouette activity on low display board.
 - 6). Colour coded place settings in home corner.
 - 7). Ginat handmade scales for outdoors.
 - 8). Dice with song bag props and display to show what number song we sing.
 - 9). 'Big', 'medium', & 'small' words on various sized planters outdoors.
- (All photo's are within a 2year old provision).

Please choose one option below

I give permission for all images (including those with children) to be used.

I/my nursery has been given explicit consent from parents/carers of any children included in these photos/videos and nursery staff, for NDNA to use these images/videos for the purposes below.

☐

I give permission for only those photos without children to be used.

☐ Y



Please mark the box to indicate the areas you consent to .

I give permission for the items selected to be used by NDNA in:	Please tick	
	Case study text	Images within case study
Maths Champions resources section	Y	Y
Marketing campaigns: public literature and printed materials, NDNA websites*, email communications and social media – public posts on NDNA’s Facebook page and groups, Instagram account, LinkedIn page, Pinterest account and Twitter accounts	Y	Y
PR campaigns: press, media and campaigning – which may be used in national and international press.	Y	Y
Training: Maths Champions, online e-learning, live virtual classrooms, zoom webinars, face to face training – in the United Kingdom and internationally	Y	Y
I give permission for the nursery name to be credited	Y	Y

Any other comments on usage of the case study or images :	
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*Websites include www.ndna.org.uk, www.milliesmark.com, www.qualitycounts.org.uk, www.earlyyearsbusinesszone.org.uk, moodle.ndna.org.uk

Thanks you for taking part in the Maths Champions programme.