

NOVAC (Note of visit and contact)

School:	Hunslet Carr Primary School	Date:	23. 02.21
Authors:	Jackie Reid, Karen Knepper and Colin Davies	Staff contact:	Charlie Sharpe
Headteacher:	Martin Lumb	Link Advisor (SIA):	Jackie Reid
Visit Details:	Virtual Maths monitoring – involving HT, AHT/Maths subject leader, SIA, Maths Consultant and Assessment Consultant (collaborative, learning process for all)		

Purpose of the visit:

The school has relentlessly focussed on improving mathematics teaching and learning since the last inspection in March 2018. The Ofsted report described mathematics in the following statements:

“The teaching of problem-solving and reasoning is inconsistent. This limits pupils’ ability to reach the higher levels in mathematics.

In mathematics, the quality of teaching is inconsistent. Although the teaching of basic arithmetic skills is effective, opportunities for pupils to apply their mathematics skills to problem-solving and reasoning are not consistently provided to all pupils. This limits their ability to reach the higher standards of attainment by the end of Year 6.”

The monitoring timetable was compiled together with the HT and mathematics SL. The mathematics consultant also gave input around checking the impact of children’s understanding and use of correct mathematical language and vocabulary. The activities were as near to a deep dive as possible considering the virtual context. The HT and AHT managed all of the technology and people effectively and transparently, so that the SIA/consultants could experience as much live reality as possible.

Summary of the visit:

This section will follow the structure of the monitoring and triangulation process as it happened.

1. Zoom discussion to gather a top-level view of Maths by questioning the Maths SL

Referring to the last Ofsted areas for improvement, a question around the current consistency of mathematics teaching was asked. Strengths and weaknesses now?

The SL explained that the school had introduced Maths No Problem! (MNP) into two year groups (Y2 and Y3) in September 2017. This meant that in March 2018, the programme was in its infancy, without time to show any impact, when Ofsted inspected the school. After the inspection MNP was rolled out into all year groups with swifter pace and rigorous training for all staff, including support staff. The main aim was for all classroom practitioners to have a better understanding and more confidence in teaching maths (SDP priority), and to build reasoning into every lesson. There was two days of training by an MNP consultant for all staff and one day’s training for the SLT. Follow up support from the SL was forthcoming and tailored to teachers’ needs. This SL support has continued throughout the last two years and his committed diligence has been maintained during the Covid disruptions.

The Y6 cohort who took the SATs in 2019 had used MNP for 12 months and question-level analysis (QLA) showed they used reasoning to better effect. But conversely their arithmetic skills were not as strong as previous cohorts. The current Y6 cohort has been taught using the MNP mastery approach the longest and internal monitoring using past SATs papers suggests the children are better able to understand and reason

mathematically. This showed that the MNP mastery approach was indeed improving children’s reasoning skills and application. But conversely, their arithmetic skills were not as strong as they had been. To rebalance this, ‘fluency in five’ sessions were introduced and the children are tasked to solve arithmetic problems both mentally and using formal methods. The different strategies are discussed afterwards and appropriate learning hooks are used throughout the week, in order to encourage joined up mathematical thinking and talking. The results from weekly assessments feed through into the teacher’s chosen methods that need the most input. It is very important for the children to determine whether they need to calculate in their heads, use jottings or use formal methods. Y3/Y4 children are given a symbol to show when a mental calculation is best. This symbol is taken away in Y5/Y6 as the children are expected to make their choice independently.

As part of the Covid recovery plan how is assessment being used to fill gaps and move children on in their Maths learning?

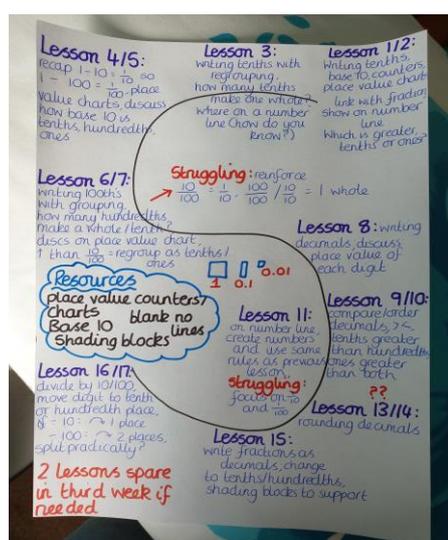
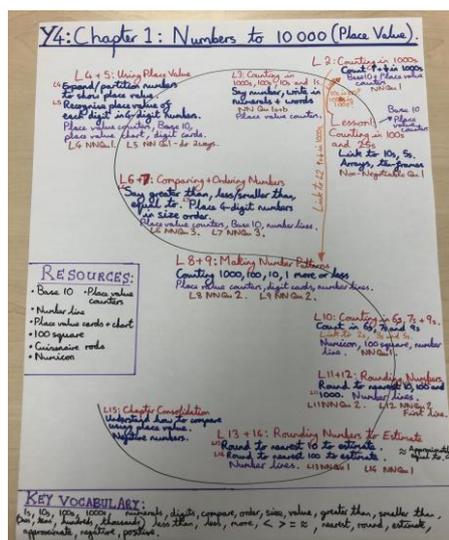
Fluency in five responses are assessed weekly (using tests) and the children need to maintain their best scores. There are also pre-assessments at the beginning of units of work and there is a target of 75% success rate. The SL will support teachers if there isn’t enough achievement in certain classes. In the MNP process there are two tests after each workbook to check for any misconceptions. Again, appropriate intervention and support will rectify any skills/understanding gaps.

Arithmetic test results

Class Name	Autumn 1	Autumn 2
Cherry	24/25 - 96%	22/25 - 88%
Plum	28/28 - 100%	21/22 - 95%
Beech	24/24 - 100%	20/24 - 83%
Willow	20/22 - 91%	17/21 - 81%

In September 2020 transition was carefully handled, so that previous teachers could share information about coverage, success and gaps from the summer term lockdown. As part of this process the teachers in each year group produced ‘S plans’ so that they knew which areas to prioritise. The teachers plan key questions and address misconceptions, so that children get the correct support, to move their learning on.

Examples of S Plans



Are sentence stems used to help language acquisition?

Sentence stems are displayed around the classroom and they are used as prompts for teachers to help scaffold children’s answers in lessons. Teachers model such language use by using stems during the

teaching sequences. Children are asked to explain methods with the sentence stem eg “I know this because ...” (it is not just about the answer).

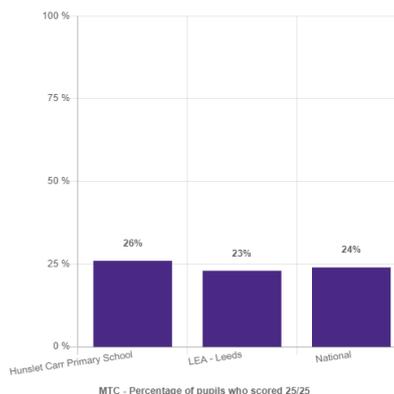
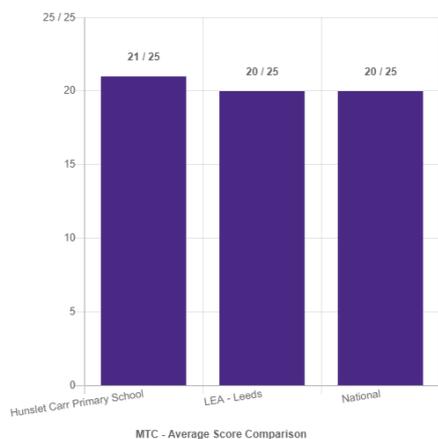
In EYFS maths learning how do you know that progression is effective?

In December 2020, the SL observed fantastic learning in the EYFS provision, where children were using elves as the context with elves jumping on and off and they were using the part, part, whole approach. The SL is aware of the need to become more familiar with early years practice and will ensure time is spent in the indoor and outdoor environments when circumstances allow this safely. The SL has started to read research and background information to become further informed. The SL identified early mathematics teaching and learning as an area for his personal professional development and is attending the West Yorkshire Maths Hub early years mathematics mastery training along with the EYFS leader. In Reception the children are showing their maths working in books, which makes it easy to see whether they have achieved the learning focus. Evidence also needs to be seen in provision.

**** Maths learning in EYFS was not observed, so the above comments are not making judgements about the quality of provision per se.**

Analysis of results & data from Times Table Rockstars (non-statutory MTC during lockdown)

Due to COVID-19, the first ever multiplication tables check (MTC) for Year 4 children was cancelled in 2020. TT Rockstars decided to run a non-statutory MTC instead and Year 4 children were signed-up to be involved. Nationally, 799 schools signed up and took part in the MTC. In Leeds, 14 schools signed up and took part in the MTC



The data shows that the school’s average score was 21/25, beating the national and Leeds average scores of 20/25. The data shows that the percentage of children who scored 25/25 on the MTC was 26%, compared to a national average of 24% and a Leeds average of 23%. These are fantastic results and figures and show how well our children did, especially accessing the MTC at home during lockdown. Arguably, our figures would have been even better if the children had remained in school and hadn’t been in lockdown.

2. Zoom call using a webcam to undertake lesson visits that are taking place in current bubbles.

Y4 fractions lesson – the children were working on their guided practice section of the MNP sequence of learning. There was some guided practice on whiteboards showing $50/100 = 0.50/0.5$. The children at home and at school were involved in exactly the same learning. The ‘Classkick’ tool is used by teachers to model and the teacher working at home is on hand to help children when they ask. The SL asked a child “What does denominator mean?” (The child was confused and described the numerator). Teachers use

Loom which is a recording tool so that they can explain/demo then pause for children at home to have a go.

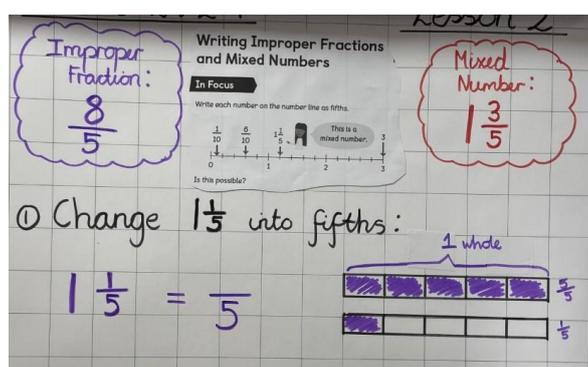
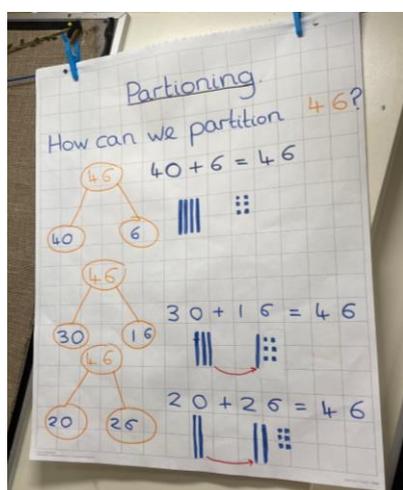
Y5 fractions lesson – the anchor chart showed improper and mixed fractions. The IWB showed manipulatives that are available on the tables, so that interactive practice can be done. A child was asked about his learning and he described finding the simplest form of the proper fraction. The definition of ‘denominator’ was explained better – how many parts.

Y6 volume lesson – this was the first lesson on volume. The S plan showed that the starting points need to show the link between 2-D area (cm^2) and 3-D volume (cm^3) as space taken up. The children were doing the last step of guided practice, when they work on problems in pairs. The teacher explained that in order to build on firm understanding the starting point would be to recap 2-D surface area and to then connect this prior learning to 3-D shapes using base 10 and multilink manipulatives. Area and perimeter were recapped in accordance with the S plan. Arrays were also being used to show the link between calculating area and multiplication facts.

The HT asked the children to represent $\frac{4}{5}$ of 45 using a diagram. Some children drew bar models showing 5 boxes. One child said that she would divide 45 by 9. Another child was asked how he could check that his answer is right? He said that he would divide 45 by 9 = 4, then multiply the 4 by 9 = 36. Or use repeated addition.

What happens to the anchor charts?

They are kept on the back of the flipchart stand for as long as possible, so that previous learning can be referred to when appropriate. When the pile becomes too heavy, the sheets are archived.



Discussion following lesson visits

The Y4 child that was asked was unable to confidently and precisely explain ‘denominator’, but Y5 and Y6 could explain it in more depth. Also, not all of the children are confident using the bar model to correctly represent the mathematics. The SIC added that stem sentences need to be used and visible to support reasoning in the classrooms. In Y4 some children could not see the **connection** between 0.5 and 50/100 and the value of 5 digit in different representations. The children need to see the links and connections between concepts – “If I know this, what else do I know?” Knowing multiplication facts in isolation is not enough, as that information needs to be applied by reasoning. The DfE non-statutory guidance (including use of vocabulary and language) would be useful to support staff in the modelling of language. When staff

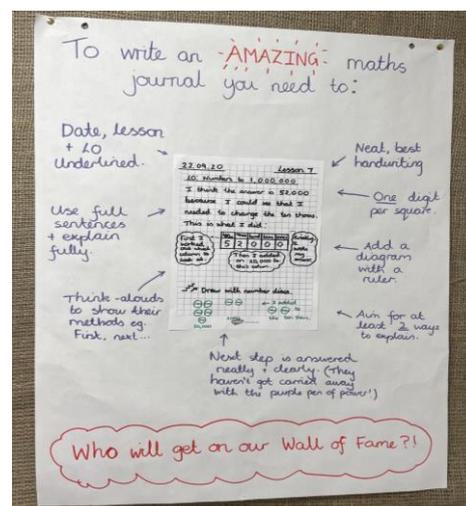
question children it is advised that the language used is more open ended, so for example “What are you learning?” or “Can you explain your maths thinking?” rather than “What do you have to do?”

3. Zoom call connected to a visualiser, so that we can screen share to look at age-related evidence in the MNP workbooks and to look at how Maths journals work.

Y1 – there were some good examples of fluency and reasoning in the books. Also, the use of manipulatives, and pictorial representations, followed by more abstract recording. There were also some challenge questions at the end of pieces of work. Variation could also be seen. Equivalence with symbols in different places was evident. Part whole models showed concrete resources in use eg Multilink blocks, ten frames, bears. Braining camp is used on the IWB on iPad – shows manipulatives.

Y2 – an EXS child’s work showed that the child didn’t understand x10. Those children that did had moved onto a challenge to x5. Can this connected help them? When asked to explain the relationship, one child wrote that the numbers ended in 5. Another child wrote that 0 or 5 would be in the unit position. Non-standard partitioning – the teacher had asked “Can you show partitioning of the same number in more than one way (not just tens and ones). 10 frames are also used and related to number bonds and arrays. The teachers’ assessment framework is used by teachers and they moderate with other schools, to ensure the standard NC requirements are met.

Y6 – the teachers use mark schemes and share them with the children, so that they can improve on their recording of answers, as sometimes showing the method is enough. When children are explaining and reasoning they need to be succinct verbally and on paper. The SL described how the words such as ‘explain’, ‘show’, ‘prove’ and ‘justify’ are used, but the use of such language across school needs to be checked when all children are back in school. The older children are used to journaling using parts of SATs questions. The HT commented that the vulnerable children who are in school at the moment might be confident of their own understanding, but not agile enough to explain verbally.



A platform called ‘Classkick’ is used to make synchronicity as close as possible between teaching children in school and at home. One teacher in each year group is in school teaching their bubble and the other teacher is at home following the same lesson, answering children’s queries via chat and they can see all the set work and who is completing it. Also, with Classkick, teachers can record their voices over the worksheets. After 8th March if some children need to isolate they can join their peers in the classroom using Classkick.

4. Zoom call with pairs of children from each bubble in school...pupil voice

Y2 children

Who is good at Maths? Why? “They work very hard and have a growth mindset.”

What resources do you use? “We use a ruler, 10 frames, Numicon, 100 squares, fingers and rubbers.”

6+9=15 how would you work this out? “Using our fingers. Another way? In our heads.”

6 +9 using Numicon plates – what would you do? “Count them on the 10 frame and add 6 on.”

Tell me what you know about the number 9? “It is a smaller number; it is 1 more to 10”

If work is difficult what do you do? “Use resources and we use fingers.”

Are there any other lessons where you use maths learning? No answers

Y6 children

Who is good at Maths? “X, who is really quick at times tables.”

What resources are available? “We don’t use them often, but some children can use Numicon or whiteboards.”

Calculation 18×5 ? How? 5×10 , $5 \times 8 + 90$, $18 \times 5 - 5 + 5 + 5$ (a long-winded method).

If it’s difficult what would you do? “Ask a friend, use resources or ask the teacher.”

How do you know if you’re doing well? “Teacher’s marking in our books. Yes we do like maths.”

How is your learning in maths helpful in other subjects? Topic – dates, art – measure to draw.

Maths at home? “I use maths when I do colour by numbers and measuring amounts for making cookies.”

Zoom call with two teachers that are in school on that day...

Progression of Maths skills and content – What? Why? When?

The MNP scheme sets out the maths content in chapters in the correct order. During the lockdown last summer SSM was missed out, so the chapters have been rearranged to have SSM in the autumn term and extra SSM questions will be included in fluency in five sessions. Planning ahead in this way is working well. MNP is good as it follows the plan, teach and assess cycle. The teachers talked about language development and how this has been a real focus in their CPD and SL’s incidental support in their classrooms. The hooks such as stem sentences, anchor charts, S plans are all used in classrooms, so children are familiar with them every year.

How has CPD been for you?

Very effective, we had specific MNP training with the expert trainers and we also visited several schools, to see MNP in context. The AHT and SLT are very supportive generally. The SL holds after school maths surgeries for teachers to discuss anything which works well. Also, the SL does two weekly drop-ins from SL, followed by relevant discussions afterwards. There are regular induction and catch up sessions when staff need them, to keep all staff knowledge and skills in line.

Workload?

Autumn term was over whelming, but, in preparation for lockdown three, two pregnant teachers organised the remote learning package, which took a lot of pressure away from teachers, who would have been alone. One of the teachers has taken on the NQT mentor role and she has emphasised to them that the MNP is the structure to follow closely, but there is still room for creativity eg by using real life manipulatives and contexts. The teachers spoke eloquently and said that all staff would benefit from having some discussion sessions like this again. The SIA will organise such sessions.

The Chair of Governors joined the feedback meeting on 1st March 2021. He commented on how impressed he was at the progress made in maths at Hunslet Carr and how well the SL has motivated staff to improve their maths teaching and learning. The joint ownership of this success and further improvement is reaping its rewards.

Recommendations/agreed actions

- The SL can confidently explain the timeline of actions taken to improve the teaching of mathematics, the focus to date has been ensuring teachers have the subject and pedagogical knowledge to plan sequential learning, the focus now needs to be on building upon the impact of the actions to ensure consistency across school and the including the next steps identified as a result of the monitoring into the action plan.
- The SL to consider how the DfE non-statutory guidance and NCETM support materials will be used to ensure teaching focusses on the most important knowledge and understanding within each year group.
- Continue to develop the use of precisely planned stem sentences (the DFE guidance will support this).
- Ensure plans are in place to ensure children are supported to make links between current and past learning to ensure they remember more long term. (the DFE guidance will support this) the school needs to build upon positive outcomes of administering an optional multiplication tables check (via TT Rockstars) and capitalise upon improvements in fluency to develop reasoning through modelling and the 'I know (fact) so I also know (related fact) approach.
- Check that children are using more than counting for calculation strategies expected in Y2. When all children are back in school from 8th March 2021, the HT and SL will be checking whether this is the same in a small number of children or the majority. What are the effects of lockdown?
- Test out the attitude to Maths – do children really understand the Maths and know that it is not just about speed? Again, pupil voice will be gathered by SLT and Governors when the children are all back in school from 9th March. This will include asking questions about the use of Maths in real life.
- Continue to monitor the impact of actions taken by the SL

Distribution list

Head teacher
Chair of Governors
SSIA