

Highfield Primary School

Key Stage One: Deep Dive



5th October 2021

Review leader: Rob Pye

Early Years and Key Stage 1 Deep Dive

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Focus

SIP priority 1: Examine school strategy for teaching Maths.

Examine school provision for closing gaps in KS1 Maths.

Evidence Base

Lesson observations in Reception, Year 1 and Year 2.

Observations of teaching assistant input to support pupils.

Examination of pupil's work.

Discussion with pupil's to establish level of understanding.

Discussion with leaders of Maths.

NB: Throughout the process, I certainly tested the resolve of the team in their understanding and belief.

Context

Prior to the Covid lockdown, children generally entered KS1 with good levels of development, similar to that found nationally. They made consistently good progress in Maths, throughout KS1 when attainment appears to be slightly above national average. Progress rates continue to improve, so by the end of KS2, pupils reach very high standards in this subject. The school has seized on Covid, to establish new higher progress rates at KS1. This may not actually improve attainment due to a significant increase in proportion of children in Y1 and Reception starting school from a lower starting point than in previous years.

To achieve this aim, the school is building on an approach first known as Singapore maths because such nation achieved high performance.

It aims not to resort to rote learning, instead promoting the solving of problems, without having to have a memorised procedure. It differs from many other approaches because the whole class move on at similar speed. In most cases, slower is considered better, and pupils don't move forward until they have a secure understanding. In this way, teachers don't have to re-teach elements from year to year. One of the main criticisms is that pupils are either not stretched enough, or, they are over-challenged. The programme would argue, however, that this is a superficial argument, and that it differentiates through deeper learning, rather than pace.

It is a philosophical approach that requires a robust belief. In the right hands, it can be highly successful. The key is applying the belief to the classroom. It requires a cultured change and intensive training, by all staff, to be successful.

The school is supporting this approach using 'no problem Maths' scheme. This is a series of textbooks and pupil workbooks.

Main Findings

Pupils are progressing well.

There is belief in this method. A common sense of purpose exists throughout.

A same lesson approach, aimed at deeper learning is evident in each class, showing a co-ordinated and systematically progressive pedagogy.

Pupils' love their maths. Their attitude to learning is impeccable.

Maths is very well resourced with familiar methods and equipment used in each class. There is an effective balance between practical work and written work in textbooks.

Teaching assistants appropriately target support for pupils, especially those that find learning more difficult.

In the Reception class, deep learning was evident from the start. Children have lots of opportunity to explore number concepts in a fun practical way. The early Years provision also ensures that children can explore the language associated with maths through role-play and exploration. Teachers and adults model this very well.

To think about...

School should satisfy itself that teaching assistant support does not short cut any child's thinking time or indeed 'over scaffold', them in order to reach a correct answer.

Observations

The Key Stage 1 pupil workbooks are challenging. However, the pupils enjoy their maths. They are confident learners and expect to do well. They are developing good skills with understanding and show this in the various way they can manipulate any specific number. They use whole/part and bar methods to help solve number problems. They are able to explain their actions clearly. They can also adjust their investigation by trialling different approaches. This was consistent in all classes and also consistent between pupils of different abilities.

In Reception, the focus was on the number one. It was clear that a significant proportion do not have English as their first language, however, the vocabulary rich approach enabled learning to progress in a unified manner, as well as helping the pupils begin to use English as a way of representing the immediate world around them.

The outside provision was excellent, providing many opportunities for pupils to experiment with other mass concepts, including volume and capacity, weight and positional language. One group observed, and even described the speed of water as it moved along its chosen path.

In Y1, pupils worked in pairs, following a teacher led introduction. In this case, all pupils were finding different parts to the whole number, seven. Some used counting, whilst others were able to simply use the image given by the teacher to help them. Quite a large proportion of pupils were able to find solutions in their heads, without any additional aid. There was universal achievement.

In Y2, the pupils focused on two more than and less than. They showed confidence in using 'ten base sticks' to help. As they progressed through their work, some independently returned to this method, to solve workbook problems, whilst others were able to work out the answers without visual assistance. Once again, progress was marked because pupils were building from a solid, prior knowledge base.

Teaching assistants were generally helping those that find maths challenging. Not all pupils could access the main set of work, and appropriate expectations were in place for these pupils. Some pupils required a little more time with their work, and very occasionally, were over helped to find an answer. A small point that may require further investigation and training?

Leadership

This has been a huge undertaking that required a cultural shift. The rationale behind it, amongst other things, is to address the ever increasing proportion of pupils who arrive at school not fully understanding the English language. The project has been ably led by a passionate Deputy Headteacher. Clearly, all staff are on board, as evidenced by the common approach. This would not have been easy, as any change brings around many different barriers to making progress. The Deputy should be commended for leading this in such a way that it is now part of the school life. The full effect of this approach will take time to unravel, as pupils move beyond KS1 to KS2, however, the strong indication so far is that progress is accelerating and beginning to match the excellent progress rates found in KS2. It might be worth considering, in future, looking at progress rates from the end of Reception through to the end of Y3, and from Y4 to 6, as a more accurate way to compare progress in different ages of the school.

Final thought, all the staff and pupils displayed exemplary attitudes towards their work and gave a feeling of one team working together to reach the same outcome.