

Subject Report 2021

Subject	Maths	Report prepared by	Lorraine Williams
Overview of the year:			
<p>This year we introduced NTS summative assessment papers and GAPS assessment papers to provide summative data and identify any gaps that may have occurred from school closures during COVID19. Data analysis of formative and summative data for our current Year 2 group has shown a dip in % secure from CP2 in 2019 to CP2 in 2020. This decrease could be attributed to many factors that are discussed within this report including school closures as a result of COVID19 creating gaps in number knowledge.</p> <p>As a result of the gaps that have been identified in number knowledge, we have decided to set for Year 2 for the remainder of this year in order to prioritise number for some of our learners and plug gaps. This is a temporary solution with a view to returning to mixed ability learning in Year 3. A second Year 2 class has opened, mid-year, and setting is intended to be introduced across the year group. The Surrey Maths Hub are offering support with this measure that we have put in place.</p> <p>Reasoning lessons have been introduced across Key Stage 1. In Year 1, this is being taught whole class in order to model reasoning language. As the year goes on, learners are starting to attempt reasoning tasks independently. Reasoning takes place at the end of lessons in Year 2. Daily fluency lessons have been introduced across the school and a structure has been created to ensure connectivity of fluency skills across Key Stage 1.</p> <p>Staff confidence in using the Maths No Problem mastery approach has increased through staff training, observations and collaboration. There is a clear structure to mastery teaching and a consistent approach to differentiation and intervention. With the support of the Surrey Maths Hub, the school has a clear maths vision, maths policy and calculation policies for all of the existing year groups. We are now in Year 2 of the 3-year Maths Hub mastery course.</p>			
Curriculum: Intent, implementation, Impact			
Intent			
<p>At the Cambridge Primary School, we intend for pupils to develop a love of maths and enjoy the excitement and challenge that problem solving brings. We use a maths mastery approach to deliver active and involving teaching that promotes curiosity, creativity, resilience and growth mind-set. All learning is put into real life context, where possible, to help children understand the role of mathematics in the world around them and encourage them to become lifelong learners.</p>			
Implementation			
<p>Mathematics is taught daily in a whole class, inclusive environment so that those pupils who grasp concepts quickly are challenged with rich and sophisticated problems within each topic and those children who are not sufficiently fluent are provided with additional support to consolidate their understanding before moving on. Learners are given the opportunity, and encouraged, to use a range of methods to problem solve and develop number fluency and mathematical language to support their reasoning skills. Children are encouraged to share their 'marvellous mistakes' to help their peers learn and address common misconceptions.</p> <p>Children are taught in mixed ability with additional adult support for children who are finding some concepts challenging; this is topic dependent. Same day intervention is given to learners who have not fully embedded the lesson's learning objective. This is demonstrated by a yellow slip of paper which is stuck into their books. The member of staff can then make notes on this slip about the nature and outcome of the intervention. Furthermore, if children are not secure with the end of unit assessments, intervention is given again to ensure that they can keep up and not catch up. This is also demonstrated with a yellow intervention sheet. Pupil conferencing takes place regularly to stretch and challenge all learners and scaffold children to work at greater depth. Independent tasks (on blue paper) are set at the beginning of each half term to show progression in the development of problem solving methods.</p> <p>Lessons have a set structure where children are encouraged to problem solve with concrete objects, then pictorial, before moving on to independent work in their books. The Early Years curriculum at The Cambridge Primary has been written to ensure that all children leave Early Years confidently using ten frames and part, part, whole models and are able to talk about the reasoning behind their answers.</p> <p>The Surrey Plus Maths Hub Mastery Readiness Programme has provided increased subject and curriculum knowledge. The hub has, and will continue to, work alongside staff to develop the planning and delivery of maths at our school, ensuring an effective, progressive curriculum from Early Years to the end of Key Stage 2.</p>			



Children self-assess in maths. MNP provides end of unit assessments for the children to complete. Children have been provided with target cards to encourage ownership of their learning and a clear direction. This formative assessment is then put on to ScholarPack which then generates a summative score for each child. This year we have also purchased termly summative assessment papers to help us monitor progress and unpick any gaps in knowledge that may have occurred from COVID19 school closures and benchmark ourselves both within the trust and nationally.

This approach to teaching maths is connected to other subjects and reflects our school culture promoting growth mind-set and resilient learning.

Topics taught across each year group:

	AT1	AT2	SP1	SP2	SU1	SU2
EYFS	Baseline Assessments Recognising number Sorting/comparing Number bonds to 5 2D Shape	Comparing quantities Counting/recognition to 10 One more/One less Addition and subtraction within 5 Pattern with common shapes Money Measuring/comparing Positional language Length, weight and height	Counting/recognition to 10 Number bonds to 5 Addition and subtraction to 5 Counting to 10 2D and 3D shapes Number bonds to 10 Ordering by weight, height and capacity Ordering by length and height Halving and sharing	Counting/recognition to 10 Counting irregular arrangements within 10 Number bonds to 5 Counting to 10 Length and height Size, weight and capacity 2D and 3D shapes	Adding more Taking away Counting to 20 Number bonds to 20 Doubling Halving Odds and evens Length, height and distance Capacity 2D and 3D shapes	Adding more Taking away Counting to 20 Number bonds to 20 Doubling Halving Odds and evens Length, height and distance Capacity 2D and 3D shapes
Y1	Numbers to 10 Number bonds Addition within 10 Subtraction within 10	Numbers to 20 Shape and pattern Add/subtract within 20 Number families Summative Assessment	Length and Height Numbers to 40 AS Word problems	AS Word problems Multiplication Days of the week, months and year Summative Assessment	Multiplication Division Fractions Numbers to 100 Time	Space - Whole/half turns Money Volume and capacity Mass Geometry Summative Assessment
Y2	Week 1, 2, 3, 4 and 5 Place Value Week 6 and 7 Addition	Week 1- Addition Weeks 2, 3 and 4 Subtraction Week 5, 6 and 7 Multiplication	Weeks 1 and 2 Division Weeks 3 and 4 Length Weeks 5 and 6 Money	Week 1- Picture Graphs Week 2 and 3- Mass and Temperature Weeks 4 and 5- 2D Shapes	Week 1- 3D Shapes Week 2- More Word Problems Week 3, 4 and 5- Time and Volume Week 6- Revisit	Week 1, 2 and 3- Fractions REVISIT

Rationale for curriculum organisation:

The MNP scheme ensures learning is cyclical by revisiting skills and methods throughout each topic and building upon prior knowledge. A skills progression document has been created to ensure that every skill is taught within this subject. Maths is taught daily, during the morning as children have better concentration for repetitive tasks during this time. In EYFS, there is a whole class, daily maths input approximately 20 minutes with continuous provision extending their learning during busy time.

In KS1, maths is taught daily for 1 hour. Interventions and pupil conferencing are used to ensure that children are moving along at a similar rate but higher attainers are stretched with reasoning and mastery problems. This year the curriculum has been adapted in accordance with MNP's suggested Scheme of Work. The planning has been slowed down from last year to incorporate MNP white lessons with more time given to practical learning and review and remediation. (Data comparisons may be effected within the trust).

Daily maths fluency lessons have been introduced across the school to work on number fact recall and arithmetic. Year 1 also use this time for whole class reasoning whilst Year 2 are teaching reasoning within lessons. Planning is underway to ensure there is connectivity in the development of maths facts across KS1. A set structure has now been made for how maths fluency is delivered at The Cambridge Primary School.

What does Live Marking look like in your subject? How do you know this has been effective for children's progress?	What training and development have you received in your subject? What has been the impact of this on the children?
The teacher uses 'helicoptering' to identify children who need support. Adults working with the supported children to identify if they required adult support by adding an S to their work in green pen. Children correct their independent work in their 'work book' and add a RAG rated circle at the beginning.	Training from the Surrey Maths Hub has enabled the school to develop a vision statement, policy, calculations policy and structure to teaching maths at The Cambridge. In Autumn term 2020 training had enabled a structure for fluency lessons to be made and advice has been given for plugging gaps in knowledge with our current Year2 children.



<p>Fast feedback gives the children the opportunity to know where they are, where they need to go and how to get there. The children are growing in confidence and resilience whilst taking ownership of their own learning. Quality assurance is achieved through book scrutiny and analysis of summative data.</p>	<p>Training has been online with no release time needed. The Surrey Maths Hub have also given £1000 match funding towards MNP book purchase for attending the 3-year course.</p> <p>Training has been delivered to all staff by the Maths lead in July 2020 and September 2020.</p>
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Impact

We are monitoring the impact of maths teaching and learning through formative and summative assessment. ScholarPack enables leadership and class teachers to have a clear view of the children’s progress and highlights any children who are not on track to make expected progress. Pupil progress meetings enable teaching staff to discuss children who are not on track to make expected progress and what interventions are needed to enable progress.

All staff, including support staff, have been trained in delivering MNP teaching and are able to take children for an immediate intervention if the lesson has not been embedded. Interventions are also given at the end of a unit if there are gaps in knowledge to help children to keep up and not catch up.

Fast feedback (pupil conferencing in lessons) is provided to the children to address misconceptions immediately. Children enjoy sharing their mistakes at The Cambridge Primary school so that they can help their class learn. This growth mind-set approach to learning is seen across the curriculum and the development of critical thinking skills is evident.

From learning walks and internal moderation, children in Early Years are now confidently using ten frames and part, part, whole models and are able to talk about the reasoning behind their answers. In Year 1, learners are confidently using a range of methods to problem solve and are developing number fluency and mathematical language to support their reasoning skills.

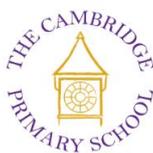
Data in Key Stage One has shown a decline in the percentage of children who were secure at baseline to CP2. Reasons for this could include that the data that was submitted at baseline was not as rigorous as the data gathered at CP2. Therefore, we intend to introduce more rigorous, internal baseline assessments next year at baseline. CP2 data was also informed by summative assessment and progress meetings to ensure that teacher judgements were well informed.

Data analysis for our current Year 2 group has shown a dip in % secure from CP2 in 2019 to CP2 in 2020. This decrease could partly be attributed to school closures as a result of COVID19 which has caused gaps in number knowledge. The children went in to lock down before they had learnt about place value and this has caused challenges for some children in Year 2 moving on to more difficult concepts without the foundations of place value. Furthermore, the structure of Maths No Problem was not yet fully established with the appropriate differentiation and intervention to enable the children to keep up and not catch up.

As a result of the gaps that have been identified in number knowledge, we have decided to set for Year 2 for the remainder of this year in order to prioritise number for some of our learners and plug gaps. This is a temporary solution with a view to returning to mixed ability learning in Year 3. A second Year 2 class has opened, mid-year, and setting is intended to be introduced across the year group. The Surrey Maths Hub are offering support with this measure that we have put in place.

In Early Years, at CP2, 75% of children are on track to achieve GLD and are currently working at expected.

What have we done in 2020?		
Implementation	Cost	Impact
Developing a scheme of work.	Release time with the Maths hub (supply covered in house therefore no cost)	Areas of the curriculum will be identified that take more time and more practice. It is essential that number fluency is a priority and gaps in knowledge are filled. This should impact attainment which will be monitored through Scholar Pack.
Ensuring time is made for pupil conferencing and maths intervention.	No cost – LSAs used for intervention	Ensuring all staff are experts in MNP. Training to be provided to all staff so that quality teaching is consistent and interventions are focused.
Purchasing of maths resources to set up new classes (Year 1 and Year 2) and to top up established classrooms:	£750	MNP is based on the theory that children need to work through concrete, pictorial and then abstract stages. Every lesson is introduced with concrete



Numicon, resources for Time, Fractions and Money. Further resources for continuous provision maths room for both year groups.		materials. Children do not move on to the next stage until they are secure with the previous stage. It is essential that the children have concrete objects to explore and problem solve with. It is also important that children are exposed to a variety of ways to problem solve to deepen their understanding. The continuous provision room enables learners to embed their learning through play.
Maths stories and resources for Early Maths teaching	£100	Enabling children to see links between maths and everyday life, making learning memorable and purposeful. Connecting maths across the curriculum and promoting a love of reading.
Purchased the MNP Maths scheme (for 90 pupils) - Workbooks - Textbooks - Access to MNP Hub (3 staff) - Access to Video tutorials (3 staff) - Purchased MNP Assessments (for 3 classes)	£3800 £840 Total: £4640	Reduced teacher workload. Consistent and systematic approach to teaching Maths across the school. Growth mind-set and greater depth problem solving. Improved pupil confidence in approaching maths problems. These assessments assess the objectives that have been covered up to that point in MNP. This shows any gaps in knowledge and is also in line with the trust's termly assessment targets.
Additional MNP books for new Year 2 class	£298.84	As above
Purchased Maths NTS Assessment papers (4 points during the year, BL, CP2, CP4, CP6)	£0	Costs covered by the trust this year.
Whole Staff CPD, termly in staff meetings	No cost – time in staff meetings/during school day. Training led by Maths Lead	All staff are sharing and contributing to the school's vision for maths. CPD intends to develop quality teaching for all and a consistent approach across the school.
Total	£5788.84	
What is the action plan for 2021?		
Implementation	Cost	Impact
Developing a scheme of work.	Release time with the Maths hub (supply covered in house therefore no cost)	Areas of the curriculum will be identified that take more time and more practice. It is essential that number fluency is a priority and gaps in knowledge are filled. This should impact attainment which will be monitored through Scholar Pack.
Ensuring time is made for pupil conferencing and maths intervention.	No cost – LSAs used for intervention	Ensuring all staff are experts in MNP. Training to be provided to all staff so that quality teaching is consistent and interventions are focused.
Purchasing of maths resources to set up new classes (Year3 x 2) and to top up established year groups that are currently sharing resources. Resources needed for: Time, fractions, money, shape and place value.	£750	MNP is based on the theory that children need to work through concrete, pictorial and then abstract stages. Every lesson is introduced with concrete materials. Children do not move on to the next stage until they are secure with the previous stage. It is essential that the children have concrete objects to explore and problem solve with. It is also important



		that children are exposed to a variety of ways to problem solve to deepen their understanding. The continuous provision room enables learners to embed their learning through play.
Purchased the MNP Maths scheme (for 180 KS1 pupils) Workbooks (book A and B) Year 1 – 130 Year 2 – 130 Year 3 - 130 - Access to MNP Hub (6 staff) - Access to Video tutorials (6 staff)	£5773 estimated on the budget (no MAT discount applied yet)	Reduced teacher workload. Consistent and systematic approach to teaching Maths across the school. Growth mind-set and greater depth problem solving. Improved pupil confidence in approaching maths problems.
Whole Staff CPD, termly in staff meetings	No cost – time in staff meetings/during school day. Training led by Maths Lead	All staff are sharing and contributing to the school's vision for maths. CPD intends to develop quality teaching for all and a consistent approach across the school.
Purchased Maths NTS Assessment papers (4 points during the year, BL, CP2, CP4, CP6)	£2180	Informing teacher assessments, identifying gaps in knowledge from school closures and enable teaching to be adapted to plug gaps.
GAPS – 6 packs for each term (18 per year) 1 administering manual KS2		
Whole school access for Times table rock stars (online times table platform) Unlimited teachers and students	£94.90 pa	Engaging and interactive method of learning times tables and beneficial for preparation for the Year 4 times table test.
Total	£8797.90	