

NEVILL ROAD JUNIOR SCHOOL CURRICULUM OVERVIEW Maths





OUR CURRICULUM AT NEVILL ROAD JUNIORS

- We Aim High by challenging ourselves in all aspects of school life.
- We are **Successful** learners by using our growth mind set to achieve.
- We Persevere by being resilient and trying our best in everything we do.
- We use our Imagination to produce creative work that we can be proud of.
- We show Respect by including everyone and making sure we all matter.
- We show Enthusiasm by approaching all learning with a positive attitude.



OUR CURRICULUM INTENT

- At Nevill Road Junior School learning is fun and all of our children are supported and challenged to enjoy learning and reach their potential. Learning in the outside environments, practical and real-life situations and special activities all help to make learning accessible and help to motivate our pupils to achieve well and become lifelong learners. We have a very positive approach to learning at our school and children are encouraged and rewarded when they do their best, work hard and make good progress.
- The wellbeing of our children and their Mental Health are a priority as we believe that children learn best when they feel happy, safe and cared about. Our Restorative Approach to learning underpins our curriculum, which also celebrates equality and diversity.

Our curriculum is based on the statutory National Curriculum; it is skills based in design and intended to provide learning and teaching motivation for both children and teachers.

We aim to be as creative as possible with our approach to the curriculum, teaching and learning. All curriculum areas have been planned to deliver a well sequenced and progressive series of lessons to ensure children gain 'sticky knowledge', which they can articulate with confidence. Every year group includes high quality book and text studies within their termly topic plans, making

sure children are given a text-immersive experience.

All of our topics are supported through high quality resources, trips, visitors and experiences that provide ample opportunity for real depth of study.

Pedagogy of Learning

Explanation, Modelling and Scaffolding



In lessons you will see:

• Clear and precise explanations given by teachers, with complex ideas broken down.

•Time given to practise and consolidate children's knowledge and understanding in new ways that stretches their thinking and allows them to consolidate key skills.

- Metacognition strategies used to help scaffold learning and develop independence.
- Use of sentence stems to help structure children's talk and thinking.

• Children know what is expected of them and how this can be achieved. This is done in a variety of ways including the use of a clear success criteria and examples eg a WAGOLL (What a good one looks like)

• Children evaluating their own work and improving their learning.

Pedagogy of Learning

<u>Questioning, Recall and Retrieval of Knowledge to make learning 'sticky'</u> In lessons you will see:



- A mastery approach to learning.
- Every lesson starts with a 'Can you still..?' to recall previous knowledge
- Questions asked to children that encourage them to know more and think more.
- Teachers use carefully planned questions to probe children's responses, to reshape tasks and deepen understanding.
- Children are given 'thinking time' to allow for sufficient time for pupils to review what they are learning and to develop further.
- Children are given regular opportunities within lessons to recall previous knowledge. Questions are asked to reveal their understanding and recall how well they have remembered the content.
- Lollipop sticks used to select children to answer questions to encourage participation from all.
- •Tasks from the 'Nevill Road Bare Necessities to Sticky learning' used to retrieve knowledge



In order for our children to learn more and remember more, we promote 'sticky' learning through....

| Song Teaching facts through songs. Not just number facts but GPS too in Y6. Commits learning to memory more easily and heightens enjoyment. | Hooks Educational experiences through trips and visitors Books for hooks Hands on learning experiences Artifacts | Questioning Asking a question of each child before they leave the classroom. eg quick number recall, spelling of a tricky word, geographical fact, historical date. | Photo Reel Reel of photographs on whiteboard of previous learning activities. Use photos to prompt discussion about what has been learnt, drawing on key vocab. | Video Making videos of learning eg science explanations Turn down sound and explain what is happening. | Performances Video music performances and assemblies. Pupils to use music vocabulary to explain what they can hear and to evaluate performances. | Quizzing Create quiz questions on a topic. Could be multiple choice eg What is a metaphor? a) A comparison using like, as, then, b) A comparison where one thing is another C) A comparison with a human attribute | Sentence Stems Sentence stems Scaffolding language Talk, talk and more talk Developing reasoning in mathematics Highlighting key vocabulary |
|---|---|--|--|---|---|--|--|
| Building on Prior Knowledge Activating prior knowledge Creating shared experiences | Double Page Spread Complete double page spread at end of term. Can go back and add information from book. Summarise learning. | Active Learning Collecting information from other tables and relay back to partner - one walker, one talker. Good for mixed ability pairings. | Post-learns Children evaluate their learning at the end of a unit. Children reflect on their learning. | Can you still? last week last month last term last year Display board in class; use as starter question to recap. | Brain Dump Write, draw a picture, create a mind-map on everything you know about a topic. Give a time limit eg 3 minutes. Then look back at books to add a few things you forgot. | Flashcards Create own flashcards: question on one side, answer on the other. Can you make links between the cards? Pick out harder ones to practise. | DEAL Developing Characters Adopting roles Exploring thoughts Sharing and Reporting Thinking & Reflecting |

Pedagogy of Learning



<u>Check understanding throughout the lesson and provide feedback.</u> In lessons you will see:

- We use a variety of mechanisms to assess children's understanding throughout lessons and ensure that misconceptions are picked up quickly.
- Verbal feedback given to children throughout the lesson in order to build on pupils' strengths.
- Our marking system ensures that feedback is purposeful and children's responses enable them to practise, consolidate or stretch their learning.
- Metacognition strategies are used to motivate children to improve their learning.
- Children respond to feedback and this is captured through the use of purple pen in their books.
- In the moment marking gives immediate feedback.
- Use of mini plenaries to address any misconceptions.

CURRICULUM LEADER - NICOLA JORDAN (LEADER FROM 2015 - CURRENT)

INTENT

At Nevill Road Junior School we foster positive can do attitudes and we promote the fact that 'We can all do maths!' We have the same high expectations for all learners, including those with SEND in maths. We believe all children can achieve in mathematics, and teach for secure and deep understanding of mathematical concepts through small manageable steps. We use mistakes and misconceptions as an essential part of learning and provide challenge through rich and sophisticated problems. At our school, the majority of children will be taught the content from their year group only. They will spend time becoming true masters of content, applying and being creative with new knowledge in multiple ways.

We aim for all pupils to:

• become fluent in the fundamentals of mathematics so that they develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.

• be able to solve problems by applying their mathematics to a variety of problems with increasing sophistication, including in unfamiliar contexts and to model real-life scenarios

• reason mathematically by following a line of enquiry and develop and present a justification, argument or proof using mathematical language.

 have an appreciation of number and number operations, which enables mental calculations and written procedures to be performed efficiently, fluently and accurately to be successful in mathematics.



To find out more about our Maths Policy, please click on the following link:



Nevill Road Junior School Mathematics Policy 2021

Intent

At Nevill Road Junior School we foster positive can do attitudes and we promote the fact that "We can all do maths!" We have the same high expectations for all learners, including those with SND in maths. The attached provision map shows what maths looks like for all learners at Nevill Road Junior School. We believe all children can achieve in mathematics, and teach for secure and deep understanding of mathematical concepts through manageable steps. We use mistakes and misconceptions as an essential part of learning and provide challenge through rich and sophisticated problems. At our school, the majority of children will be taught the content from their year group only. They will spend time becoming true masters of content, applying and being creative with new knowledge in multiple ways.

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or proof using mathematical language.

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procedures to be performed efficiently, fluently and accurately to be successful in mathematics.

Implementation

A 'mastery' approach has been adapted and implemented at Nevill Road Junior School for the planning, delivery and engagement with mathematics. Review and feedback following the implementation of units as repeated blocks over the academic year, with little to no interlinking and relating of skills and knowledge, was highlighted as one of the main reasons for clear gaps in knowledge and one of the possible causes for slower progression.

We have therefore used the White Rose Maths Scheme of Work to timetable mathematical units that are explored progressively, drawing on resources, data and suggestions from reliable sources such as NCETM and nrich.co.uk to link mathematical talk and knowledge across the various units (e.g. multiplication and area).

When planning for objective coverage, teachers are expected to take the following mastery strategies into account:

- Small steps
- Ping pong style of delivery
- Implementing the Concrete, Pictorial and Abstract (CPA) approach to introducing, exploring and applying mathematical concepts
- Considering key questions and mathematical vocabulary at the point of unit planning
- Considering use of sentence stems for fluency and reasoning within every lesson
- Multiple opportunities for verbal and written/drawn reasoning (explaining and using mathematical vocabulary to explain methods or reasoning) within unit exploration

<u>http://www.nevillroad-jun.stockport.sch.uk/serve_file/16501785</u>

POLICY

Whole School Overview of Maths in an Academic Year



At Nevill Road Junior School we have a Mastery Approach to the teaching of maths with a belief that all children can do maths. We have a curriculum design which uses small, sequenced and logical steps, allowing children to access their learning in a structured manner.

At Nevill Road we follow the long term planning from the White Rose Maths Scheme which is supplemented with other resources from the NCETM to ensure that all National Curriculum objectives are covered and children secure a deep understanding of concepts taught.

Year 3 Overview

| Autumn term | Number Place value | Number Addit | Number Addition and subtraction | | | | | Number Multiplication and division A | | | |
|-------------|--|-----------------|------------------------------------|-------------|-----|-------------------|----------|---|-----------------------|------|---------------|
| Autu | | VIEW | | | | | VIEW | | | | VIEW |
| Spring term | Number Multiplication a division B | and | Messure Lengt perim | h and | _ | Number Fractio | ons A | | Measuremen Mass an | | icity |
| Sprin | | VIEW | | v | IEW | | | VIEW | | | VIEV |
| c | Number | Measurem | nent | Measurement | | | Geometry | | Statistic | s | |
| Summer term | Fractions B | Money | / | Time | | | Shape | | | | Consolidation |
| ហ | VIEW | | VIEW | | | VIEW | | VIEW | | VIEW | |



Year 4 Overview





Year 5 Overview

| Autumn term | Number Place value VIEW | Number Addition and subtraction | Number Multiplication and division A | EW | | | | |
|-------------|--|--|--|--|------------|--|--|--|
| Spring term | Number Multiplication and division B | Number Fractions B | Number Decimals and percentages | Messurement Perimeter and area VIEW | Statistics | | | |
| Summer term | Geometry Shapo VIEW | Geometry Position and direction | Number Decimals | Neasu Support Neasu Neas | verting | | | |

Key to Learning

Year 6 Overview

| ε | Number | Number | | | Number | | Number | Number | | |
|-------------|-------------|------------------|------------------------------------|---------------------|--------------------------------|------------|--------------------|-----------------|---------|-------------|
| Autumn term | Place value | Additi and di | | raction, multiplica | tion | Fracti | ons A | Fractio | ons B | Maesuramant |
| | VIEW | | | | VIEW | | VIEW | | VIEW | VIE |
| | Number | Number | | Number | Number | | Measurer | nent | Statist | ics |
| Spring term | Ratio | Algebr | ra - | Decimals | Fraction decimal percent | s and | Area, p and vol | erimeter ume | | |
| | VIEW | | VIEW | VIEW | | VIEW | | VIEW | | VIE |
| - | Geometry | | į | Themed project | ets, conso | didation a | and prob | lem solviı | ng | |
| Summer term | Shape | | Geametry Position and direction | | | | | | | |
| S | | VIEW | VIEW | | | | | | | VIE |

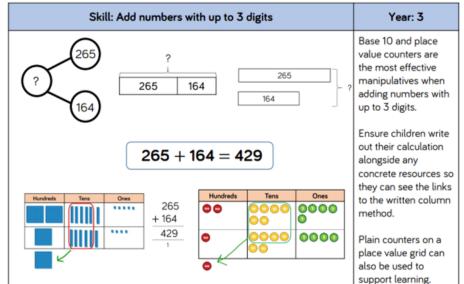


Progression of Knowledge and Skills

To see more about how we build upon knowledge and skills each year, please click on the link to the progression maps and calculation policy below.

http://www.nevillroad-jun.stockport.sch.uk/page/maths/50529

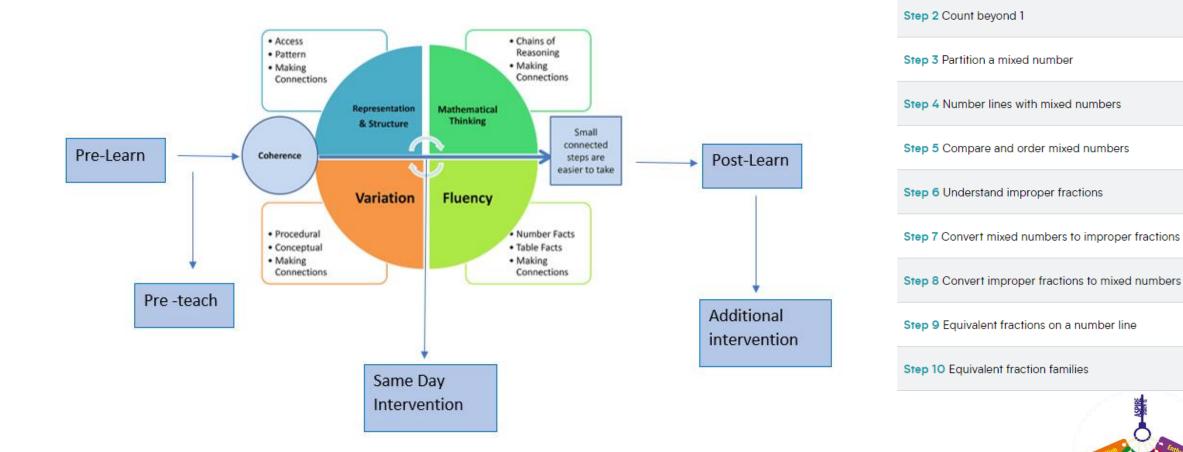
| Year 3 | Number: Num | ber and Place Va | lue Year 6 |
|---|---|---|--|
| | | NTING | 10010 |
| | count backwards through zero to include negative numbers | interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero | use negative numbers in context, and calculate intervals across zero |
| count from 0 in multiples of 4, 8, 50 and 100; | count in multiples of 6, 7, 9, 25 and 1000 | count forwards or backwards in steps of powers of 10 for any given number up to 1000 000 | |
| find 10 or 100 more or less than a given number | find 1000 more or less than a given number | | |
| | COMPARIN | G NUMBERS | |
| compare and order numbers up to 1000 | order and compare numbers beyond 1 000 | read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit | read, write, order and compare numbers up to 10 000 000 and determine the value of |
| | compare numbers with the same number of decimal places up to two decimal places (copied from Fractions) | (appears also in Reading and Writing Numbers) | each digit (appears also in Reading and Writing Numbers) |





SEQUENCE OF LEARNING-ACROSS A UNIT OF WORK

Step 1 Understand the whole



Key to Learning

SEQUENCE OF LEARNING-ACROSS A UNIT OF WORK

- At the beginning of each unit of work a pre-learning activity is completed to help inform planning.
- The pre learning activity is then used to help teachers plan a unit of work. Each unit of work is carefully planned in a sequence of small steps. Each step builds on the step that has come before.
- Children who struggle to grasp a small step receive additional support in the form of Same Day intervention to allow them to keep up.
- Each daily maths lesson is structured in the same way and builds on the small step which has come during the lesson/s before.
- At the end of a unit of work a post learning assessment is carried out and additional intervention planned for those children who still need it.
- Skills learnt within each unit of work are then practised throughout the year in 'Can you still activities' or weekly arithmetic tests.

| | Step 1 Understand the whole |
|---|--|
| | Step 2 Count beyond 1 |
| | Step 3 Partition a mixed number |
| | Step 4 Number lines with mixed numbers |
| | Step 5 Compare and order mixed numbers |
| | Step 6 Understand improper fractions |
| | Step 7 Convert mixed numbers to improper fractions |
| | Step 8 Convert improper fractions to mixed numbers |
| | Step 9 Equivalent fractions on a number line |
| | Step 10 Equivalent fraction families |
| Access Pattern Making Connections | Representation & Structure Thinking Small |
| Pre-Learn Coherence | Variation Fluency Number Facts |
| Pre -teach | Additional intervention |
| | Same Day |
| | Intervention |

MATHS LESSONS

Every Maths lesson at Nevill Road Junior School follows the same structure. Lessons are carefully planned and structured into small steps which are built upon as the lesson progresses.

In maths lessons you will see:

Lessons begin with a recap of previous learning with the use of "Can you still.....?

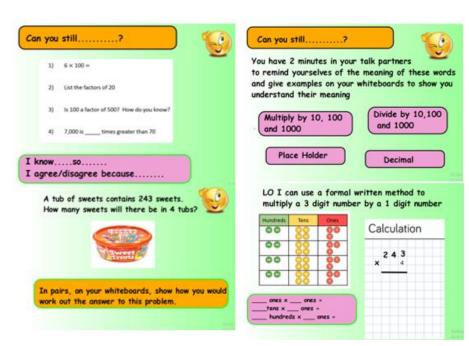
Children given the opportunity to explain their understanding of key mathematical vocabulary that they will then be expected to use throughout the lesson.

A Ping Pong style of delivery where teacher talk is kept to a minimum.

High quality questioning where children are expected to explain their mathematical thinking using sentence stems and the correct mathematical vocabulary

High expectations of all children.

Guided and independent practise where children complete 1, 2 and 3 star challenges





VOCABULARY AND ORACY

and 1000

Decimal

- Mathematical Talk is given high priority in all lessons. Teacher talk is kept to a minimum and children are expected to work in their talk partners and use sentence stems and the correct mathematical vocabulary in their explanations.
- Each classroom has a maths working wall and sentence stems and vocabulary are clearly displayed.
- These strategies support pupils metacognition and lessons are inclusive for all.





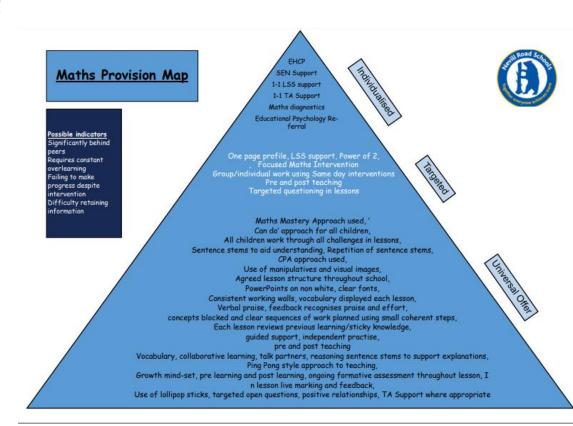
- Every unit of work begins with a pre learning assessment and ends with a post learn.
- Daily marking is completed by the class teacher. Any children who have struggled in the lesson receive Same Day intervention during the afternoon in order to help them keep up.
- NFER tests are completed termly. Children's standardised scores are tracked against their Key Stage 1 outcome
- Chn who are not making progress are identified and support is put in place.

ASSESSMENT

| Nevill Road Junior School FFT Progress Tracker | | | | | | | | | | | | | |
|--|----------------------|------|--|----------------------|------|-----|----------------------|------|----------------|---|---------------------|------|----------------|
| Year Group | | | | | Cla | ass | | | | Μ | latl | าร | |
| FFT | Year 4 - Summer Tern | Gap | | Autumn 2 Scale Score | Gap | | Spring 2 Scale Score | Gap | Gap Difference | | Summer 2 Scale Scor | Gap | Gap Difference |
| | 98 | - 98 | | 96 | 96 | | | 0 | -96 | | | 0 | -96 |
| 95 | - 99 | 4 | | 103 | 8 | | | -95 | -103 | | | -95 | -103 |
| 115 | 101 | -14 | | 105 | -10 | | | -115 | -105 | | | -115 | -109 |
| 95 | 89 | -6 | | 95 | 0 | | | -95 | -95 | | | -95 | -95 |
| 105 | 92 | -13 | | 96 | -9 | | | -105 | -96 | | | -105 | -96 |
| 105 | 109 | 4 | | 112 | 7 | | | -105 | -112 | | | -105 | -112 |
| 105 | 105 | 0 | | 104 | -1 | | | -105 | -104 | | | -105 | -104 |
| 105 | 100 | -5 | | 102 | -3 | | | -105 | -102 | | | -105 | -102 |
| 105 | 109 | 4 | | 113 | 8 | | | -105 | -113 | | | -105 | -11 |
| 105 | 103 | -2 | | | -105 | | | -105 | 0 | | | -105 | (|
| | 98 | 98 | | 100 | 100 | | | 0 | -100 | | | 0 | -100 |
| | 90 | 90 | | 96 | 96 | | | 0 | -96 | | | 0 | -96 |
| | 108 | 108 | | 115 | 115 | | | 0 | -115 | | | 0 | -115 |
| 105 | 101 | -4 | | 102 | -3 | | | -105 | -102 | | | -105 | -102 |
| 105 | 110 | 5 | | 109 | - 4 | | | -105 | -109 | | | -105 | -103 |

INCLUSION

- In all our subject areas we have created a provision map of need that shows how all children are supported in order to enable them to access the full curriculum.
- The needs of all children are considered with a lens on provision for our SEND children and teaching is adopted necessary. We believe that if we are getting it right for our children with additional needs, then we are getting it right for everyone.
- Learning is not capped by differentiation but stretched by enabling all pupils to deepen their learning through a range of texts and reading skills.
- Some tasks are open ended and allow children to present their findings in a variety of creative and individuals ways.
- Staff check in regularly to check understanding.
- Metacognition strategies are used to encourage independent learning such as frames and sentence stems to ensure pupils do not suffer with cognitive overload.
- Teaching assistants are used effectively to help scaffold learning and support children to become more independent learners.
- The growing diversity of our school community means that teachers are adapting lessons to support children who have English as a second language. In reading, EAL pupils will use word mats, picture cues, Google translate, reading texts are chunked into smaller parts to not overwhelm pupils. Advice is sought from EDS.



GREATER DEPTH

At Nevill Road we want all pupils to meet their full potential.

Carefully planned questioning and small sequenced steps within lessons helps to extend thinking.

3 star challenges which incorporate problem solving activities allow children to apply their knowledge and deepen their understanding.

Pupils are assessed at the start of every unit of work and this allows teachers to carefully plan the next sequence of lessons to ensure that all children are challenged.

Pupils receive immediate feedback within lessons or through our marking policy to move their learning forward and deepen their understanding.

Formal Assessments take place each term to identify pupils who are working at a greater depth in order for teachers to continually develop their knowledge and skills.

IMPACT

- 2019 Maths WGD Y6 4%, Y5 35%, Y4 24%, Y3 29%
- 2022 Maths WGD Y6 26%, Y5 46%, Y4 23%, Y3 32%



EQUAL OPPORTUNITIES

To find out more about our Equality Objectives, follow the link below:

http://www.nevillroad-jun.stockport.sch.uk/page/equality-policy-and-objectives/86968



BRITISH VALUES

To find out more about how we promote British Values through our curriculum, follow the link below:

http://www.nevillroad-jun.stockport.sch.uk/page/our-school-values/42774

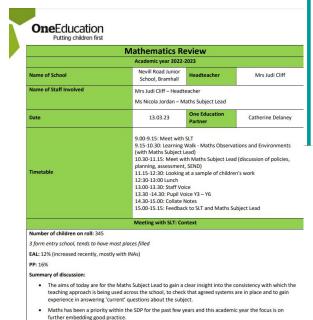


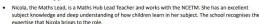
To find out more about how we promote Spiritual, Moral, Social and Cultural (SMSC) through our curriculum, follow the link below:

http://www.nevillroad-jun.stockport.sch.uk/page/smsc/63936

MONITORING AND EVALUATION

- Subject leaders are allocated time to have a 'Deep dive review' This can involve reviewing planning, lesson looks, book scrutiny and pupil voice.
- Reports are produced from visits, monitoring sessions about the intent, implementation and impact.
- This is then fed back to staff or referred to in future staff meetings/emails or INSETS.







Nevill Road Junior School Governor Visits Form Date:

Links with the School Improvement Plan: Maths Mastery development review, staff

Note: This was my first official visit to the school in the capacity of aovernor, and therefore

It is clear that Ms Jordan (with the continued support of Ms Cliff) is delivering the maths

identified by Ms Jordan as needing some development, in particular years 3 and 4

open discussion with the infant school when the opportunity arises.

mastery program to all year groups with a robust and well-thought-out strategy, which has been well received by the teachers and the pupils. There were some areas that were

showing some basic knowledge gaps. This is likely to have transitioned from years 1 and 2, therefore it is important that these knowledge gaps be identified and shored up through

Of particular note during my class room visits to years 3 and 6 were the use of teaching tools such as folloop sticks with pupil names (selected at random to keep all pupils

engaged). The use of "Can you still", reviewing and cementing elements from previous

learner, which clearly offers a structure to problem solving and overall understanding for al involved. It was noted that the year 6 maths language structure wasn't being

adhered to quite as rigorously as the year 3 class, where the pupils were delivering this skill

to a high level, this will hopefully stay with them as they progress through the year groups.

lessons, and priming the classroom to build on what is already known. Focus is given to specific language when asking and answering maths problems, by both teacher and

31/01/2022

Name: Ben Pinnock

Staff members involved:

acts as baseline for future visits:

Purpose of visit: Maths Deep Dive

development and subject knowledge review. Observations and comments made by the governor:

Judi Cliff, Nicola Jordan (with Howard Bousfield)

Key to Learning



DATA

- 2019ASP data shows that progress (-4.7) in maths is well below average for all children. Attainment (S=74% and N=76%) Higher standards (S=4% and N=27%)
- 2020 Data show a significant improvement in data, progress (-1.64) in maths is just below the national average for children. Attainment (S=85% and N=79%) Higherstandards (S23% and N 26%) Due to Covid 19 this data is based upon outcomes from the practise 2019 test (January 2021) as well as teacher assessment.
- 2021 Data show an improvement in progress compared to 2019 (-2.54) in maths and is below the national average for children. Attainment (S=68% and N=68%) Higher standards (S29% and N21%) Due to Covid 19 this data is based upon outcomes from the practise 2019 test (July 2021) as well as teacher assessment.
- 2022 Progress score for Maths -2.4. Attainment (S=74% and N 71%) Higher standards (S 26% and N 22%).

DATA

Summer 2022

| Year Group | EXP | GDS |
|------------|----------|---------|
| Y3 | EXP+ 78% | WGD 33% |
| Y4 | EXP+ 68% | WGD 22% |
| Y5 | EXP+ 74% | WGD 46% |
| Y6 | EXP+ 74% | WGD 26% |

Autumn 2023

| Year Group | EXP | GDS |
|------------|----------|---------|
| Y3 | EXP+ 77% | WGD 51% |
| Y4 | EXP+ 80% | WGD 41% |
| Y5 | EXP+ 57% | WGD 31% |
| Y6 | EXP+ 50% | WGD 8% |



STRENGTHS OF MATHS AT NEVILL ROAD

- * Teacher questioning allows children to give clear mathematical explanations
- * Sentence stems used well in lessons
- * Model of language and emphasis on vocabulary
- * Maths wall present in classes, emphasis on modelling, vocab and STEM reasoning.
- * A no hands up culture supporting through the 'picking pot (lolly sticks)'
- * Subject leader is clear which teachers needs extra support.
- * Teaching through using and addressing misconceptions
- * Children being engaged with real life problems e.g. column addition and football teams..
- * Change in the teachers confidence is very good.
- * Children enjoy maths and talk positively about maths lessons
- * CPD opportunities for subject leader and staff

Maths outcomes in 2022 above national average and number of children achieving Greater depth



NEXT STEPS

- To continue to monitor maths across school and develop Maths Mastery
- To continue to develop and adapt interventions as necessary to support the lowest 20%.
- To continue to work with staff to develop children's independence skills during lessons

through the use of metacognition strategies.

- To improve progress and outcomes for girls and Pupil Premium children
- To continue to develop pupils basic skills in maths, particularly times tables