

Burham Church of England Primary School Mathematics Policy

Safeguarding Statement

The school is committed to safeguarding children and promoting the welfare of children and young people and expects all staff and volunteers to share this commitment.

Status	Date Approved	Next Review
Non-Statutory	July 2023	July 2024

Person responsible: Mrs L Attubato

1. Vision for Mathematics

Mathematics equips children with the uniquely powerful set of tools to help them understand the world. These tools include logical reasoning, problem solving skills and the ability to think in abstract ways. Mathematics is important in everyday life. It is integral to all aspects of life and with this in mind we endeavour to ensure that children develop a healthy and enthusiastic attitude towards mathematics that will stay with them.

We aim to provide the children with a mathematics curriculum, which will produce individuals who are numerate, literate, creative, independent, inquisitive, enquiring and confident. We also aim to provide a stimulating environment and adequate resources so that the children can develop their mathematical skills to their full potential.

In line with the National Curriculum (2014), our overall intent focuses on all pupils being able to:

- Use and understand a wide range of appropriate mathematical language to discuss, explain and justify their mathematical thinking and reasoning.
- Explore and deepen their mathematical understanding through a C-P-A approach, allowing exploration, acquisition of fluency skills and application of skills to a range of problems and lines of enquiry.
- Become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- Move fluently between different representations of mathematical ideas.
- Reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.
- Solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.
- Make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems.
- Apply mathematical knowledge across the curriculum in science and other subjects relating mathematical knowledge and skills to real life situations.
- Access challenges of rich and sophisticated problems when they grasp fluency concepts rapidly rather than progressing to new content.
- Consolidate learning and concepts through repetition and intervention to acquire sound foundations for fluency of mathematics.

2. Curriculum design and approach

The National Curriculum 2014 order for mathematics describes what must be taught in each key stage. Burham CEP School follows the National Curriculum for mathematics 2014. This ensures continuity and progression in the teaching of mathematics.

Our Maths planning is based on Schemes of Learning from White Rose Maths and the NCETM (National Centre for Excellence in the Teaching of Mathematics) materials. This ensures a progressive and thorough curriculum in every year group. Teachers know which objectives must be taught and assessed in each year group and can follow progressive small steps to ensure pupils have a comprehensive understanding of Maths.

White Rose Maths is based on the 'Teaching for Mastery' approach. In the classroom:

- Pupils are taught through whole-class interactive teaching, enabling all to master the concepts necessary for the next part of the curriculum sequence.
- In a typical lesson, the teacher leads back and forth interaction, including questioning, short tasks, explanation, demonstration, and discussion, enabling pupils to think, reason and apply their knowledge to solve problems.
- Use of precise mathematical language enables all pupils to communicate their reasoning and thinking effectively.
- If a pupil fails to grasp a concept or procedure, this is identified quickly, and gaps in understanding are addressed systematically to prevent them falling behind.
- Significant time is spent developing deep understanding of the key ideas that are needed to underpin future learning.
- Key number facts are learnt to automaticity, and other key mathematical facts are learned deeply and practised regularly, to avoid cognitive overload in working memory and enable pupils to focus on new learning.

Taken from The Essence of Mathematics Teaching For Mastery (NCETM)

Fluency in Number and Calculation

Addition and Subtraction:

To develop pupil's fluency in addition and subtraction facts, teachers (and TAs) will teach the core facts alongside the 12 calculation strategies **Number sense maths table to put in.**

Multiplication and division:

To develop pupils fluency in multiplication and division facts, teachers (and TAs) will follow the progression outlined in the Times Tables Sequencing table:

Year	Autumn	Spring	Summer
1		Revisit/Review and Practise: ➤ Continue to develop fluency of counting in 2's and 10's.	Revisit/Review and Practise: ➤ Count in multiples of 10, 2 and 5 in order with growing fluency.
	➤ Count in 2's up to 24, linking with even numbers and supporting doubles. ➤ Count in multiples of 10 in order up to 120.	➤ Count in multiples of 5 up to 60, linking with knowledge of counting in 10s.	➤
2	Revisit/Review and Practise:	Revisit/Review and Practise:	Revisit/Review and Practise:

	<ul style="list-style-type: none"> ➤ Consolidate counting in steps of 2, 5 and 10 in order from 0 up to 12x. 	<ul style="list-style-type: none"> ➤ Count in steps of 2, 5 and 10 in order from 0 up to 12x. ➤ Recall multiples of 10 up to 12x10 in any order, including missing numbers and related division facts. 	<ul style="list-style-type: none"> ➤ Recall multiples of 2, 5 and 10 up to 12x in any order, including missing numbers and related division facts.
	<ul style="list-style-type: none"> ➤ Recall multiples of 10 up to 12x10 in any order, including missing numbers and related division facts. 	<ul style="list-style-type: none"> ➤ Recall multiples of 2 up to 12x2 in any order, including missing numbers and related division facts. ➤ Recall multiples of 5 up to 12x5 in any order, including missing numbers and related division facts. 	<ul style="list-style-type: none"> ➤ Count in multiples of 3 to 12x3 in order from 0.
3	<p>Revisit/Review and Practise:</p> <ul style="list-style-type: none"> ➤ Count in multiples of 2, 5, 10 and 3 to 12x in order from 0. ➤ Recall multiples of 2, 5 and 10 up to 12x in any order, including missing numbers and related division facts. 	<p>Revisit/Review and Practise:</p> <ul style="list-style-type: none"> ➤ Count in multiples of 2, 5, 10, 3 and 4 to 12x in order from 0. ➤ Recall multiples of 2, 5, 10 and 3 up to 12x in any order, including missing numbers and related division facts. 	<p>Revisit/Review and Practise:</p> <ul style="list-style-type: none"> ➤ Count in multiples of 2, 5, 10, 3 and 4 to 12x in order from 0. ➤ Recall multiples of 2, 5, 10, 3 and 4 up to 12x in any order, including missing numbers and related division facts.
	<ul style="list-style-type: none"> ➤ Recall multiples of 3 up to 12x3 in any order, including missing numbers and related division facts. ➤ Count in multiples of 4 to 12x4 in order from 0. ➤ Introduce (relating to x4) and begin to count in multiples of 8 from 0 to 12x8. 	<ul style="list-style-type: none"> ➤ Count in multiples of 8 to 12x8 in order from 0. ➤ Recall multiples of 4 up to 12x4 in any order, including missing numbers and related division facts. ➤ Count in multiples of 8 to 12x8 in order from 0. 	<ul style="list-style-type: none"> ➤ Recall multiples of 8 up to 12x8 in any order, including missing numbers and related division facts.
4	<p>Revisit/Review and Practise:</p> <ul style="list-style-type: none"> ➤ Count in multiples of 2, 5, 10, 3 and 4 to 12x in order from 0. ➤ Recall multiples of 2, 5, 10, 3, 4 and 8 up to 12x in any order, including missing 	<p>Revisit/Review and Practise:</p> <ul style="list-style-type: none"> ➤ Count in multiples of 2, 5, 10, 3, 4, 8 and 6 to 12x in order from 0. ➤ Recall multiples of 2, 5, 10, 3, 4, 8 and 6 up to 12x in any order, including missing 	<p>Revisit/Review and Practise:</p> <ul style="list-style-type: none"> ➤ Count in multiples of 2, 5, 10, 3, 4, 8, 6, 7, 9 and 11 to 12x in order from 0. ➤ Recall multiples of 2, 5, 10, 3, 4, 8, 6 and 7 up to 12x in any order, including missing

	numbers and related division facts.	numbers and related division facts.	numbers and related division facts.
	<ul style="list-style-type: none"> ➤ Count in 6's in order up to 12x6, using multiples of 3 to support. ➤ Recall multiples of 6 in any order, including missing numbers and related division facts with growing fluency. ➤ Count in 7's in order up to 12x7. 	<ul style="list-style-type: none"> ➤ Recall multiples of 7 in any order, including missing numbers and related division facts. ➤ Recall multiples of 7 in any order, including missing numbers and related division facts. ➤ Count in 9's in order up to 12x9. ➤ Count in 11's in order up to 12x11. 	<ul style="list-style-type: none"> ➤ Recall multiples of 9 in any order, including missing numbers and related division facts with growing fluency (using 10x and adjusting by 1 group to find 9x as a strategy). ➤ Recall multiples of 11 in any order, including missing numbers and related division facts fluently. ➤ Count in 12's in order up to 12x12. ➤ Recall multiples of 9 in any order, including missing numbers and related division facts fluently. ➤ Recall multiples of 12 in any order, including missing numbers and related division facts with growing fluency (using 10x and adjusting by adding 2 more groups).
5	Revisit/Review and Practise: <ul style="list-style-type: none"> ➤ Count in multiples of 2, 5, 10, 3, 4, 8, 6, 7, 9, 11 and 12 to 12x in order from 0. ➤ Recall multiples of all times tables up to 12x12 in any order, including missing numbers and related division facts with growing fluency. 		
6	Revisit/Review and Practise: <ul style="list-style-type: none"> ➤ Count in multiples of 2, 5, 10, 3, 4, 8, 6, 7, 9, 11 and 12 to 12x in order from 0. ➤ Recall multiples of all times tables up to 12x12 in any order, including missing numbers and related division facts with growing fluency. 		

3. Features of teaching

Careful planning and preparation ensures that throughout the school pupils engage in:

- practical activities and games using a variety of resources
- problem solving to challenge thinking
- individual, paired, group and whole class learning and discussions
- purposeful practise where time is given to apply their learning

- open and closed tasks
- working with computers as a mathematical tool.

Pupils are taught a variety of methods for recording their work and are encouraged and helped to use the most appropriate and convenient. Pupils are encouraged to use mental strategies and their own jottings before resorting to more formal written methods. Pupils' own jottings to support their work is encouraged throughout all year groups. Calculators are also used in KS2, where appropriate.

Teachers model the use of mathematical vocabulary, encouraging children to explain their thinking and strategies. Misconceptions are addressed during lessons to embed understanding.

Manipulatives and mathematical resources are central to pupils' conceptual understanding and as a tool to support reasoning. Their use is modelled and encouraged at all ages and stages. Each class has a stock of core resources that are age appropriate. Additional mathematical equipment and resources are stored centrally.

4. Lesson structure:

In all lessons, learning objectives and success criteria are clearly displayed and discussed.

The emphasis in lessons is to make teaching interactive and lively, to engage all pupils encouraging them to talk about mathematics. Lessons involve elements of:

- instruction – giving information and structuring it well
- demonstrating – showing, describing and modelling mathematics using appropriate resources and visual displays
- explaining and illustrating – giving accurate and well-paced explanations
- questioning and discussing
- consolidating
- reflecting and evaluating responses – identifying mistakes and using them as positive teaching points
- summarising – reviewing mathematics that has been taught enabling pupils to focus on next steps.

EYFS

The revised Early Years Framework says:

- Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers.
- By providing frequent and varied opportunities to build and apply this understanding — such as using manipulatives, including small pebbles and tens frames for organising counting — children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built.
- In addition, it is important that the curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures.
- It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes.

We aim to meet these needs by developing pupils' number sense in daily 15-minute whole class sessions using structured apparatus. Maths will also be threaded throughout the day and pupils will be exposed to opportunities to use, apply and develop their mathematical skills as part of their play. This will be achieved by the following:

- Integrating mathematics into daily routines such as registration and lunch numbers.

- Reinforcing the key number structures of 5 and 10 using five frames and ten frames as part of routines and in play, for example placing conkers into a 10 frame to find out how many in the collection and displaying five and 10 frame signs in learning areas to show the number of pupils the space is set up for.
- Building pattern spotting and pattern making into daily routines, for example when lining up, parking the bikes and scooters etc, and by making materials available that encourage pattern work.
- Adults will model how they use mathematics in play and encourage the development of mathematical language.
- The environment will be arranged to encourage the use of mathematics to organise equipment and develop subitising, for example three hooks on the wall in a triangle pattern for the three spades at the sandpit.
- Where stories refer to mathematical ideas, these will be teased out and activities set up to build on the maths in the story.

Whether children prefer to learn inside or out, there will be a broad and balanced range of mathematical learning opportunities in both environments and in all areas, so no child is disadvantaged.

Key Stage One

Pupils will have the following:

- A small number of revisit and review questions to tackle independently at the start of each day. The pupil's responses are discussed and misconceptions are addressed.
- Daily number sense maths (15 minutes) before the main lesson.
- A daily maths lesson of between 30-45 minutes either straight after the number sense session or later in the day.
- Access to manipulatives (natural objects and mathematical equipment) to support the development of their conceptual understanding which will be modelled by the teacher (and teaching assistants where available).
- Opportunities to record their learning pictorially, as modelled by the teacher (and teaching assistants where available).
- Access to 10 frames to develop their understanding of the structure of numbers and continue to secure their ability to subitise.
- Regular opportunities to use the counting stick to count in groups of two, five and 10 and, in Year 2, in threes.
- Weekly direct teaching to secure the multiplication facts in the two-, five- and ten-times tables (From the end of Year 1 – see Times Tables Sequencing table in section 2 for the order and term in which each times table should be taught).

Key Stage Two

Pupils will have the following:

- A small number of revisit and review questions to tackle independently at the start of each day. The pupil's responses are discussed and misconceptions are addressed.
- A daily maths lesson of between 45-60 minutes.
- Daily fluency warm-ups (maximum 10 mins.) to prepare pupils for the main teaching (the warm-up should either serve to revise prior learning in preparation for new learning or rehearse a previously taught concept to give additional practise to consolidate learning).
- Access to manipulatives to support the development of their conceptual understanding which will be modelled by the teacher (and teaching assistants where available).
- Opportunities to record their learning pictorially, as modelled by the teacher (and teaching assistants where available).
- Regular opportunities to use the counting stick to count in groups of whole numbers, fractions and decimals (from Year 4).

- Weekly direct teaching to secure the multiplication facts in the 4, 6, 7, 8, 9, 11- and 12-times tables (see Times Tables Sequencing table in section 2 for the order and term in which each times table should be taught).

5. Calculation Policy

It is essential for continuity and progression that we model procedural calculation methods consistently across the school. All adults working with pupils should refer to the White Rose Maths Addition and Subtraction, and the White Rose Multiplication and Division Calculation Policies when planning and teaching or delivering interventions.

6. Mathematics / Numeracy Across the Curriculum

Mathematics contributes to many subjects and it is important the children are given opportunities to apply and use mathematics in real contexts across the curriculum.

‘It is important that time is found in other subjects for pupils to develop their Numeracy Skills, e.g. there should be regular, carefully planned opportunities for measuring in science and technology, for the consideration of the properties of shape and geometric patterns in technology and art and for the collection and presentation of data in history and geography.’ (NNS)

7. Inclusion and Equal Opportunities

Daily mathematics lessons are inclusive to children with special educational needs and disabilities. Where required, children’s provision maps incorporate suitable objectives from the National Curriculum for Mathematics or Development Matters and teachers keep these in mind when planning work. These targets may be worked upon within the lesson as well as on a 1:1 basis outside the mathematics lesson.

In class support is provided on a daily basis, through keep up intervention, for pupils who have gaps in their learning and mathematical understanding to ensure they are ready for the next lesson.

For SEND pupils a reduced curriculum based on Ready to Progress Criteria in the DFE’s Mathematics Guidance for Key Stages 1 and 2, may be more appropriate. This resource should also be used for catch up interventions as required. This resource, alongside the NCETM (National Centre for Excellence in the Teaching of Mathematics) Ready to Progress Exemplification Materials, should be used to structure teaching for these individuals and small groups. These are delivered by the class teacher or trained support staff and overseen by the SENCO and/or the class teacher.

Within the daily mathematics lesson, teachers have a responsibility to not only provide differentiated activities to support children with SEND but also activities that provide sufficient challenge for children who are high achievers. It is the teachers’ responsibility to ensure that all children are challenged at a level appropriate to their ability. Suitable resources to use

- White Rose Maths scheme
- NCETM Teaching for Mastery booklets <https://www.ncetm.org.uk/classroom-resources/assessment-materials-primary/>
- NCETM National Curriculum exemplification <https://www.ncetm.org.uk/in-the-classroom/national-curriculum-resource-tool/>
- NCETM PD materials <https://www.ncetm.org.uk/teaching-for-mastery/mastery-materials/primary-mastery-professional-development/>

- I See Maths resources – ‘I see reasoning’ and ‘I see problem solving’ (not free): <https://www.iseemaths.com/>
- SATs questions – use throughout KS2 and Y2 as a free high quality reasoning resource

8. Responding to Pupils’ Work / Feedback / Marking

Lessons are structured to ensure that every opportunity to provide in-lesson feedback is taken, whether that is verbal or written. ‘In the moment’ marking should be utilised to check that pupils’ understand the task at the earliest opportunity and are moved on to more challenging work as soon as they are ready. Mini plenaries are held to discuss strategies and misconceptions. This provides the children with immediate feedback, time to correct and time to reflect on their learning.

In-lesson marking also enables the teacher to identify pupils who have not securely grasped the day’s learning or who may have a misconception. These pupils can be targeted later in the day for ‘Keep Up’ Intervention. Other pupils may benefit from further practise to consolidate learning, whilst some pupils will be ready to take their learning deeper. Pupils’ books should be sorted or marked up accordingly, following the school’s agreed marking code (refer to Feedback and Marking Policy).

Marking of pupils’ work is essential to ensure they make further progress. Work is marked against success criteria, in line with the school marking policy, and includes next steps. Pupils are encouraged to self-assess their work and given time to read teachers’ comments and make corrections or improvements. Written responses to marking are made as soon as possible after the work has been completed, ideally at the start of the next lesson.

Some pieces of work in mathematics can be marked by pupils themselves with support and guidance from the teacher; this includes exercises involving routine practice– particularly in upper KS2.

9. Assessment, Record Keeping and Target Setting

Assessment is an integral part of the teaching process and we strive to make our assessment purposeful, allowing us to match the correct level of work to the needs of the children, thus benefiting them and ensuring confidence and progress.

White Rose Maths planning is taught in blocks. Two weeks prior to each block, the children complete a pre-assessment from the previous years end of block assessment to inform planning. Teachers then build in opportunities to address any gaps or misconceptions from the previous years block to ensure that all pupils are at the same starting point ready to move on.

Flash backs are used prior to each lesson to provide opportunities for pupils to practice and consolidate previous learning and demonstrate what they have retained. This assessment information should be used by teachers throughout the term to address the gaps or misconceptions.

At the end of each term, the White Rose end of term assessment will be used to check that pupils are on track and have retained that terms new learning.

To assess the learning of multiplication tables, Times Tables Rock Star assessments are completed and teachers analyse the generated ‘heat maps’ to identify weaknesses in times tables and specific times tables facts.

At the end of the summer term, pupils also complete the Puma Mathematics Assessment Progress in Understanding Mathematics Assessment (PUMA), which is a standardised, curriculum-related test developed to evaluate children’s progress in Maths. PUMA uses age-standardised scores, standardised

scores, and the Hodder scale score to access the progress of children and help to generate accurate performance indicators that provide a true picture of pupil progress.

In Early Years, the children are assessed on entry using the statutory Baseline Assessment and then against the Early Years Foundation Profile in the summer term.

National Curriculum tests are used at the end of KS1 and 2; teachers use past and sample papers to inform their teacher judgements as they prepare the children for these assessments. The Multiplication Check is administered in Year 4 during the Term 6 and teachers use the practice mode to help children prepare for the check.

10. Presentation

In KS1 and KS2 pupils are expected to:

- use an A4 squared paper maths book – (centimetre squared in KS1, 0.5cm squared in KS2)
- draw a left-hand margin and a central margin with a ruler
- write the short date at the top right-hand corner of their page
- stick the printed learning objective into their books in Years 1 – 4 if the activity is being completed in their books, otherwise it is already on the White Rose Maths activity sheets
- write the learning objective underneath the date in Years 5 – 6 the children if the activity is being completed in their books and underline it with a ruler
- use one square for each digit when writing calculations
- use a ruler to draw all straight lines
- neatly draw a line through mistakes, writing the correction alongside (the use of erasers should be limited to occasions where it is clearer to start from fresh, e.g. drawing shapes or graphs)
- mark and edit their work using a green pen (refer to the Marking and Feedback Policy).

Refer to the Handwriting Policy for the correct format for the digits 0-9.

11. Promoting SMSC through Mathematics

We develop pupils' social skills in mathematics by the following.

- Looking for opportunities for pupils to use mini whiteboards to build self-confidence.
- Encouraging collaborative learning in the classroom in the form of listening and learning from each other and paired discussion/working partners.
- Developing their mathematical voice and powers of logic, reasoning and explanation by offering explanations to each other.
- Seeking out events and team maths challenges for increased pupil involvement.

We develop pupils' morals in mathematics by the following.

- Encouraging respect and rewarding good behaviour for learning.
- Valuing other's views and opinions on problem solving.
- Promoting discussion about mathematical understanding and challenge bias and assumptions, supporting pupils to question information and data that they are presented with.
- Showing pupils that we are on a quest for truth by rigorous and logical argument and discouraging them from jumping to conclusions.
- Equipping students with a solid grounding to understand all areas of mathematics which will support them in their adult lives: understanding finances, managing time, and providing skills to problem solve and think critically etc.

We incorporate mathematics into a wide range of cross-curricular subjects and seek to take advantage of multicultural aspects of mathematics e.g. Islamic patterns in RE.

All children have equal access to the curriculum regardless of their gender. This is monitored by analysing pupil performance throughout the school to ensure that there is no disparity between groups.

Spirituality is developed through mathematics wherever possible, following the aims of our Vision. A sense of awe is encouraged when working with concepts such as patterns in the environment and infinity, linking these to God's wonderful world and love for us all. Where appropriate, specific mention of our school's Christian values will be made, such as solving money problems phrased around charity and giving rather than self-centered receiving.

12. Displays and Working Walls

Each classroom should have a maths display relating to the current unit of work. The maths display should be presented to the pupils as a 'maths working wall' in classrooms from Reception to Year 6. Displays should be accessible to both teaching staff and the pupils and should be updated regularly to reflect the pace of learning.

All teaching staff follow a list of essentials (what should be included on their 'working walls') to ensure that these displays are useful, purposeful and effective in promoting children's independence and progress in the subject. This list includes:

- key vocabulary
- models (using mathematical equipment) and images
- current learning objectives (updated at least weekly)
- examples of methods and calculations
- questions to promote investigative thinking
- examples of pupils' reasoning and working
- interactive opportunities.

See appendix for examples of working walls and guidance:

13. Parental Involvement and Homework

The role of parents and carers is central to ensuring successful outcomes for pupils. Whilst not every parent will have fond memories of their own mathematics education or high self-esteem where maths is concerned, we firmly believe that we share in the school's vision for our pupils' futures.

Parents/carers are supported and encouraged to play an active role in their child's mathematics education by:

- participating in annual maths workshops
- reading the half-termly Maths Newsletter and trying out the activities in the school holidays
- supporting their child with their homework.

Homework

- Times Tables Rock Stars, a fully interactive online mathematics learning tool for pupils is used by teachers to support mathematics learning both in class and at home.
- Pupils are set homework on See Saw in line with the homework policy and are encouraged by school to access it regularly at home to support areas of mathematical learning.

14. Role of the Subject Leader

- To lead in the development of mathematics throughout the school.
- To monitor the planning, teaching and learning of mathematics throughout the school.
- To help raise standards in mathematics.
- To provide teachers with support in the teaching of mathematics.
- To provide staff with CPD opportunities in relation to mathematics within the confines of the budget and the School Improvement Plan.
- To monitor and maintain high quality resources.
- To keep up to date with new developments in the area of mathematics.

15. Monitoring and Evaluation

Monitoring activities are carried out by the maths subject leader, often in conjunction with members of the senior leadership team. Monitoring takes a range of forms across the year, with the type of activity and focus varied from year to year to ensure all maths topics are seen being taught over time.

Monitoring activities seek to support staff by answering the following questions.

- How good is teacher subject knowledge?
- Are teaching assistants sufficiently well trained to provide effective support?
- Does the scheme of learning support teachers to plan effective lessons whilst making workload more manageable?
- Do pupils have easy access to the right resources at the appropriate time?
- How effective is the Calculation Policy in supporting teaching and learning?
- Are pupils falling behind or at risk well supported to make accelerated progress?
- Is there sufficient challenge for faster graspers without the need for lots of additional work to be planned?
- Are assessment activities manageable and effective at gathering the information necessary for teachers to plan from pupils' starting points?

Term	Monitoring Activity	Focus
Autumn 1	Meetings with class teachers (after school)	Audit of resources
Autumn 2	Lesson observations by SLT and/or Maths Subject Leader	Teacher subject knowledge
Spring 1	Pupil conferencing	Attitudes to maths
Spring 2	Book look (with SLT)	Support and challenge
Summer 1	Parent voice	General overview from parent perspective – feed into parental support for next year
Summer 2	Supporting moderation (with SLT)	Accuracy of teacher assessment

This policy should be read in conjunction with the following school policies:

- Handwriting
- Assessment and Record Keeping
- Feedback and Marking
- Equal Opportunities
- Health and Safety
- SEN
- Computing

Appendix

- National Curriculum Statutory Appendices 1 and 2 – find in our Networks Staff Shared area under Maths
- White Rose Calculation Policy for Addition and Subtraction - find in our Networks Staff Shared area under Maths
- White Rose Calculation Policy for Multiplication and Division - find in our Networks Staff Shared area under Maths
- White Rose Maths overviews for Years 1- 6 - find in our Networks Staff Shared area under Maths

Available resources:

In Classrooms:

KS1

- Rekenreks
- Double sided counters
- Numicon
- Dice
- Metre sticks

KS2

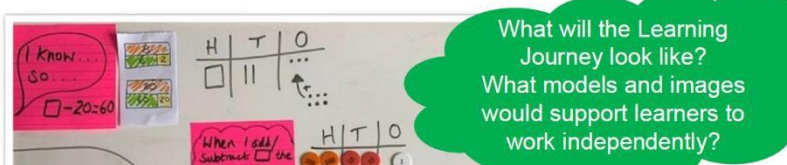
- Double sided counters
- Place value counters
- Dice
- Metre sticks

Central Resources:

- Mirrors
- Scales
- Weights
- Measuring tapes
- Clocks and timers
- 2D and 3D shapes
- Capacity resources
- Money
- Trundle wheels

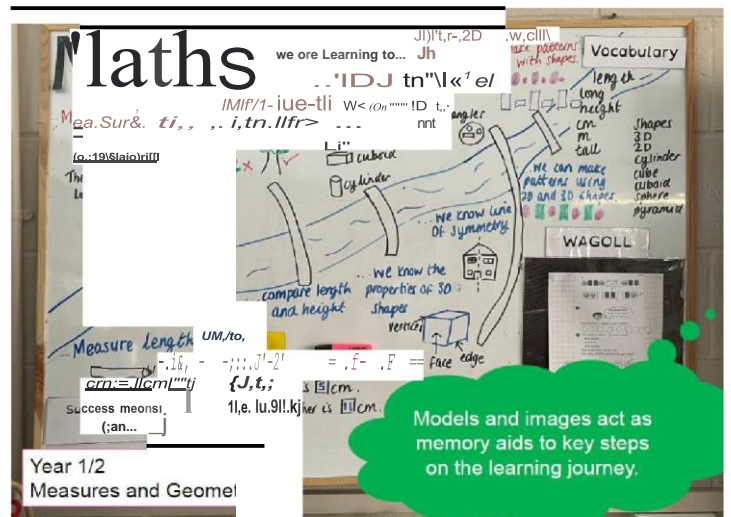
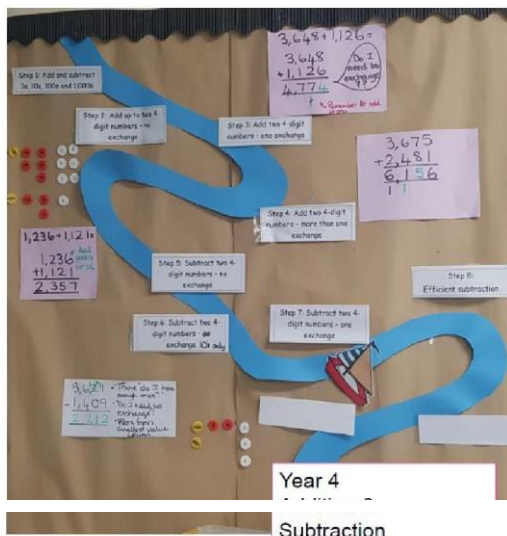
Examples of Working walls and guidance (supplied by Sarah Carpenter Maths Advisor):

Supporting Independence: Using the Working Wall to Scaffold Learning

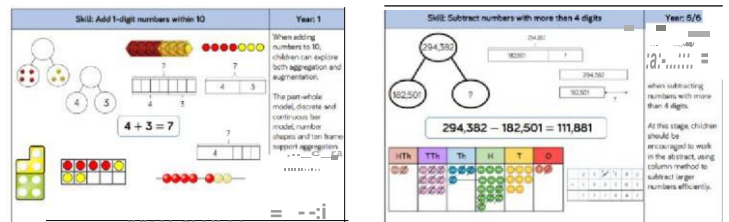


Notice how this teacher has used the schemes 'steps in learning' to structure the learning journey on the Working Wall, with key representations and learning points exemplified.

- Step 1 Add and subtract to 10s, 100s and 1000s
- Step 2 Add up to two 4-digit numbers - no exchange
- Step 3 Add two 4-digit numbers - one exchange
- Step 4 Add two 4-digit numbers - more than one exchange
- Step 5 Subtract two 4-digit numbers - no exchange
- Step 6 Subtract two 4-digit numbers - one exchange
- Step 7 Subtract two 4-digit numbers - more than one exchange



models and images. However, your Calculation Policy can be another helpful tool for deciding which representations will clarify concepts and procedures for pupils, leading to a deep understanding.



Taken from White Rose. Scroll to the bottom of the Schemes of Learning pages to the blue footer bar and choose 'Guidance' tab.

Mapping the Learning Journey on the Working Wall to Scaffold Learning

Map out the Working Wall for your current or next unit.

Consider:

- ▶ **The starting point:** What prior learning will you need to activate to help pupils make connections to previous units, this year or last?
- ▶ **Key milestones:** What are the key steps in learning that pupils need to master?
- ▶ **Breakdown:** What models and images would support learners to work independently?
- ▶ **Committing the journey to memory:** What models and images will make key learning 'stick'?
- ▶ **Bends in the road:** Where are the potential bends in the road that could slow progress, or bumps that could send pupils off course?

