



Grove Vale Primary School
Maths Policy

Maths

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Rationale

At Grove Vale we aim to inspire all children to reach their full academic potential. In mathematics this means ensuring an ambitious curriculum that is fully inclusive of all children which:

- ✓ Ensures children at Grove Vale are emerged in a rich and high-quality math curriculum, enabling freedom to be **creative**.
- ✓ Gives children the chance to develop the power of **resilience** by believing in themselves when being faced with mathematical challenges.
- ✓ Encourages children have opportunities to be **curious**, making connections between mathematical processes and the world around them.
- ✓ Develops children as independent learners, having self-drive to be **ambitious** by being a part of progressing and challenging themselves and not being afraid to take risks.
- ✓ Makes sure fluency, problem solving and reasoning is developed sequentially to ensure children have a strong foundation to build upon and can recall facts quicker.

This policy is set within the context of the school's needs, vision, aims and policy on teaching and learning. As a result of their learning in mathematics and problem solving across the curriculum children will:

- ✓ Show quick recall of mathematical facts and procedures.
- ✓ Be engaged in a risk-free math learning environment where
- ✓ Confidently and flexibly use, embed and link mathematical skills and processes across a range of contexts and representations, including real life situations.
- ✓ See the curriculum drivers are strongly evident within the math provision.
- ✓ Take an ambitious responsibility of their own learning, with evidence of independent self-driven learning and challenge.
- ✓ Have access to high quality and rich provision for fluency, problem solving and reasoning with mathematical vocabulary rooted in this.

Planning

Teachers are to plan using the National Curriculum 2014 document, using the curriculum statements provided in Insight Tracker. The objectives for each group need to be referenced to the year group specific objectives relating to particular skills to aid the sequence of progression. Teachers in the EYFS will use the Early Years Foundation Stage statutory document (September 2014) and Development Matters (2012)

Longer term planning:

Medium term plans are to be produced for each half term ensuring that over a whole term there is coverage of all the different areas of maths. Medium term plans are lined to the whole school overview of math skills. Short term planning should reflect whole school overview.

Short term planning:

- ✓ Session plans produced for each session of maths
- ✓ Clear differentiation for each group. The pitch for each group should match the level children are working at and linked to their targets and next steps and this should be reflected in their work and objectives.
- ✓ Provision for higher ability and gifted children through appropriate challenge, to be on planning (use of White Rose challenges).
- ✓ If children are working below expected levels or are SEN; provision for these children needs to reflect this. (All about me document to be cross referenced)
- ✓ Clear roles for adults in the classroom during whole class teaching and group work and how this is utilised to have the biggest impact on all learners.
- ✓ Clear learning objectives, in children friendly speak.
- ✓ Clear indication of 'How to get green' (success criteria)
- ✓ Flexible groupings (classes, mixed ability, setting)
- ✓ Planned opportunities for using and applying skills learnt in maths in real life contexts.
- ✓ Opportunities for cross curricular links.
- ✓ Timetable practise
- ✓ Opportunities planned for outdoor learning.
- ✓ Short term units of work that show a learning journey and progression through a topic, allowing children to apply their maths skills to solve a problem.
- ✓ Teachers to plan time for children to respond to teacher feedback, marking and any gap related tasks.
- ✓ Clear teacher modelling and questioning should be evident on the session planning and working wall.
- ✓ Problem solving and reasoning should be planned in regularly to practice different elements of problem solving, including: finding all possibilities, logic problems, finding rules and describing patterns, diagram/visual problems and exploring different aspects of number. During these investigations, there should be a honing in on specific problem-solving skills that are transferable to other contexts. This should be embedded in your learning journey.
- ✓ Has concrete and pictorial resources used consistently to reinforce approaches.
- ✓ Plan in fluency and retrieval activities (see teaching)

Teaching

Children should have 4-5 hours a week of maths teaching, this could be as a discrete hour session or blocked over a day or mornings. All children are expected to work on mental objectives regularly in the back of their books, EYFS and KS1 delivering daily snappy maths sessions. KS2 will complete weekly timetables test and mental maths test. 4 hours of learning should be evident in books.

Recording in books:

ONLY PENCIL TO BE USED

Reception

All evidence of adult led maths to be collated in the same blue maths books – worksheets need to be dated and LO written above work in child friendly language. Use of photos to evidence children learning alongside an observational comment and a next step if applicable.

Year 1

Children to use plain A4 books and begin to use large square book. All work must have a short date and Learning Objective (in child speak) written above each piece of work.

Year 2

Children will use A4 large squared books. Same as year 1 but as the year progresses the children will begin to use a margin and start writing their own LO and date.

Year 3 – Year 6

Children to use A4 squared books. Double margins to be drawn (Year 3 may begin with single margin in September and move toward double in summer term). If completing work that will take up the page e.g. shape/graph – single margin to be used. All work must have a short date and learning objective (in child speak) written above each piece of work. Use of mental math books in UKS2.

Recording of practical work:

A generic photo to be taken and a short comment written about how that child did completing the task. Children can be recorded to capture problem solving or reasoning comments.

Use of worksheets across the school:

It is fully acceptable to use worksheets however please think about children recording in their books as priority. If a worksheet is used it must be trimmed and not take children away from using the squares in their book to complete (i.e. worksheet with squared grid on it, layered on top of already squared paper). Sticking in A4 sheets is prohibited.

Concrete, Pictorial, Abstract:

Where possible, children will always have the opportunity to explore concepts concretely, moving to representing that pictorially to then calculating with an abstract method. High quality resources and provision will ensure that each stage consolidates the next.

Calculation Policy:

The whole school sequenced calculation policy is adhered to when planning to ensure work is pitched accurately and whole school sequencing vision is effective and progressive.

Learning journeys:

These will last 1-3 weeks and will show progression through a unit of maths. They will begin with a cover sheet on yellow introducing the topic and giving an example of a problem the children will be able to solve at the end. Childrens ability and progress against different math strands will be reviewed termly through testing.

Gaps:

Any arising gaps in childrens learning will be identified through a string of assessment techniques, once identified, interventions or extra support will be put in place to ensure that child reaches their potential.

Retrieval:

Daily fluency in 5 activity to have a calculation to complete for all 4 operations in 5 minutes to contribute to fluency and speed with calculations. Daily retrieval activity or question based on a prior area of learning (this could link to current gaps). Both to be recorded in books as part of learning journey.

Assessment

Marking and Feedback

Daily marking of books using schools marking scheme (see AFL policy)– highlighting the learning objective in all books. Children will have access to high quality marking and feedback, highlighting areas of success in green and areas of improvement in yellow. Teachers should tell children what to improve on and show them how to improve using different forms of prompts. Teachers to say verbally or written what the children have done well and provide a gap task (GT) to move the learning on. Children will self-assess their work daily, using a green or yellow dot after the learning objective. VF is written if verbal feedback is given. Opportunities for peer and self- assessment to be carried out. S should be written near the LO if work is supported and I if work is completed independently.

Pre-Assessment

In advance of each learning journey, a pre-assessment of the topic is to take place, this will use pitch and expectations questions all based on that area of maths. This should be differentiated depending on group. These pre-assessments used formatively to directly impact the planning of that topic based on childrens knowledge and needs.

Observations

In Reception observations of the children during child-initiated times are to be carried out on a daily basis these are used to inform teachers judgements, these are recorded on tapestry.

Summative Tests

Tests are to be carried out to review retention of fluency, problem solving and reasoning. Outcomes of this will be logged, with teachers making steps to bridge any gaps identified as a part of the test process.

Formative Testing

Weekly timetable tests are conducted to ensure fluency of mental maths and year group expectations are being adhered to so they are prepared for moving up.

Summative Assessment

Each term teachers will complete termly electronic assessments of the children using the curriculum objectives on Insight Assessment Tracker, this will use a combination of teacher assessment to make a judgment on whether the child is WTS, EXP or GDS that term.

Display and Resources

In every classroom there will be a maths working wall which is easily accessible to children and referred to in lessons and updated to reflect the current topic.

Reception:

- ✓ Large Numbers 0-20 (numbers and words)
- ✓ Numbers to order, washing line
- ✓ 1 more 1 less
- ✓ Number line/track (at children's height, by whiteboard)
- ✓ Numbers in 5's
- ✓ Numbers in 2's
- ✓ WAGOLLS: addition, subtraction – using objects (examples of questions)
- ✓ Vocab: addition, subtraction, equals
- ✓ Days of the week
- ✓ Months of the year
- ✓ Shapes: 2D and 3D – names examples of real life
- ✓ Year group/ Phase specific calculation policy

Year 1:

- ✓ Numbers 0-20 (numbers and words)
- ✓ Number line
- ✓ 100 square
- ✓ Numbers in 10's
- ✓ Numbers in 2's
- ✓ Numbers in 5's
- ✓ Odd and evens
- ✓ Number bonds
- ✓ Doubles
- ✓ WAGOLLS: addition, subtraction
- ✓ Vocab: addition, subtraction, equals
- ✓ Days of the week
- ✓ Months of the year
- ✓ Shapes: 2D and 3D – names examples of real life
- ✓ Clock
- ✓ Money
- ✓ RUCSAC steps
- ✓ Year group/ Phase specific calculation policy

Working wall changed/added to, to match learning journey

Year 2:

- ✓ Number line
- ✓ 100 square
- ✓ Numbers in 10's
- ✓ Numbers in 2's
- ✓ Numbers in 5's
- ✓ Odd and evens
- ✓ Number bonds (addition and subtraction)
- ✓ Doubles
- ✓ WAGOLLS: addition, subtraction, multiplication, sharing
- ✓ Vocab: addition, subtraction, equals, multiplication, divide
- ✓ RUCSAC steps
- ✓ Days of the week
- ✓ Months of the year
- ✓ Shapes: 2D and 3D – names examples of real life
- ✓ Year group/ Phase specific calculation policy

Working wall changed/added to, to match learning journey (language, example, p&E problem)

KS2

- ✓ 100 square
- ✓ Times table square/lists
- ✓ Maths vocab: +, -, x and divide
- ✓ WAGOLLS for +, -, x and divide
- ✓ Roman numerals
- ✓ Negative numbers (yr 4-6)
- ✓ Months of the year through birthdays (yr 3)
- ✓ Days of the week (yr 3)
- ✓ 2D and 3D shapes
- ✓ Year group/ Phase specific calculation policy

Working wall changed/added to, to match learning journey (language, examples, p&E problem)

Equal Opportunities

At Grove Vale Primary School mathematics is incorporated into a wide range of cross curricular subjects and class teachers seek to take advantage of multicultural aspects of mathematics e.g. Islamic patterns in R.E.

All children have equal access to the curriculum regardless of gender, race, ethnicity, ability or anything else. This is monitored by analysing pupils' performance throughout the school to ensure that there is no disparity between groups.

Parents and Homework

We recognise that parents make a significant difference to children's progress in Maths and encourage this partnership. At Grove Vale Primary School, we encourage parents to be involved by:

- ✓ Inviting them into school twice yearly to discuss the progress of their child
- ✓ Inviting parents into school in the summer term to discuss the annual report
- ✓ Inviting parents of Year 2 and Year 6 to a meeting in the autumn term to advise them how they can support their children with SATs
- ✓ Letter sent out to parents advising expectations regarding timetables.
- ✓ Holding workshops or showcases for parents
- ✓ Sharing good work on SharePoint or twitter
- ✓ Effort reports sent out at the end of autumn and spring term to demonstrate progress and attainment.
- ✓ Yearly more detailed reports, this involves a comprehensive written comment about the child's progress and attainment in maths as well as indicators of how well they are accessing their year groups curriculum.

Homework should be sent out weekly to consolidate learning taken place that week. This should be challenging but also considering the fact parents may not be confident in supporting children at home with maths.

Timetable Rockstars is used regularly to consolidate and practise timetables, each child has their own log in, and classes are encouraged to compete against themselves and in class and school tournaments.

