



Learning and Growing Together

Hand in Hand

Mental Maths Policy

Reviewed: Autumn 2018

Next Review: Autumn 2020

Mr S Cains

Policy confirmed by the Governing Body of Grace Mary Primary School on:

Date: 17th November 2018

Headteacher Signature: _____

Chair of Governors Signature _____

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Grace Mary Primary School Mental Maths Calculation Policy

This policy contains the key mental procedures that will be taught at Grace Mary Primary School. It has been written to ensure consistency and progression throughout the school and reflects a whole school agreement. At Grace Mary, children from an early age are given regular opportunities to develop a sense of number. This will allow children to deal with number much more confidently.

The focus of the policy is on mental strategies which will then lead on to written methods. These mental methods will be taught systematically from Reception onwards and pupils will be given daily opportunities to develop and hone the necessary skills through a structured timetable of progression and maths keys (see appendix A).

Maths Keys

Every afternoon, children will be taught the skill from that they are focusing on that half term. The skill will be taught using a CPA and there will be explicit practise and rehearsal.

A short test will be administered on a Friday. When administering the tests the following guidelines are used:

20 questions: 15 on that term's "Key" and 5 from the previous half term's to consolidate (just 15 questions in Autumn 1).

2 minute time limit (90 seconds in KS2) – When 2 minutes are up – children then complete any incomplete questions in a different colour in an additional 2 minutes.

Should children finish early, they are to **write the time** in which they completed it on their sheet to try to beat next time.

Children mark their own tests as age-appropriate and the score that "counts" is the one completed in the two minutes

Teacher record score on class tracker and identify children making rapid or limited progress. Children to keep sheets in assessment folder.

Tweak and change the tests weekly – the order of questions and such like to avoid the children learning the same order of them.

It is important to note that mental calculation is not at the exclusion of written recording and should be seen as complementary to and not as separate from it. In every written method there is an element of mental processing. Sharing written methods with the teacher encourages children to think about the mental strategies that underpin them and to develop new ideas. Therefore written recording both helps children to clarify their thinking and supports and extends the development of more fluent and sophisticated mental strategies.

It is also important to note that children should not abandon jottings and mental methods once pencil and paper procedures are introduced. Children will always be encouraged to look at a calculation/problem and then decide which is the best method to choose – pictures, mental calculation with or without jottings, structured recording or a calculator. Our long-term aim is for children to be able to select an efficient method of their choice (whether this be mental, written or using a calculator) that is appropriate for a given task. They will do this by asking themselves:

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'Can I do this in my head?'

'Can I do this in my head using drawings or jottings?'

'Do I need to use a pencil and paper procedure?'

'Do I need a calculator?'

By the end of year 6, children will have a range of calculation methods, mental and written. Selection will depend upon the numbers involved.

Summative assessment of mental maths

Mental maths is summatively assessed weekly using our maths keys. There will also be national summative assessment as per the following:

- Year 2- at the end of year 2, children will take an arithmetic and reasoning paper where they will be expected to confidently use a range of mental strategies in order to succeed in these assessments.
- Year 4- from 2019/2020, children at the end of year 4 will take a times table test online. They will be expected to answer 25 questions and will have 6 seconds per question. The questions will test the children's knowledge of times tables up to 12 x 12 and data will be reported locally and nationally.
- Year 6- at the end of year 6, children will take an arithmetic and two reasoning papers where they will be expected to confidently use a range of mental strategies in order to succeed in these assessments.

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MATHS BASIC SKILLS COVERAGE

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	Number recognition to 20	Counting on	Counting back	Number formation	Adding 1	Subtracting 1
No FORMAL tests						
Y1	Adding & Subtracting 0, 1 and 2	Adding & Subtracting 10	Adding and subtracting 3, 4 and 5	Bonds to 10	Bonds to 20	Doubles & Halves to 10
Notes	NO formal test	Up to and incl. 10 + 10	Up to and incl. 5 + 5 / 6 + 4 / 7 + 3		Up to and incl. 10 + 10	Up to and incl. 5 + 5
Y2	Doubles & Halves from 10 to 20	Near doubles to 20	Bridging within 20	Multiply & Divide by 2	Multiply & Divide by 10	Multiply & Divide by 5
Notes	From 6+6 to 10+10			Up to and incl. 12 x 2	Up to and incl. 12 x 10	Up to and incl. 12 x 5
Y3	Number bonds within 20	Time Facts	Multiply & Divide by 3	Multiply & Divide by 4	Multiply & Divide by 8	Consolidation of 3, 4 and 8 x and ÷
Notes	Consolidating KS1	Months, Hours, Minutes, Seconds etc.	Up to and incl. 12 x 3	Up to and incl. 12 x 4	Up to and incl. 12 x 8	
Y4	Number bonds to 100	Multiply & Divide by 6	Multiply & Divide by 9 and 11	Multiply & Divide by 7	Multiply and divide by 12	Multiply and divide numbers by 10 and 100
Notes	i.e. 34 + 66; 100 – 34 etc	Up to and incl. 12 x 6	Up to and incl. 12 x 9 and 12 x 11	Up to and incl. 12 x 7	Up to and incl. 12 x 7	
Y5	Revision of all times tables	Bonds to 1000	Place value to 3 decimal places	Rounding to nearest 10, 100, 1000, 10000 and 100000	Multiplying and dividing by 10, 100 and 1000	Metric Conversions
Notes	Up to and incl. 12 x 12	i.e. 347 + 653 (also in context of money - £10.00)	i.e. 6 x 70 = 420			i.e. 1km = 1000m
Y6	Revision of all times tables	Finding 10%, 25% and 50% of numbers	Simplifying fractions	Basic FDPs equivalence	Arithmetic ahead of SATS	
Notes	Up to and incl. 12 x 12	Using TT knowledge		50% = $\frac{1}{2}$ = 0.5 To quarters, thirds, fifths, eighths and tenths		