

Stanion C.E Primary School

Mental Maths Policy



Aim:

- Children will have a secure and deep understanding of the number facts and mental strategies for their year group. They will be able to link key concepts together and articulately explain their reasoning.
- Teaching of mental maths strategies should be part of every lesson as we aim to build fluency.
- Discussion of methods and strategies is part of mental Maths.
- Times table's knowledge and mental maths/arithmetic skills should be assessed weekly and progress should be tracked and rewarded.
- Pupils should not be moved onto the next year group's work but instead challenged to deepen their understanding.

The overall aim is that when children leave our schools they:

- Have a secure knowledge of number facts.
- Are able to solve problems mentally, selecting an efficient strategy from a range of known approaches.
- Make use of diagrams and informal notes to help record steps when using mental methods that generate more information than can be kept in their heads
- Can quickly identify when a mental strategy is not appropriate and in these cases have an efficient, reliable written method which they can turn to.

Progression:

Reception

- Number bonds to 10 for addition.
- Counting in 1s.
- Number recognition.

Year 1

- Number bonds to 10 for addition and subtraction
- Partition in a variety of ways for the number 10.
- Relationship triangles and missing number problems should be used.
- Counting forwards in 2s, 5s and 10s using the counting stick, number lines, pictures and objects.
- Count in halves and quarters from pictures of fractions.

Year 2

- Number bonds to 20 for addition and subtraction
- Partition numbers to 20 in a variety of ways.
- Partitioning numbers to 50 in a variety of ways.
- Partitioning any 2-digit number in a variety of ways.
- Relationship triangles and missing number problems should be used.
- Counting forwards and backwards in 2s, 3s, 5s and 10s using the counting stick, number lines, pictures and objects and counting on a clock face,
- Times tables facts for $\times 2$, $\times 5$ and $\times 10$ and the inverse for division. Writing associated facts from a multiplication fact and using practical methods to test which are commutative and which aren't.
- Doubling and halving to solve problems e.g. if $2 \times 5 = 10$ then $4 \times 5 = 20$.
- Counting in halves, quarters and thirds.

Year 3

- Number bonds to 100 for addition and subtraction
- Number bonds to 1000 for addition and subtraction.
- Partition numbers to 500 in a variety of ways.
- Partition numbers to 1000 in a variety of ways.
- Relationship triangles and missing number problems should be used.
- Counting forwards and backwards in 4s, 8s, 50s and 100s using the counting stick, number lines, pictures and objects.
- Times tables facts for $\times 4$, $\times 8$ and $\times 3$ and the inverse for division. Writing associated facts from a multiplication fact and using practical methods to test which are commutative and which aren't.
- Doubling and halving to solve problems e.g. if $2 \times 5 = 10$ then $4 \times 5 = 20$. Look at relationship between 2s, 4s and 8s.
- Add and subtract HTO and Os, HTO and Ts, and HTO and Hs using knowledge of number bonds and place value.
- Count in tenths using counting sticks, images and objects and as decimals.

Year 4

- Number bonds to 1000 for addition and subtraction
- Number bonds to 5000 for addition and subtraction.
- Partition numbers to 1000 in a variety of ways.
- Partition numbers to 5 000 in a variety of ways.
- Relationship triangles and missing number problems should be used.

- Counting forwards and backwards in 6s, 7s, 9s, 25s and 1000s crossing back through 0 into negative numbers as well using the counting stick, number lines, pictures and objects.
- Times tables facts for $\times 6$, $\times 9$, $\times 11$, $\times 7$ and $\times 12$ and the inverse for division. Writing associated facts from a multiplication fact and using practical methods to test which are commutative and which aren't. Include statements that show distributive law and associative law.
- Doubling and halving to solve problems e.g. if $2 \times 5 = 10$ then $4 \times 5 = 20$. Look at relationship between 3s, 6s and 12s.
- Add and subtract HTO and Os, HTO and Ts, and HTO and Hs using knowledge of number bonds and place value.
- Count in hundredths as fractions and decimal representation.

Year 5

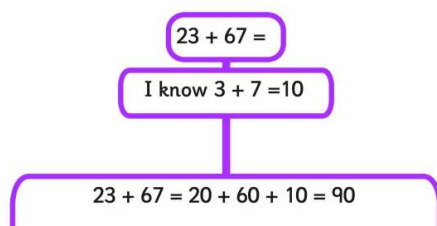
- Number bonds to 10 000 for addition and subtraction
- Number bonds to 50 000 for addition and subtraction.
- Number bonds to 100 000 for addition and subtraction.
- Number bonds to 1 000 000 for addition and subtraction.
- Partition numbers to 10 000 in a variety of ways.
- Partition numbers to 50 000 in a variety of ways.
- Partition numbers to 1 000 000 in a variety of ways.
- Relationship triangles and missing number problems should be used.
- Counting forwards and backwards in powers of 10 crossing back through 0 into negative numbers as well using the counting stick, number lines, pictures and objects.
- Find factor pairs of numbers and common factors.
- Know prime numbers. Count in prime numbers to 19. Count in square numbers and cube numbers.
- Count in mixed number and improper fractions.

Year 6

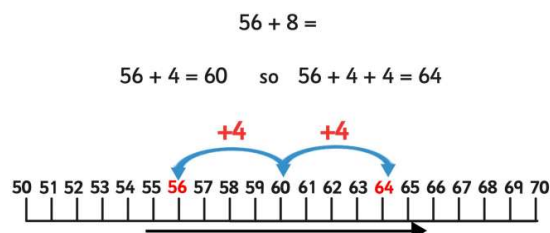
- Number bonds to 5 000 000 for addition and subtraction
- Number bonds to 10 000 000 for addition and subtraction.
- Partition numbers to 5 000 000 in a variety of ways.
- Partition numbers to 10 000 000 in a variety of ways.
- Relationship triangles and missing number problems should be used.

Strategies

- **Counting on** - For adding and subtracting numbers close together. Can be supported with a number line or a number square.
- **Counting back** - For subtracting small numbers. Can be supported with a number line or a number square.
- **Near Doubles** - For adding numbers similar to each other. Double one and adjust by adding or subtracting the difference. Number lines can support with the adjusting.
- **Near Halves** - For subtracting when a number is close to the half. Subtract the half and adjust by adding or subtracting. Number lines can support with the adjusting.
- **Using number bonds to 10** - For adding when numbers or part of the numbers add to ten or when numbers end in a zero. E.g.

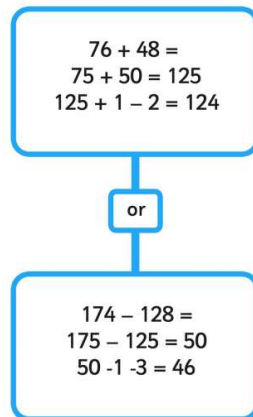


- **Part, Part, Whole** - Use known facts and partitioning to add and subtract. This can be supported with jottings.
- **Make ten and then some** - When adding or subtracting moves into the next ten, bridge to the next/previous ten and then move past. Eg.



- **Front end adding** - Adding the tens, then the ones then recombine.
- **Compensation for 8 or 9** - For adding or subtracting when the ones are 8 or 9. Add or subtract 10 and then adjust.

- Use multiples of 25 - For adding or subtracting when a number is near 25 or



50 or 75. E.g.

- Common zeros - For adding and subtracting numbers with the same number of zeros. E.g. $70 + 60$ becomes $7 \text{ tens} + 6 \text{ tens} = 13 \text{ tens}$ $7 + 6 = 13$
- Trailing zeros - For multiplying numbers ending in zero. E.g. 60×4 becomes $6 \text{ tens} \times 4 = 24 \text{ tens}$ $6 \times 4 = 24$

Teaching and Learning

It is essential that learners have a deep understanding of the expectations for their year group. To deepen understanding, a range of representations and contexts should be provided throughout the year. Learners should also be challenged to use their mental strategies in different problems where the mental calculation may not be the main focus of the problem.

Lesson time must be used to teach the mental maths targets for the year group and the strategies outlined above. Learners should be reminded of their learning from the previous years and that these strategies progress through the school.

Assessment

Rising Stars Arithmetic tests and number bonds test are taken weekly and scores are recorded on the server for analysis. In KS2, timetables are tested weekly and scores are recorded for analysis. Any learner consistently struggling with these tests should be given appropriate support. Rising Stars Mental Maths assessments can be used as further development tools.

Mr C Forsyth

Mathematics Subject Lead

Policy Reviewed by Governors - Tuesday, 16th December 2025

Next Review - December 2026