

Mental strategies journey through school

Grid shows KS1 number bonds to secure – practised throughout school.

Adding 1 and 2		Bonds to 10		Adding 10		Bridging/compensating		Y1 facts			
Doubles		Adding 0		Near doubles				Y2 facts			

+	0	1	2	3	4	5	6	7	8	9	10
0	0+0	0+1	0+2	0+3	0+4	0+5	0+6	0+7	0+8	0+9	0+10
1	1+0	1+1	1+2	1+3	1+4	1+5	1+6	1+7	1+8	1+9	1+10
2	2+0	2+1	2+2	2+3	2+4	2+5	2+6	2+7	2+8	2+9	2+10
3	3+0	3+1	3+2	3+3	3+4	3+5	3+6	3+7	3+8	3+9	3+10
4	4+0	4+1	4+2	4+3	4+4	4+5	4+6	4+7	4+8	4+9	4+10
5	5+0	5+1	5+2	5+3	5+4	5+5	5+6	5+7	5+8	5+9	5+10
6	6+0	6+1	6+2	6+3	6+4	6+5	6+6	6+7	6+8	6+9	6+10
7	7+0	7+1	7+2	7+3	7+4	7+5	7+6	7+7	7+8	7+9	7+10
8	8+0	8+1	8+2	8+3	8+4	8+5	8+6	8+7	8+8	8+9	8+10
9	9+0	9+1	9+2	9+3	9+4	9+5	9+6	9+7	9+8	9+9	9+10
10	10+0	10+1	10+2	10+3	10+4	10+5	10+6	10+7	10+8	10+9	10+10

Year 1
Rapid recall
Y1 facts on grid tested and recorded termly – including associated subtraction facts
Mental strategies
+ 0 + 1 and + 2 (and –) to any number up to 20 (Just 0, 1, or 2 more/less)
+/- 10 to any 1 digit number including zero: $10 + 7 = 17$
Notice Number bonds to 10
Doubling and halving: double facts and halves to $5 + 5$ (and $10 + 10$)
Near number bonds to add two one digit numbers: " $7 + 2 = 9$ because $7 + 3 = 10$ so it's just one less" or " $8 + 3$ must be 11 because $8 + 2 = 10$ "
Near double facts e.g. " $3 + 4 = 7$ because double 3 is 6 so it's just one more".
Partitioning: Use number facts to add TO + O: " $24 + 3$... I know that $3 + 4 = 7$ so $20 + 7 = 27$ "
Adjusting: 'make ten' supported by models and images e.g. $8 + 6 = 8 + 2 + 4$

Year 2
Rapid recall
Y1 and 2 facts on grid tested and recorded termly – including associated subtraction facts
2, 5 and 10 times table multiplication and division facts
Mental strategies
Number bonds to 10 and near number bonds to add two or three single digit numbers
Spot doubles and near doubles to add two or three single digit numbers
Use number bonds to 20 and near number bonds to 20 to add 2 numbers
+ 10 to any 2 digit number (support with models, images and hundred square)
Partitioning: Calculations with whole numbers which do not involve crossing place value boundaries- e.g. $23 + 45 = ?$ by $40 + 5 + 20 + 3$ or $40 + 23 + 5$
Counting on or back in tens and ones to add or subtract – flexibility with number line
Adjusting +/- 9 and 11 by adding 10 then subtracting or adding 1
Adjusting: 'make ten' supported by models and images e.g. $8 + 6 = 8 + 2 + 4$
+/- multiples of 10 where the answer is between 0 and 100 (e.g. $70 + 30 = 100$, $20 + 40 = 60$)
Doubling and halving: Derives doubles and halves of multiples of 10 up to 100
Doubling and halving: Find the doubles to 100 using partitioning and halves of any even number to 100