

Mental Maths Policy

	Recall: Children should be able to derive and recall:	Mental Calculation skills: Working mentally, with jottings if needed, children should be able to:	Mental methods or strategies: Children should understand when to and be able to apply these strategies:
Year 1			
Adding and subtracting pairs of numbers	<ul style="list-style-type: none"> Number pairs with a total of 10, e.g. 3+7, or what to add to a single-digit number to make 10, e.g. $3+\Delta=10$ Addition facts for totals to at least 5, e.g. 2+ 3, 3+4 	<ul style="list-style-type: none"> Add or subtract a pair of single-digit numbers, e.g. 4+5, 8-3 Add or subtract a single-digit number to or from a teens number, e.g.13-5, 17-3 Add or subtract a single-digit to or from 10, and add a multiple of 10 to a single-digit number, e.g. 10+7, 7+30 	<ul style="list-style-type: none"> Reorder numbers when adding, e.g. put the larger number first Count on or back in ones, twos or tens Partition small numbers, e.g. $8+3=8+2+1$ Partition and combine tens and ones
Doubling numbers	<ul style="list-style-type: none"> Addition doubles for all numbers to at least 10, e.g. 8+8 	<ul style="list-style-type: none"> Add near doubles, e.g. 6+7 	<ul style="list-style-type: none"> Partition: double and adjust, e.g. $5+6=5+5+1$
Number sequences	<ul style="list-style-type: none"> Odd and even numbers to 20 	<ul style="list-style-type: none"> Count on and back to 0 in ones, twos, fives or tens 	<ul style="list-style-type: none"> Use patterns of last digits, e.g. 0 and 5 when counting in fives
Year 2			
Adding and subtracting pairs of numbers	<ul style="list-style-type: none"> Addition and subtraction facts for all numbers up to at least 10, e.g. 3+4, 8-5 Number pairs with totals to 20 	<ul style="list-style-type: none"> Add or subtract a pair of single-digit numbers including crossing 10, e.g. 5+8, 12-7 Add or subtract a single-digit number to or from a two-digit number, including crossing the 	<ul style="list-style-type: none"> Reorder numbers when adding Partition: bridge through 10 and multiples of 10 when adding or subtracting

		tens boundary, e.g. 52-7	
Calculations using multiples of tens	<ul style="list-style-type: none"> All pairs of multiples of 10 with totals up to 100, e.g. $30+70$, or $60+\Delta=100$ What must be added to any 2-digit number to make the next multiple of 10, e.g. $52+\Delta=60$ 	<ul style="list-style-type: none"> Add or subtract any single-digit number to or from a multiple of 10, e.g. $60+5$, $80-7$ Add or subtract a multiple of 10 to or from any two-digit number, e.g. $27+60$, $72-50$ Add 9, 19, etc or 11, 21, etc 	<ul style="list-style-type: none"> Partition and combine multiples of tens and ones Use knowledge of pairs making 10 Count on in tens or ones to find totals Count on or back in tens or ones to find the difference Partition: add a multiple of 10 and adjust by 1
Doubling and halving	<ul style="list-style-type: none"> Addition doubles for all numbers to 20, e.g. $17+17$ and multiples of 10 to 50, e.g. $40+40$ and all corresponding halves 	<ul style="list-style-type: none"> Double any multiple of 5 up to 50, e.g. double 35 Add near doubles, e.g. $13+14$ Find half of even numbers to 40 	<ul style="list-style-type: none"> Partition: double the tens and ones separately, then recombine Partition: double and adjust Use knowledge that halving is the inverse of doubling and that doubling is equivalent to multiplying by two
Multiplication and division facts	<ul style="list-style-type: none"> Multiplication facts for the 2, 5 and 10 times-tables and corresponding division facts Odd and even numbers to 100 	<ul style="list-style-type: none"> Find the total number of objects when they are grouped into 2, 5 or 10 	<ul style="list-style-type: none"> Use knowledge of multiplication facts from the 2, 5 and 10 times-tables, e.g. recognise that there are 15 objects altogether because there are 3 groups of 5
Year 3			
Adding and subtracting pairs of numbers	<ul style="list-style-type: none"> Addition and subtraction facts for all numbers to 20, e.g. $17-9$, drawing on knowledge of inverse operations 	<ul style="list-style-type: none"> Add and subtract groups of small numbers, e.g. $5-3+2$ Add and subtract 2-digit numbers, e.g. $34+65$ 	<ul style="list-style-type: none"> Reorder numbers when adding Partition: count on in tens and ones to find the total Partition: count on or

			<p>back in tens and ones to find the difference</p> <ul style="list-style-type: none"> Use knowledge that halving is the inverse of doubling
Calculations involving tens (and multiples of ten) and hundreds	<ul style="list-style-type: none"> Sums and differences of multiples of 10, e.g. $50+80$ Pairs of 2-digit numbers with a total of 100, e.g. $32+68$ 	<ul style="list-style-type: none"> Add or subtract a 2-digit number to or from a multiple of 10, e.g. $50-38$ Multiply 1-digit or 2-digit numbers by 10 or 100, e.g. 46×10 	<ul style="list-style-type: none"> Identify pairs totalling 10 or multiples of 10 Partition: add or subtract 10 or 20 and adjust Recognise that when multiplying by 10 or 100 the digits move one or two places to the left and 0 is a place holder
Doubling and halving	<ul style="list-style-type: none"> Addition doubles for multiples of 10 to 100, e.g. $90+90$ and corresponding halves 	<ul style="list-style-type: none"> Add near doubles, e.g. $18+16$ Double any multiple of 5 up to 100, e.g. double 35 Halve any multiple of 10 up to 200, e.g. halve 170 	<ul style="list-style-type: none"> Partition: add, double or halve tens and ones separately then recombine Partition: double and adjust
Time			<ul style="list-style-type: none"> Partition: count on or back in minutes and hours, bridging through 60 (analogue)
Multiplication and division facts	<ul style="list-style-type: none"> Multiplication facts and corresponding division facts for 2, 3, 4, 5, 6, and 10 times-tables 	<ul style="list-style-type: none"> Find unit fractions of numbers and quantities involving halves, thirds, quarters, fifths and tenths 	<ul style="list-style-type: none"> Recognise that finding a unit fraction is equivalent to dividing by the denominator and use knowledge of division facts
Year 4			
Calculations involving tens, hundreds and thousands	<ul style="list-style-type: none"> Sums and differences of pairs of multiples of 10, 100, 1000 What must be added to 	<ul style="list-style-type: none"> Add or subtract a near-multiple of 10, e.g. $56-29$ Add or subtract 2-digit or 3-digit multiples of 10, 	<ul style="list-style-type: none"> Count on or back in hundreds, tens, ones Add or subtract a multiple of 10 and adjust,

	any 3-digit number to make the next multiple of 100, e.g. $521 + \quad = 600$	e.g. $140 + 170$ <ul style="list-style-type: none"> • Multiply and divide numbers to 1000 by 10 and then 100, e.g. 850 divided by 10 • Multiply a multiple of 10 to 100 by a single digit number, e.g. 40×3 	e.g. $56 - 29 = 56 - 30 + 1$ <ul style="list-style-type: none"> • Use knowledge of place value and related calculations, e.g. $140 + 150 = 290$ using $14 + 15 = 19$ • Use understanding that when a number is multiplied or divided by 10 or 100, its digits move one or two places to the left of the right and 0 is used as a place holder • Use knowledge of multiplication facts and place value, e.g. $7 \times 8 = 56$ to find 70×8 or 7×80
Adding and subtracting 2-digit numbers	•	<ul style="list-style-type: none"> • Add or subtract any pair of 2-digit numbers, including crossing the tens and 100 boundary, e.g. $47 + 58$ • 	<ul style="list-style-type: none"> • Partition: add tens and ones separately and recombine • Partition: subtract tens and then ones, e.g. subtracting 27 by subtracting 20 then 7 • Subtract by counting up from the smaller to the larger number •
Doubling and halving	<ul style="list-style-type: none"> • Doubles of multiples of 10 and 100 and corresponding halves • Addition doubles of numbers 1 to 100, e.g. $38 + 38$ and the corresponding halves 	<ul style="list-style-type: none"> • Halve any even number to 200 • Add near doubles of 2-digit numbers, e.g. $38 + 37$ 	<ul style="list-style-type: none"> • Partition: double/halve tens and ones separately, recombine and adjust
Time			<ul style="list-style-type: none"> • Partition: count on or back in minutes and

			hours, bridging through 60 (analogue and digital)
Multiplication and division facts	<ul style="list-style-type: none"> • Multiplication facts to 10x10 and the corresponding division facts • Factor pairs for known multiplication facts 	<ul style="list-style-type: none"> • Multiply numbers to 20 by a single digit, e.g. 17x3 • Identify remainders when dividing by 2, 5, 10 • Give the factor pair associated with a multiplication fact, e.g. 2x3=6 so 2 and 3 are factors 	<ul style="list-style-type: none"> • Use partitioning and the distributive law to multiply, e.g. 13x4=(10x4) + (3x4)
Fractions and decimals	<ul style="list-style-type: none"> • Fraction and decimal equivalents of one half, quarters, tenths, and hundredths • Pairs of fractions that total 1 	<ul style="list-style-type: none"> • Find unit fractions and simple non-unit fractions of numbers and quantities, e.g. 3/8 of 24 	
Year 5			
Decimals, fractions and percentages	<ul style="list-style-type: none"> • Sums and differences of decimals, e.g. 6.5 +2.7 • What must be added to a decimal with units and tenths to make the next whole number, e.g. 7.2 + ? =8 • Related unit fractions of multiplication/division facts, e.g. 1/9 of 63 is 7 • Percentage equivalents of one half, one quarter, three quarters, tenths and hundredths 	<ul style="list-style-type: none"> • Add or subtract any pairs of decimals with units and tenths, e.g. 5.7-2.9 • Find fractions of whole numbers or quantities, e.g. 2/3 of 70kg • Find 50%, 25%, 10% of whole numbers or quantities, e.g. 10% of £80 	<ul style="list-style-type: none"> • Use knowledge of place value and related calculations, e.g. 6.3-4.8 using 63-48 • Subtract by counting up from the smaller number to the larger number • Use knowledge of equivalence between fractions and percentages
Calculations involving multiples of 10, 100, 1000	<ul style="list-style-type: none"> • What must be added to any 4-digit number to make the next multiple of 	<ul style="list-style-type: none"> • Add or subtract a pair of 2-digit numbers or 3-digit multiples of 10, e.g. 	<ul style="list-style-type: none"> • Count on or back in hundreds, tens, ones and tenths

	1000, e.g. $4087 + ? = 5000$	<p>47+86 or 620-240</p> <ul style="list-style-type: none"> • Add or subtract a near-multiple of 10 or 100 to any 2-digit or 3-digit number, e.g. 235-198 • Find the difference between near multiples of 100, e.g. 607-588, or of 1000, e.g. 6070-4087 • Multiply 2-digit numbers by 5 or 20, e.g. 14×20 • Multiply by 25 or 50, e.g. 48×25 • Multiply and divide whole numbers and decimals by 10, 100 or 1000 • Multiply pairs of multiples of 10, e.g. 60×30, and a multiple of 100 by a single digit, e.g. 900×8 • Divide a multiple of 10 by a single digit 	<ul style="list-style-type: none"> • Partition: add hundreds, tens, ones separately and recombine • Add or subtract a multiple of 10 or 100 and adjust • Form an equivalent calculation, e.g. to multiply by 5, multiply by 10 then halve • Use understanding that when a number is multiplied or divided by 10 or 100, its digits move one or two places to the left of the right and 0 is used as a place holder • Use knowledge of multiplication and division facts and understanding of place value, e.g. when calculating with multiples of 10
Doubling and halving	<ul style="list-style-type: none"> • Doubles and halves of decimals • 	<ul style="list-style-type: none"> • Double 3-digit multiples of 10 to 500, e.g. 380×2 and find corresponding halves • Multiply and divide 2-digit numbers by 4 or 8, e.g. 96 divided by 8 • 	<ul style="list-style-type: none"> • Multiply or divide by 4 or 8 by repeated doubling or halving • Partition: double and adjust
Time			<ul style="list-style-type: none"> • Partition: count on or back in minutes and hours, bridging through 60 (analogue and digital)

Multiplication and division facts	<ul style="list-style-type: none"> • Squares to 10x10 • Factor pairs to 100 	<ul style="list-style-type: none"> • Find the remainder after dividing a 2-digit by a single digit number • Find factor pairs for numbers to 100 	<ul style="list-style-type: none"> • Use knowledge of division facts to find a remainder • Use knowledge of multiplication and division facts to find factor pairs
Year 6			
Addition and subtraction facts		<ul style="list-style-type: none"> • Add or subtract pairs of decimals with units, tenths or hundredths • Add or subtract a decimal with units and tenths that is nearly a whole number, e.g. 6.5-3.8 	<ul style="list-style-type: none"> •
Calculations involving tenths, hundredths, multiples of 10 and 100, etc	<ul style="list-style-type: none"> • Addition and subtraction facts for multiples of 10 to 1000 and decimal numbers with one decimal place, e.g. $660+?=930$, $?-1.8=2.5$ • What must be added to a decimal with units, tenths and hundredths to make the next whole number, e.g. $7.26+?=8$ • Squares of multiples of 10 • 	<ul style="list-style-type: none"> • Divide by 25 or 50, e.g. 2300 divided by 25 • Multiply pairs of multiples of 10 and 100, e.g. 50×30 • Divide multiples of 100 by a multiple of 10 or 100, e.g. 600 divided by 20 	<ul style="list-style-type: none"> • Count on or back in hundreds, tens, ones, tenths, hundredths • Use knowledge of place value and related calculations, e.g. $680-430$, $6.8-4.3$, $0.68-0.43$, etc can all be worked out from $68-43$ • Form an equivalent calculation, e.g. to divide by 25, divide by 100 then multiply by 4
Doubling and halving		<ul style="list-style-type: none"> • Find doubles of decimals each with units and tenths • Add near doubles of decimals • Double decimals with units and tenths and the corresponding halves, e.g. half of 15.2 	<ul style="list-style-type: none"> • Partition: double and adjust • Partition: add or subtract a whole number and adjust, e.g. $4.3-2.9=4.3-3+0.1$

Time			<ul style="list-style-type: none"> Count on or back in minutes and hours, bridging through 60 (analogue, digital, 12 hour and 24 hour)
Multiplication and division facts	<ul style="list-style-type: none"> Squares to 12x12 Prime numbers less than 100 	<ul style="list-style-type: none"> Multiply pairs of 2-digit and single digit numbers Divide a 2-digit number by a single digit number Multiply and divide 2-digit decimals such as 4.8 divided by 6 Identify numbers with odd and even numbers of factors and no factor pairs other than 1 and themselves Scale up and down using known facts, e.g. 3 oranges cost 24p so 4 oranges cost ? 	<ul style="list-style-type: none"> Partition: use partitioning and the distributive law to divide tens and ones separately, e.g. 94 divided by 4 = (80+12) divided by 4 Recognise how to scale up or down using division or multiplication, e.g. 24p divided by 3 = 8, 4x 8 = 32p Use knowledge of multiplication and division facts to identify factor pairs and numbers with only two factors
Percentages and fractions	<ul style="list-style-type: none"> Equivalent fractions, decimals, percentages for hundredths 	<ul style="list-style-type: none"> Find 10% or multiples of 10%, of whole numbers and quantities Simplify fractions by cancelling 	<ul style="list-style-type: none"> Use knowledge of the equivalence between fractions and percentages and the relationship between fractions and division