FACT FLUENCY

PROGRESSION DOCUMENT

	Rapid recall Children should be able to recall rapidly or derive:	Mental strategies Children should be able to recall rapidly or derive:	Mental calculations Children should be able to recall rapidly or derive:
Year 1	Recall: • all pairs of numbers with a total of 10, e.g. 3 + 7 • addition and subtraction facts for all numbers to at least 10 • doubles of all numbers to at least 10, e.g. 7 + 7 Derive: • multiples of 2, 5 and 10 to the tenth multiple	• count on or back in ones • reorder numbers in a calculation • begin to bridge through 10 and later 20 when adding a single-digit number • use number facts and place value to add or subtract pairs of single-digit numbers • add 9 to single-digit numbers by adding 10 then subtracting 1 • identify near doubles using doubles already known • use patterns of similar calculations	• add or subtract a single-digit to or from a single-digit, without crossing 10, e.g. 4 + 5, 8 − 3 • add or subtract a single-digit to or from 10 • add or subtract a single-digit to or from a 'teens' number, without crossing 20 or 10, e.g. 13 + 5, 17 − 3 • doubles of all numbers to 10, e.g. 8 + 8, double 6
Year 2	Recall: • addition and subtraction facts for all numbers to at least 20 • all pairs of numbers with a total to 20, e.g. 13 + 7 or 12 + 6 • all pairs of multiples of 10 with a totals up to 100, e.g. 30 + 70 or 10 + 50 • multiplication facts for the 2, 5 and 10 times-tables and corresponding division facts • doubles of all numbers to 20 and the corresponding halves	• count on or back in tens or ones • find a small difference by counting up from the smaller to the larger number • reorder numbers in a calculation • add three small numbers by putting the largest number first and/or finding a pair totalling 10 • partition additions into tens and units then recombine • bridge through 10 or 20 • use known number facts and place value to add or subtract pairs of numbers • partition into '5 and a bit' when adding 6, 7, 8 or 9 • add or subtract 9, 19, 11 or 21 by rounding and compensating • identify near doubles • use patterns of similar calculations • use the relationship between addition/subtraction • use knowledge of number facts and place value to multiply or divide by 2, 5 or 10 • use doubles and halves and halving as the inverse of doubling	• add or subtract any single-digit to or from any two-digit number, without crossing the tens boundary, e.g. 62 + 4, 38 − 7 • add or subtract any single-digit to or from a multiple of 10, e.g. 60 + 5, 80 − 7 • add or subtract any 'teens' number to any two-digit number, without crossing the tens boundary, e.g. 23 + 14, 48 − 13 • find what must be added to any two-digit multiple of 10 to make 100, e.g. 70 + ? = 100 • add or subtract a multiple of 10 to or from any two-digit number, without crossing 100, e.g. 47 + 30, 82 − 50 • subtract any two-digit number from any two-digit number when the difference is less than 10, e.g. 78 − 71 or 52 − 48 • doubles of all numbers to at least 15, e.g. double 14 • double any multiple of 5 up to 50, e.g. double 35 • halve any multiple of 10 up to 100, e.g. halve 50

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Year 3	Recall: • addition and subtraction facts for each number to 20, e.g. 13 + 4 • sums and differences of multiples of 10, e.g. 70 + 20 or 80 − 30 • number pairs that total 100, e.g. 46 + 54 • multiplication facts for the 2, 3, 4, 5, 6 and 10 times tables and the corresponding division facts	• count on or back in tens or ones • find a small difference by counting up from the smaller to the larger number • reorder numbers in a calculation • add three or four small numbers by putting the largest number first and/or by finding pairs totalling 9, 10 or 11 • partition into tens and units then recombine • bridge through a multiple of 10, • use knowledge of number facts and place value to add or subtract pairs of numbers • partition into '5 and a bit' when adding 6, 7, 8 or 9 • add or subtract mentally a 'near multiple of 10' to or from a two-digit number • identify near doubles • use patterns of similar calculations • say or write a subtraction statement corresponding to a given addition statement • to multiply a number by 10/100, shift its digits one/two places to the left • use knowledge of number facts and place value to multiply or divide by 2, 5 or 10, 100 • use doubling or halving • say or write a division statement corresponding to a given multiplication statement	• find what must be added to any multiple of 100 to make 1000, e.g. 300 + ? = 1000 • add or subtract any pair of two-digit numbers, without crossing a tens boundary or 100, e.g. 33 + 45, 87 − 2 • add or subtract any single-digit to any two-digit number, including crossing the tens boundary, e.g. 67 + 5, 82 − 7 • find what must be added to/subtracted from any two-digit number to make the next higher/lower multiple of 10. e.g. 64 + ? = 70, 56 - ? = 50 • subtract any three-digit number from any three-digit number when the difference is less than 10, e.g. 458 − 451, or 603 − 597 • find what must be added to/subtracted from any three-digit number to make the next higher/lower multiple of 10, e.g. 647 + ? = 650, 246 - ? = 240 • double any number to *at least* 20, e.g. double 18, and corresponding halves, e.g. halve 36; double 60, halve 120; double 35, halve 70; double 450, halve 900 • multiply single-digit numbers by 10 or 100, e.g. 6 x 100 • divide any multiple of 10 by 10, e.g. 60 ÷ 10, and any multiple of 100 by 100, e.g. 700 ÷ 100

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Year 4	Recall: • multiplication facts up to 10 x 10 and the corresponding division facts • multiples of numbers to 10 up to the tenth multiple Derive: • sums and differences of pairs of multiples of 10, 100 or 1000 • doubles of multiples of 10 and 100 and corresponding halves	• count on or back in repeated steps of 1, 10 and 100 • count up through the next multiple of 10, 100 or 1000 • reorder numbers in a calculation • add 3 or 4 small numbers, finding pairs totalling 10 • add three two-digit multiples of 10 • partition into tens and units, adding the tens first • bridge through 100 • use knowledge of number facts and place value to add or subtract any pair of two-digit numbers • add or subtract 9, 19, 29, 11, 21 or 31 by rounding and compensating • add or subtract the nearest multiple of 10 then adjust • identify near doubles • continue to use the relationship between addition and subtraction • double any two-digit number by doubling tens first • use known number facts and place value to multiply or divide, including multiplying and dividing by 10 and then 100 • partition to carry out multiplication use doubling or halving • use closely related facts to carry out multiplication and division • use the relationship between multiplication and division	• find what must be added to any two-digit number to make 100, e.g. 37 + ? = 100 • add or subtract any pair of two-digit numbers, e.g. 38 + 85, 92 − 47 • find out what must be added to/subtracted from any two- or three-digit number to make the next higher/lower multiple of 100, e.g. 374 + ? = 400, 826 - ? = 800 • subtract any four-digit number from any four-digit number when the difference is small, e.g. 3641 − 3628, 6002 − 5991 • double any whole number from 1 to 50, e.g. double 36, and find all the corresponding halves, e.g. 96 ÷ 2 • double any multiple of 10 to 500, e.g. 380 x 2, and find all the corresponding halves, e.g. 760 ÷ 2, 130 ÷ 2 • double any multiple of 5 to 100, e.g. 65 x 2 • multiply any two-digit number by 10, e.g. 26 x 10 • divide a multiple of 100 by 10, e.g. 600 ÷ 10 • multiply any two-digit multiple of 10 by any single-digit number

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Year 5	Recall: • multiplication facts up to 10 x 10 and corresponding division facts Derive: • sums and differences of decimals, e.g. 6.5 2.7 • doubles and halves of decimals, e.g. half of 5.6	• count up through the next multiple of 10, 100 or 1000 • reorder numbers in a calculation • partition into hundreds, tens and units, adding the most significant digit first • use known number facts and place value to add or subtract pairs of three-digit multiples of 10 and two-digit numbers with one decimal place • add or subtract the nearest multiple of 10 or 100 then adjust • identify near doubles • add several numbers • develop further the relationship between addition and subtraction • use factors • partition to carry out multiplication • use doubling and halving • use closely related facts to carry out multiplication and division • use the relationship between multiplication and division • use knowledge of number facts and place value to multiply or divide	• add or subtract any pair of three-digit multiples of 10, e.g. 570 + 250, 620 – 380 • find what must be added to a decimal fraction with units and tenths to make the next higher whole number, e.g. 4.3 + ? = 5 • add or subtract any pair of decimal fractions each with units and tenths, or each with tenths and hundredths, e.g. 5.7 + 2.5, 0.63 – 0.48 • subtract a four-digit number just less than a multiple of 1000 from a four-digit number just more than a multiple of 1000, e.g. 5001-1997 • multiply any two- or three-digit number by 10 or 100, e.g. 79 x 100, 363 x 100 • divide a multiple of 100 by 10 or 100, e.g. 4000 ÷ 10, 3600 ÷ 100 • multiply any two-digit multiple of 10 y a single-digit, e.g. 60 x 7, 90 x 6 • double any whole number from 1 to 100, multiples of 10 to 1000, and find corresponding halves • find 50%, 25%, 10% of small whole numbers or quantities, e.g. 25% or £8

	Rapid recall	Mental strategies	Mental calculations
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Year 6	Derive: • multiplication and division facts involving decimals, e.g. 0.8 x 7 and 4.8 ÷ 6 • squares of numbers to 12 x 12 and the corresponding squares of multiples of 10	• consolidate all strategies from previous years • use knowledge of number facts and place value to add or subtract pairs of three-digit multiples of 10 and two-digit numbers with one decimal place • add or subtract the nearest multiple of 10, 100 or 1000, then adjust • continue to use the relationship between addition and subtraction • use factors • partition to carry out multiplication • use doubling and halving • use closely related facts to carry out multiplication and division • use the relationship between multiplication and division • use knowledge of number facts and place value to multiply or divide	• multiply any two-digit number by a single-digit, e.g. 34 x 6 • multiply any two-digit number by 50 or 25, e.g. 23 x 50, 47 x 25 • multiply or divide any whole number by 10 or 100, giving any remainder as a decimal, e.g. 47 ÷ 10 = 4.7, 1763 ÷ 100 = 17.63 • find squares of multiples of 10 to 100 • find any multiple of 10% of a whole number or quantity, e.g. 70% of £20, 50% of 5kg, 20% of 2 metres