Year 3 mental maths objectives

	Autumn	Spring	Summer
x tables (12x12) **10,5,2,4,8,3,** **6,9,11,12,7**	**all x facts in order** GD 30 in 2 mins (4 sec/Q) Exp 25 in 3 mins (7 sec/Q) WT 20 in 3 mins (9 sec/Q) B as WT but Qs in order	**all x and ÷ facts in order** GD x and ÷ Exp x and ÷ WT have untervention B can stay on x in order	**all x and ÷ facts** GD mixed grid in 3 mins. Beat best time Exp focus on weak area until GD speed WT x and ÷ B 20 in 3 mins x only
TTRS status			GD Headliner (4 secs) Exp unsigned act (7 secs) WT Busker (9 secs) B Wannabe (> 10 secs)
times tables	To recall the times table facts in an order	To use halving to find x 5 (10 x 7 = 70 so 5 x 7 =35)	To double to find x 4 and x 8 (2x 6 = 12 so 4x6 = 24 so 8x6= 48)
base 10	Add / subtract 10 to a given 2/3 digit number, including bridging 100	Add / subtract 10/ 100 to a given 2/3 digit number	multiply and divide a 2 or 3 digit number by 10
partitioning add and subtract	Add / subtract by counting back/ forward in tens then 1s	Add / subtract multiples of 10 and 100 to a given 2/3 digit number.	Add and subtract pairs of 3 digit numbers which are multiple of 10 (230 +450)
add/ subtract	add 3 or 4 smaller numbers, using number bonds or large number first (2+ 14 + 8 + 5)	Subtract by counting up (finding the difference)	mentally subtract by counting back or taking away, using most efficient method.
counting	Count up and down in 10s, 100s,	Count up and down in 2s and 5 and tenths	Count up and down in 3,4,8,s
X and divide	partition and re group 3 digit numbers	Partition teen numbers to multiply by a single digit number (3 x 14 = 3 x10 and 3x4) using 2,3,4,5s	Partition 2-digit numbers to multiply by a single –digit number mentally (4 x 24 as 4 x 20 and 4 x 4)
number facts	Know pairs with each total to 20	Know multiples of 10 with a total of 100	use knowledge of number bonds to solve linked calulations (3 + 4 = 7…..30 + 40 = 70)
check and estimate	To recall the 3 related facts when given a number sentence	To identify the inverse to check a calculation	To estimate an answer by rounding numbers to nearest 10
double and half	Double numbers up to 50	Halve even numbers up to 100, .	half and double numbers up to 200
fractions/ decimals	Recognise fractions that add to 1. (e.g. ¼ +3/4)	Find unit fraction (1/2 , 1/3 and 1/4) of a given number (Linking to division)	Find non unit fraction of a given number (3/4, 2/5,3/10)
time/ measure	Know key time facts (seconds =mins =hour= day=week=year)	Recall the days in each months of the year, and their order.	Tell the time to the nearest minutes using 12 hour clocks

Money	add and subtract amounts of money to make a £1	add and subtract money to make up to £10, using multiple of 10p	add and subtract money to make up tp £10

Year 4 mental maths objectives

	Autumn	Spring	Summer
x tables (12x12) **10,5,2,4,8,3,** **6,9,11,12,7**	**all x and ÷ facts in order** GD 30 in 1 mins (2 sec/Q) Exp 25 in 2 mins (5 sec/Q) WT 25 in 3 mins (7 sec/Q) B as WT but x only	**all x and ÷ facts** GD mixed grid in 3 min. beat best time Exp focus on weak areas , until GD speed WT 25 in 2 mins B 25 in 3 mins x and ÷only	**all x and ÷ facts** Focus on using TTRS to get ready for multiplication check.
TTRS status			GD Rock Star (3 secs) Exp Breakthrough artist WT Gigger (8 secs) B Garage Rocker (10 secs)
times tables	use subtraction from x 10 to find x 9 (10 x 8 = 80 so 9 x 8 = 80-8=72)	Recall associated division facts up to 12 x 12.	To fluently (under 6 seconds) recall multiplication facts up to 12 x 12
base 10	Find10, 100, 1000 more/less than a given number	multiply or dvide by 0, 1, 10,100	find 0.1 10,100,1000 more/less than a given number
partitioning add and subtract	Add/subtract pairs of 3 digit numbers which are mutiples of 10 (230+450)	Add and subtract any two 2 digit numbers by partitioning	Add and subtract two 2/3 digit numbers by partitioning
add/ subtract	Subtract by counting up (finding the difference)	add more than 4 smaller numbers, using friendly numbers	multiplying together three numbers
counting	Count up/ down in multiples of 6,7,9, 25, 100	Count up/ down through zero into negatives	Count up/down in tenths and hundredths
X and divide	Partition 2 digit numbers to multiply by a single digit number (3 x 14 as 3 x10 and (3x4)	Multiply 2 and 2 digit multiples of 10 using place value knowledge. (50 x 60 = 3000= 5 x 6 = 30 x 100)	Divide multiples of 100 by 1-digit numbers using division facts (3200 ÷ 8= 400)
number facts	Know by heart, quickly derive number bonds to 100 and £1	Use half and doubling in mental X and division (36 x 5 is half of 36 x 10 or 245 ÷20 is double 245 ÷ 10)	use the associative law 2 × 3 × 4 = 2 × (3 × 4).
check and estimate	To recall the 3 related facts when given a number sentence	To identify the inverse to check a calculation	rounding numbers to nearest 10, 100
double and half	half and double numbers up to 200	To divide by 4 x 4 by double and double/ half and half	Use doubling and halvng to find divide and times by 2,4,8
fractions/ decimals	count using simple fractions and decimals, both forwards and backwards.	Link fractions with division (1/10 of 24 = 24 ÷ 10)	Find fraction of a given number (between 1/2 and 1/10)
time/ measure	Read and compare and convert between analogue/digital 24 hr clocks.	Read Roman numerals to 100.	Convert between units of measure (g-kg;km-m)

Money	Add and subtract £1, 10p and 1p to amounts of money.	Find change from £10, £20 and £50	Begin to double and halve amounts of money (£35.60 doubles = £71.20)

Year 5 mental maths objectives

	Autumn	Spring	Summer
x tables (12x12) 10,5,2,4,8,3, 6,9,11,12,7	**missing x , ÷ facts in order** GD 30 in 1 mins (2 sec/Q) Exp 25 in 2 mins (5 sec/Q) WT 25 in 3 mins (7 sec/Q) B as WT but x and ÷only	**related x , ÷ facts in order** GD 30 in 1 mins (2 sec/Q) Exp 25 in 2 mins (5 sec/Q) WT 25 in 3 mins (7 sec/Q) B as WT but x and ÷	**all x facts** GD mixed grid (3 min). beat best time Exp as above WT redo any weak areas B redo weaker areas
TTRS status			GD Rock Legend (2 secs) Exp Support act (5 secs) WT unsigned (7 secs) B Busker (9 secs)
times tables	Use inverse to work out missing numbers for 12 x12 division and multiplication	Use known facts to multiply and divide (3 x 5 = 15 so 30 x 5 = 150)	Identify all multiples and factors including finding all factor pairs.
base 10	multiply or divide a given number by 10,100,1000	find 0.1 10,100,1000 more/less than a given 4 digit number	find 0.1 10,100,1000, 10000 more/less than a given number
partitioning add and subtract	Add and subtract two 4/5 digit numbers by partitioning	add/ subtract multiples of 1000 to large numbers (12 462 – 2300 = 10 162).	Add to the next 10 from a decimal number (e.g 13.6 + 6.4 =20).
add/ subtract	Add more than 4 2-digit numbers fluently	Add and subtract near 10s (500 + 469)	add and subtract numbers mentally with increasingly large numbers
counting	Count up/down in tenths and hundredths	count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000	Count up and down in fractions (including over 1)
X and divide	Partition 2 digit numbers to multiply by a single digit number (3 x 14 as 3 x10 and (3x4)	Multiply 2 and 3 digit multiple of 10 using place value knowledge. (50 x 60 = 3000= 5 x 6 = 30 x 100)	Divide multiples of 100 by 1-digit numbers using division facts (3200 ÷ 8= 400)
number facts	Use knowledge of multiples and factors to solve mental calculations (24 x 8 = 12 x 16)	recall square numbers and square roots up to 144.	Recall prime numbers to 100
check and estimate	To identify the inverse to check a calculation	Round to nearest 10,100,1000, 10000	round decimals (2d) to the nearest whole and 1 dp
double and half	Double and half any large given number	Use doubling and halving as mental division/multi strategies (58 x 5 = half of 58 x 10)	Double and halve money by partitioning (Half of £75.40 = Half of £75 (37.50) plus half of 40p)
fractions/ decimals	add and subtract tenths including single digit whole numbers	Find fractions of amounts	recall the core equivalent fractions and decimals
time/ measure	Convert units of time between analogue and digital, 12 and 24 hr.	Read Roman numerals to 1000.	Convert between units of measure (g-kg;km-m)

| Money | add money to mak up to £100 | Find change from £10, £20 and £50 | Add and subtract money (decimal £) which are near multiples of 1 or 10 (e.g £6.34-1.99 or £34.59-£19.95) |

Year 6 mental maths objectives

	Autumn	Spring	Summer
x tables (12x12) 10,5,2,4,8,3, 6,9,11,12,7	**missing and related** GD 30 in 1 mins (2 sec/Q) Exp 25 in 2 mins (5 sec/Q) WT 25 in 3 mins (7 sec/Q) B 15 in 3 minutes (12 sec/Q)	**mash up** GD 30 in 1 mins (2 sec/Q) Exp 25 in 2 mins (5 sec/Q) WT 25 in 3 mins (7 sec/Q) B 15 in 3 minutes (12 sec/Q)	**all 4 operations** GD 30 in 1 mins (2 sec/Q) Exp 25 in 2 mins (5 sec/Q) WT 25 in 3 mins (7 sec/Q) B 15 in 3 minutes (12 sec/Q)
TTRS status			GD Rock Hero (1 secs) Exp Rock Legend (2 secs) WT Support act (5 secs) B Gigger (8 secs)
times tables	Identify all multiples and factors including finding all factor pairs.	Use knowledge of factors and multiples in multiplication e.g (43 x 6 is double 43 x 3; 28 x 50 is half of 28 x 100 = 1400)	Use knowledge of multiples and factors, test for divisibility (246 ÷ 6 = 123 ÷ 3)
base 10	multiply or divide a given number by 10,100,1000,	multiply and divide any number by 0.01, 0.1, 10, 100, 1000	multiply and divide any number by 0.01, 0.1, 10, 100, 1000
partitioning add and subtract	Derive quickly and without difficulty, number bonds to 1000	Add to the next 10 from a decimal number (e.g 13.6 + 6.4 =20).	add/ subtract multiples of 10000 to large numbers (121 462 – 23000 = 35 1462).
add/ subtract	Add and subtract decimal numbers which are near multiples of 1 or 10 (6.34-1.99)	Add two 1-place decimal numbers (4.5 + 6.5)	Add two 2-place decimal numbers less than 1 (0.74 +0.33)
counting	Count up and down in fractions (including over 1)	Count forward and backward with positive and negative numbers through zero.	Count forward and backward with positive and negative numbers through zero.
X and divide	Divide multiples of 100 by 1-digit numbers using division facts (3200 ÷ 8= 400)	Use place value and number facts in mental multi (40,000 x 6 = 24,000)	Use place value and number facts in mental multi (40,000 x 6 = 24,000)
number facts	Recall square, triangular and prime numbers to 100	Use knowledge of multiples and factors, test for divisibility (246 ÷ 6 = 123 ÷ 3)	Identify common factors, multiples and prime numbers and use factors in mental division (438 ÷ 6 is 219 ÷ 3)
check and estimate	round decimals (3d) to the nearest whole and 1 dp	Use rounding in mental multiplication (34 x 19 as (20 x34) -34)	Use rounding in mental multiplication
double and half	Halve and double decimal numbers with up to 2 places using partitioning e.g 36.73 doubled is double 36 plus double 0 .73)	Use doubling and halving as a mental division and multiplication strategy-divide by 2,4,8,5,20 and 25 (628 ÷ 8 = half three times)	Use doubling and halving as a mental division and multiplication strategy. (28 x 25 is ¼ of 28 x 100 = 700)
fractions/ decimals	recall the core equivalent fractions and decimals	Mentally find fractions of amounts	find fractions of amounts and record as a division and fraction
time/ measure	Read years in roman numerals	Convert bewteen units of measure	Work out time difference bewteen given times (analogue and digital)

Money	Find change from given amounts of money	Add and subtract money (decimal £) which are near multiples of 1 or 10 (e.g £6.34-1.99 or £34.59-£19.95)	add and subtract nultiple amounts of money.