MENTAL MATHS PROGRESSION

Addition and Subtraction - Recall						
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 6 +**
Count in 1s, 2s 5s, 10s. (Forwards and backwards.)

Count on from different multiples of 10.

Numbers one more and one less up to 20.

Number pairs with total of 10 e.g. 3 + 7 = 10 | Count in steps of 2, 3, 5 and 10. (Forwards and backwards.)

Recognise place value of each digit in a two-digit number

Count in tens from any number up to 500.

Recall addition and subtraction facts for all numbers up to 20.

Pairs of multiples of 10 with totals up to 100 e.g. 30 + 70 = or 60+ _ = 100.

Subtracting multiples of 10 from 100.

Know what must be added to any two-digit number to make the next multiple of 10. E.g. 52 + ___ = 60. | Count in multiples of 2, 3, 4, 5, 8, 10, 50 and 100 from 0.

Recognise place value of each digit in a three-digit number

Find 10 or 100 more or less than a given number up to 1000.

Add and subtract mentally –
HTU + U =
HTU + 10 =
HTU + 100 =
HTU - U =
HTU - 10 =
HTU - 100 =

Sums and differences of multiples of 10 e.g. 80 + 30 = 120 – 90 =
To subtract multiples of 10.

Pairs of two-digit numbers with a total of 100 e.g. 32 + _= 100.

Pairs of multiples of 100 with totals up to 1000 e.g. 300 + 700 = or 600 + ___ = 1000. | Count in multiples of 6, 7, 8, 9, 10, 25, 50, 100 and 1000.

Find 1000 more or less than a given number.

Recognise place value of each digit in a four-digit number

Round whole numbers to the nearest 10, 100 or 1000.

Sums and differences of pairs of multiples of 10, 100 and 1000.

What must be added to any three-digit number to make the next multiple of 100? 521 + ___ = 600.

Pairs of fractions that total 1.

Add and subtract fractions with the same denominator. | Recognise place value of each digit up to 1 000 000.

Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000.

Sums and difference of decimal numbers e.g. 6.5 – 1.2 = 4,2 + 1.3 =

Know what must be added to any 4-digit number to make the next multiple of 1000, e.g. 4056 + ___ = 5000

Know what must be added to a decimal with units and tenths to make the next whole number e.g. 7.2 + __ = 8

Add and subtract fractions with the same denominator and denominators that are multiples of the same number. | Recognise place value of each digit up to 10 000 000.

Addition and subtraction facts for multiples of 10 to 1000 and decimal numbers with one decimal place e.g. 650 + __ = 930
___ - 1.4 = 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 | Recognise place value of each digit up to and beyond 10,000,000 and down to ten thousandths i.e. what is the digit 2- worth in 3.8062?

Know what to add to a number with three decimal places to make the next 1/100, 1/10 or whole number. |

Mental Calculation Skills (Working mentally with jottings if needed)						
Know what to add to a single digit number to make 10 e.g. 3 + _ =10.	Add or subtract any single digit number to a multiple of 10. e.g. 60 + 5 = 70 - 2 =	Add and subtract groups of single digit numbers e.g. 5 -3 + 8 =	Add or subtract any pair of two-digit numbers including crossing the tens and 100, boundary e.g. 47 + 58, 91 – 35 =	Add or subtract a pair of three digit and four-digit multiples of 10. E.g. 2300 + 560 =	Add or subtract pairs of decimals with units, tenths or hundredths e.g. 0.7 + 3.35 =	
Add or subtract a pair of single digit numbers e.g. 4 + 5, 6 – 1 =	Add or subtract a single digit number to or from a two-digit number, including crossing the ten boundaries e.g. 23 + 5 = 57 -3 = 28 + 8 =	Add or subtract a two-digit number to or from a multiple of 10 e.g. 50 – 24 = 130 + 65 =	Add or subtract a near multiple of 10 e.g. 56 + 39 = 65 – 41	Add or subtract a near multiple of 10 or 100 to any two digit or three-digit numbers e.g. 235 + 198 =	Add or subtract a decimal with units and tenths, that is nearly a whole number e.g. 4.3 + 2.9 = 6.5 – 3.8 =	
Add or subtract a single digit number to or from a teens number e.g. 13 + 5	Add or subtract any multiple of 10 to or from any two-digit number. e.g. 24 + 70 = 50 – 23 =	Add and subtract two-digit numbers e.g. 56 + 65 = 73 – 23 +	Add or subtract three-digit multiples of 10 e.g. 120 – 40 140 + 160 =	Find the difference between near multiples of 100 e.g. 609 – 543 or of 1000 e.g. 6070 – 4087 =	Add and subtract basic fractions with different denominators. e.g. 2/5 + 1/3 Or 6/8 – 3/12	
Add or subtract a single digit number to or from 10. e.g. 10 + 8 =	Add near doubles e.g. 39 + 40 =	Add near doubles e.g. 18 + 16 60 + 70=		Mental add and subtract with increasingly large numbers e.g. 12 462 – 2300 = 10 162		

Multiplication and Division - Recall						
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 6 +**
Odd and even numbers up to 50. Doubles of all numbers to 10 and corresponding halves. Begin to know ten times table.	Doubles for all numbers up to 20 and corresponding halves. Doubles of multiples of 10 to 100 and corresponding halves. Odd and even numbers up to 100. Recall multiplication and division facts for the 2, 5 and 10. (This must be up to x12) Begin to know three times table and division facts.	Doubles for multiples of 10 e.g. 90 + 90 = and corresponding halves. Recall and use multiplication and division facts for the 2, 3, 4, 5, 8 and 10 multiplication tables up to x12	Doubles of numbers up to 100 and corresponding halves. E.g. Double 58. Recall multiplication and division facts for multiplication tables up to 12 x 12 Recall factors and factor pairs. Fraction and decimal equivalents of one-half quarters, three quarters, tenths, and hundredths.	Doubles and halves of decimals e.g. half of 5.6 Identify multiples and factors, including factor pairs of numbers and common factors of two numbers. Recall prime numbers up to 19. Recall square numbers up to 12 x 12 and cubed numbers. Percentage e equivalents of one half, one quarter, three quarters, tenths and hundredths.	Find doubles of decimals each with units and tenths e.g. 1.6 + 1.6 = and corresponding halves. Find near doubles of decimal numbers 4.5 + 4.6 = Identify common factors, common multiples and prime numbers. Equivalent fractions, decimals and percentages for hundredths.	
Mental Calculation Skills (working mentally with jottings if needed)						
	Double any multiples of 5 up to 100 e.g. double 35. Halve any multiple of 10 up to 100 e.g. halve of 90. (Begin to relate these to fractions and measures e.g. 40 divide by 2, 20 are half of 40. etc.) Find half of even numbers up to 100. Find total number of objects when they are	Doubles any multiples of 5 up to 200. E.g. double 65 Halve any multiples of 10 up to 200 e.g. halve of 170. Multiply one digit number or two-digit number by 10 or 100 e.g. 7 x 100 = 46 x 10 = Find unit of fractions of numbers and quantises involving halves, third,	Multiply and divide one digit number or two-digit number by 10 or 100 e.g. 7 x 100 = 46 x 10 = Multiply a multiple of 10 by a single digit number e.g. 40 x 3 = Multiply numbers to 20 by a single digit number e.g. 17 x 3 =	Know whether a number up to 100 is a prime number. Multiply and divide whole numbers and decimal numbers by 10 or 100 e.g. 7 x 100 = 46 x 10 = Multiply and divide two-digit numbers by a single digit e.g. 25 x 4 = 96 divide by 8.	Multiply simple pairs of proper fractions, writing the answer in its simplest form. For example ¼ x ½ = 1/8 Divide proper fractions by whole numbers 1/3 divide by 2 = Multiply and divide two-digit numbers and three-digit numbers by a single digit e.g. 125 x 4 = 96 divide by 8.	

	organised into groups of 2, 3, 5 or 10. Find unit of fractions of numbers and quantities involving halves and quarters.	quarters, fifths, and tenths. To use multiplication and division facts *e.g.* 3 x 2 = 6, 6 ÷ 3 = 2 and 2 = 6 ÷ 3 to derive related facts e.g. 30 x 2 = 60, 60 ÷ 3 = 20 and 20 = 60 ÷ 3 Identify the remainder when dividing by 2, 5 0r 10.	Identify the remainder when dividing by 5 and 3. To use multiplication and division facts e.g. 3 x 2 = 6, derive related facts e.g. 30 x 2 = 60, Extend this to 3-digit numbers to derive facts, for example 300 x 2 = 600 into 600 ÷ 3 = 200 Find unit of fractions and simple non units of fractions e.g. 3/8 of 24 Use the distributive law to derive facts, for example, 30 x 7 + 9 x 7= 39 x 7.	Double three-digit multiples of 10 to 1000 and find corresponding halves e.g. 760 divide by 2 = Find the remainder after dividing a two-digit number by a single digit number. Multiply pairs of multiples of 10 e.g. 50 x 40 = Multiply by 100 by a single digit 600 x 6 = Divide a multiple of 10 by a single digit number e.g. 80 divide by 4 270 divide by 3 = Find fractions of whole numbers Find per cent of whole numbers.	Multiply pairs of multiples of 10 and 100 e.g. 50 x 40 = 600 x 20 = Multiply and divide two-digit numbers such as 0.8 x 7 = 4.8 divide by 6 Find per cent of multiples of 10 and 5 e.g. 35% Simplify fractions by cancelling	