Mental Maths Progression

RECEPTION

Counting/Using Number	Number Recognition	Application
3 – 4 years • Uses some number names accurately in play. • Recites numbers in order to 10. • Knows that numbers identify how many objects are in a set. • Shows an interest in numerals in the environment. • Realises not only objects, but anything can be counted, including steps, claps or jumps. **Children in Reception** • Counts up to three or four objects by saying one number name for each item. • Counts actions or objects which cannot be moved. • Counts objects to 10, and beginning to count beyond 10. • Counts out up to six objects from a larger group. • Counts an irregular arrangement of up to ten objects. • Estimates how many objects they can see and checks by counting them. • Says the number that is one more than a given number.	**3 – 4 years** • Uses some number names and number language spontaneously. • Sometimes matches numeral and quantity correctly. **Children in Reception** • Recognise some numerals of personal significance. • Recognises numerals 1 to 5. • Selects the correct numeral to represent 1 to 5, then 1 to 10 objects.	**3 – 4 years** • Beginning to represent numbers using fingers, marks on paper or pictures. • Shows curiosity about numbers by offering comments or asking questions. • Compares two groups of objects, saying when they have the same number. • Shows an interest in number problems. • Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same • Shows an interest in representing numbers. **Children in Reception** • Uses the language of ‘more’, ‘fewer’ and ‘less’ to compare two sets of objects. • Finds the total number of items in two groups by counting all of them. • Finds one more or one less from a group of up to five objects, then ten objects. • In practical activities and discussion, beginning to use the vocabulary involved in adding and subtracting. • Records, using marks that they can interpret and explain. • Begins to identify own mathematical problems based on own interests

Mental Maths Progression

Year 1

- Add and subtract 1 to a 2 digit number
- Subtract within 10
- Adding within 10
- Number bonds to 10
- Counting in 10's, 5's and 2's
- Know halves of even numbers to 20
- Know doubles to 10
- Add and subtract 10 to a 2 digit number
- Add 3 single digit number together
- Number bonds to 20
- Subtract any 1 digit number from any 2 digit number
- Add any 1 digit number to any 2 digit number
- Finding how many 'sets of' a smaller number make a bigger number
- Recognise half and quarter of an object, shape or quantity

Mental Maths Progression

Year 2

- Add any pair of 2 digit numbers using partitioning
- Add and subtract multiples of 10 to any give 2-digit number
- Say 10 more/less than any number to 100
- Add two or three single digit numbers
- Know all number bonds to 10 and 20 and related facts
- Count on and back in ones and tens from any given 2 – digit number
- Learn 2x, 5x, and 10x table (looking at lots of)
- Double numbers up to 20
- Using fingers, say where a given number is in the 2s, 5s or 10s count (e.g. 8 is the fourth number when I count in twos
- Count in 2s, 5s, and 10s
- Subtract any pair of 2-digit numbers by counting back in tens and ones or by counting up
- Begin to double two-digit numbers less than 50 with digits of 1,2,3,4 or 5
- Double and begin to halve numbers to 40 and multiples of 10 and 100
- Halve/Double numbers to 20
- Relate division to grouping (how many groups of five in fifteen)
- Tell time to five minutes, including quarter past/to
- Recognise half, $^1/_3$, $^2/_4$, $^3/_4$ of a shape, quantity or object
- Begin to count in 3's and learn the 3x table.

Mental Maths Progression

Year 3

- Use place value and number facts to add and subtract numbers
- Subtract by counting up
- Learn to count in 3's and 4's and know the 3x and 4x table.
- Add and subtract any two digit numbers by counting on in 10s and 1s or by using partitioning
- Perform place value subtractions without a struggle (536-30=506)
- Know multiples of 10 with a total of 100
- Know pairs with each total to 20
- Find 10 or 100 more/less than a given number. Count on in 50's from 0
- Tell the time to the nearest minute using 12 and 24 hour clocks, know the number of days in a month.
- Subtract, when appropriate, by counting back or taking away, using place value and number facts
- Learn to count in 9's and 8's and begin to learn 9x and 8x table
- Add and subtract pairs of 'friendly' 3 digit numbers, e.g. 230 +450
- Recognise fractions that add to 1. (e.g. ¼ +3/4)
- Halve even numbers up to 100, halve odd numbers to 20.
- Double numbers up to 50
- Partition teen numbers to multiply by a single digit number (3 x 14 as 3 x10 and (3x4)
- Begin to learn to count in 6's, 7's and 8's.
- Begin to know the 6x, 7x and 8x tables

Mental Maths Progression

Year 4

- Find 1000 more/less than a given number.
- Add and subtract £1, 10p and 1p to amounts of money.
- Know all multiplication facts to 12 x 12. Know associated division facts.
- Know by heart, quickly derive number bonds to 100 and £1
- Add and subtract any two 2 digit numbers by partitioning or counting on
- Read and compare and convert between analogue/digital 12/24 hr clocks.
- Multiply mentally one digit by two digit numbers
- Find change from £10, £20 and £50 by counting up
- Count in multiples of 25
- Begin to double and halve amounts of money (£35.60 doubles = £71.20)
- Read Roman numerals to 100.
- Count up/down in hundredths
- Partition 2-digit numbers to multiply by a single –digit number mentally (4 x 24 as 4 x 20 and 4 x 4)
- Use understanding of place value and number facts in mental multiplication and division (36 x 5 is half of 36 x 10; 450 ÷ 5 is 450 ÷ 10 and doubled; 50 x 60 = 3000 or 245 ÷20 is half 245 ÷ 10)
- Divide multiples of 100 by 1-digit numbers using division facts (3200 ÷ 8= 400)
- Multiply by 4 by doubling and doubling again
- Find a quarter (divide by 4) by halving and halving again
- Use digit movement to multiply and divide any whole number by powers of 10
- Add/subtract near multiples of 10 by adding/subtracting multiples of 10 and adjusting
- Find complements to 100
- Begin to recognise tests of divisibility for multiples of 2, 3, 5, 6 and 9

Mental Maths Progression

Year 5

- Use place value and number facts to add two or more friendly numbers including money and decimals (e.g. 3+4+8+6+7, 0.6+0.4+0.7)
- Add and subtract decimal numbers which are near multiples of 1 or 10 including money (e.g £6.34-1.99 or £34.59-£19.95)
- Add to the next 10 from a decimal number (e.g 13.6 + 6.4 =20).
- Know number bonds to 1 and to the next whole number
- Use doubling and halving as mental division/multi strategies (58 x 5 = half of 58 x 10)
- Use knowledge of factors and multiples in multiplication e.g (43 x 6 is double 43 x 3 and 28 x 50 is half of 28 x 100 = 1400)
- Identify all multiples and factors including finding all factor pairs.
- Use knowledge of multiplication facts to multiply 2 multiples of 10
- Know square numbers and square roots up to 144.
- Recall prime numbers up to 100
- Count up/down in thousands
- Read Roman numerals to 1000.
- Use knowledge of multiples and factors, test for divisibility (246 ÷ 6 = 123 ÷ 3)
- Double and halve money by partitioning (Half of £75.40 = Half of £75 (37.50) plus half of 40p)

Mental Maths Progression

Year 6

- Add two 1-place decimal numbers or two 2-place decimal numbers less than 1 (4.5 + 6.5 or 0.74 +0.33)
- Count forward and backward with positive and negative numbers through zero.
- Know all multiplication tables to 12x. Apply and extend
- Derive quickly and without difficulty, number bonds to 1000
- Use number bonds to 1 and 10 to perform mental subtraction of any pair of one-place decimals
- Use divisibility tests to aid mental calculation
- Use place value and number facts in mental multi (40,000 x 6 = 24,000)
- Identify common factors, common numbers and prime numbers and use factors in mental division (438 ÷ 6 is 219 ÷ 3)
- Identify common factors, common numbers and prime numbers and use factors in mental multiplication (e.g 326 x 6 is 326 x 3 x 2)
- Know by heart all multiplication and division facts up to 12 x 12. Apply and extend
- Add positive number to negative numbers (e.g calculate a rise in temp)
- Halve and double decimal numbers with up to 2 places using partitioning e.g 36.73 doubled is double 36 plus double 0 .73)
- Know by heart all multiplication and division facts up to 12 x 12. Apply and extend
- Use rounding in mental multiplication (34 x 19 as (20 x34) -34)
- Use doubling and halving as a mental division and multiplication strategy. E.g to divide by 2,4,8,5,20 and 25 (628 ÷ 8 is halved three times) (28 x 25 is ¼ of 28 x 100 = 700)