Year 1 – Mental calculation overview – Rapid recall and mental strategies
- Counting- forwards and backwards across 100 from any given number   - Counting- 13 + 4 , count on from 13   - Counting – steps of 2,5,10   - Number bonds- know number bonds to 20 and subtraction facts, missing number problems such as 7 = □ - 5   - Doubles – know doubles to 20 (10 + 10)   - Halving – halving even numbers to 20   - Near doubles – to know 5 + 6 is double 5 + 1 or double 6 subtract 1   - Partitioning to add – to be able to partition bridging through multiples of 10 (6 + 7 = 6 + 4 + 3)   - Shape -recognise and name common 2D shapes   - Time – days of the week, months, tell the time to the hour and half past   - Position – using the language of whole, half , quarter and three quarter turns

Please keep skills in constant rotation through morning work and mental maths sessions. Refer to the year below when the unit has not yet been taught. Time should be covered every 3 weeks.

Year 2 – Mental calculation overview – Rapid recall and mental strategies
Counting - To be able to count back in ones from any 2 digit number bridging 10's (72- 8)
Counting – To be able to count in steps of 2 and 10 from any number, forwards and backwards
Counting – To be able to count in multiples of 3 and 5
Number bonds – To recall and use addition and subtraction facts to 20 fluently and use for related facts up to 100 (30 + 70) and **missing number** problems.   20 -□ = 15 ,15 + □ = 20
Number bonds – To be able to calculate all pairs of multiples of 5 with a total of 100 (45+55)
Doubles – To be able to recall all doubles to 20, to be able to double all multiples of 10 to 100 (40 + 40 ,70 + 70)
Halving – To be able to halve all even numbers to 20, halve all multiples of 10
Near doubles – To know 13 + 14 is double 13 +1 or double 14 – 1, 39 + 40 is double 40 and subtract 1, 60 + 70 is double 60 + 10
Partitioning to add and subtract– to be able to partition bridging through multiples of 10 (15 + 7 = 15 + 5 + 2, 62 – 5 = 62 – 2 – 3)
Partition 2 digit numbers to add and subtract - 56 – 24 = 50 – 20= 30, 6 – 4 = 2 or 56 – 24 = 56 – 20 =36 – 4 = 32
Partitioning using compensating - 24 + 9 = 24 + 10 – 1, 56 + 11 = 56 + 10 + 1
Multiplication – recall and use x and ÷ facts for 2, 5 and 10 x tables, begin to recall and use multiplication and division facts for the 3x, tables
Fractions – to be able to count in halves and quarters up to 10
Shape – to be able to identify and name the properties of 2D and 3D shapes
Measure – to know 100cm = 1m, 1000g = 1 kg, 1000 ml = 1 l, 1000m = 1km, tell the time to 5 minutes including quarter past/to, know the number of minutes in an hour and the number of hours in a day

Please keep skills in constant rotation through morning work and mental maths sessions. Refer to the year below when the unit has not yet been taught. Time should be covered every 3 weeks.

Year 3 – Mental calculation overview – Rapid recall and mental strategies

Counting – count from 0 in multiples of 4, 8, 50 and 100, find 10 or 100 to 1000 and beyond more or less than a given number, bridging 100 (409 – 10)

Counting - count up and down in tenths

Number bonds – to be able to calculate pairs of 2 digit numbers which total 100

Partitioning 2 digit numbers to add and subtract – 55 + 37 = 55 + 30 + 7 = 85 + 7 or 6 7 – 35 = 67 – 30 = 37 - 5

Partitioning bridging 10 to add and subtract - 49 + 32 = 49 + 1 + 31 =   81 or   56 – 37 = 56 -6 =50 – 1 = 49 – 30 = 19

Partitioning using compensating – 84 – 19 = 84 – 20 + 1, 36 + 19 = 36 + 20 – 1, 27 + 21 = 27 + 20 + 1, 68 – 21 = 68 – 20 – 1

Doubles and halves – to be able to double and halve all 2 digit odd and even numbers, to be able to double and halve all multiples of 10 to 1000 e.g. half of 900 is 450

Near doubles – to know 38 + 35 is double 35 + , 160 + 170 is double 150 and then add 30 or double 160 + 30, double 380 + 380 is double 400 and subtract 20 twice

Multiplication and division – recall multiplication and division facts for 3x, 4x, 6x, 8x tables,

Partitioning to multiply -   16 x 4 = 10 x 4 + 6 x 4

Partition to divide –   57 ÷ 3 = 30 ÷ 3 + 27÷ 3

Partition to divide with remainders – 13 ÷ 3 = 12 ÷ 3 r 1

Doubles and halves - to solve multiplication sentences using (14 x 5 = 14 x 10 ÷ 2) (12 x 20 = 12 x10 x 10) (60 x 4 = 60 x 2 x 2)

Fractions – to be able to find fractions of quantities using x tables knowledge (¼, 1/5, 1/3, 1/10 , 3/4)

Shape – to know the names and properties of different 2D shapes and quadrilaterals and 3D shapes

Measure – to know simple conversions between g and kg, ml and l, m and km (¼ of 1kg = 250g, ½ of 1 kg = 500g, ¾ kg = 750g, 1kg = 1000g)

Time – read the time on 12 hour clocks and 24 hour clocks, know seconds in a minute, number of days in each month, year and leap year

Please keep skills in constant rotation through morning work and mental maths sessions. Refer to the year below when the unit has not yet been taught. Time should be covered every 3 weeks.

Year 4 – Mental calculation overview – Rapid recall and mental strategies
Counting – count in multiples of 6,7,9,25 and 1000
Counting – count backwards through 0 to include negative numbers
Counting – find 1000 more/less than a given number
Counting – to be able to count in ½, 1/3, 1/4
Counting – to be able to count up and down in hundreths
Rounding – to be able to round any number to the nearest 10/100/1000, to be able to round numbers with one decimal place to the nearest whole number
Number bonds – number bonds to 1 decimal place (0.8 + 0.2), number bonds with 3 digit numbers – 385 + 615
Partitioning to add and subtract using multiples of 10 and 100 with 3 and 4 digit numbers – 540 + 280 = 540 + 200 + 80 or 276 – 153 = 276 – 100 – 50 -3
Partitioning to add through multiples of 10 – 57 + 14 = 57 + 3 + 11 or 57 + 13 + 1 or 3.8 + 2.6 = 3.8 + 0.2 + 2.4 or 296 + 134 = 296 + 4 + 130
Partitioning using compensating –   38 + 69 = 38 + 70 -1, 53 + 29 = 53 + 30 – 1, 138 + 69 = 138 + 70 -1
Doubles and halves- to be able to double and halve all 3 digit numbers using partitioning (346 x 2 = 600 + 80 + 12)
Doubles and halves – to be able to find 4x a 3 digit number by x2, x2 and to be able to ÷ 2 digit number by halving twice
Doubles and halves – use to solve more complex x/ ÷ = (36 x 50 = 36 x 100 ÷ 2)
Doubles – to be able to double tenths – 0.3 + 0.3
Near doubles – 0.6 + 0.7 = 0.6 x2 + o.1
Multiplication and division – recall all number facts to 12 x 12, identify factors and multiples, know square numbers
Multiplying and dividing by multiples of 10 - 6 x 10, 26 x 10, 4 x 60, 3 x 80, 700 ÷ 10
Multiplying and dividing numbers by 10 /100
Fractions – to be able to calculate fractions of a number such as 2/5 or 5/8
Fractions and decimals – to be able to write decimal equivalents of tenths and hundredths, to recognise and write decimal equivalents to ¼, ½, ¾, 1/10, 1/5
Shape – to name and describe different quadrilaterals and triangles including lines of symmetry, identify acute and obtuse angles
Measure – to be able to convert between different units of measure – mm to cm, cm to m , m to km , g to kg , ml to l
Time – convert between different units of measure (hours to minutes) convert time between analogue and digital, 12 and 24 hour clock

Please keep skills in constant rotation through morning work and mental maths sessions. Refer to the year below when the unit has not yet been taught. Time should be covered every 3 weeks.

Year 5 – Mental calculation overview – Rapid recall and mental strategies
Counting – to be able to count forwards and backwards in steps of 10,100,1000,10 000,100 000, from any given number to 1 000 000
Counting – forwards and backwards with negative numbers
Counting – to be able to count in decimals and fractions (halves, tenths, quarters, three quarters)
Rounding – any number to the nearest 10,100, 1000, 10 000, 100,100 000
Adding and subtracting – use bridging and partitioning to add and subtract increasingly large numbers (See Year 4 for strategies) and decimals (0.8 + 0.35 = 0.8 + 0.2 + 0.15)
Multiplication and division – identify multiples, factor pairs and common factors, prime numbers, prime factors, calculate cubed numbers
Multiplication and division – using known number facts to make larger calculations (3x 7 =21, 3 x 70 = 210 , 3 x 700 = 2100)
Fractions – to be able to find a fraction of a quantity using known number facts (5/12 of 60 = 60 ÷ 12 x 5), convert between decimals and fractions for tenths, hundredths and thousandths
Decimals – to be able to multiply and divide a number by 10 and 100 and 1000 , know and use number bonds for 1 (0.56 + 0.44), to know percentage equivalents for ½, ¼, 1/3 1/5, 1/10, 3/4
Measure – convert between different units of metric measure focusing on decimal notation (1.25 l = 1250 ml), convert between units of time (hours to weeks)
Shape – calculate missing angles in triangles and quadrilaterals and other polygons, estimate angles including reflex angles

Please keep skills in constant rotation through morning work and mental maths sessions. Refer to the year below when the unit has not yet been taught. Time should be covered every 3 weeks.

Year 6 – Mental calculation overview – Rapid recall and mental strategies
Revisit skills from Year 5   Number – identify common multiples, prime factors (prime factors of 15 are 3 and 5 because 3 x 5 =15 and 3 and 5 are prime numbers Fractions – to be able to associate a fraction with division and calculate decimal fraction equivalents (know that 7 divided by 21 is the same as 7/21 which is equivalent to 1/3 +/ -/ x /÷ - complete mental calculations with larger numbers, decimals and mixed operations Percentages – to be able to calculate any percentage of a number Measures – convert between standard units including measurements of length, mass, volume and time e.g from mm to metres, to understand and use equivalences between metric and imperial (pints and litres) convert between miles and kilometres Shape – name parts of a circle (radius, diameter, circumference), identify the nets of different 3D shapes, calculate missing angles in parallel lines and other contexts

Please keep skills in constant rotation through morning work and mental maths sessions. Refer to the year below when the unit has not yet been taught.

Reception – early learning goals
Number - have a deep understanding of number to 10, including the composition of each number
Subitise - (recognise quantities without counting) up to 5
Number bonds - automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.
Counting - count beyond 20, recognising the pattern of the counting system
One more / one less - Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity
Patterns - explore and represent patterns within numbers up to 10, including evens and odds, double facts
Sharing - exploring how quantities can be distributed equally