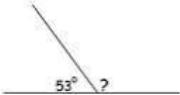


Suggested oral mental starters (ongoing, throughout the term):

- Count from (and back to) 0 in multiples of 2, 3, 4, 5, 6, 7, 8, 9, 10 11,12, 25, 50, 100 and 1000
- Recall and use multiplication and division facts for the 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 times tables (up to the 12th multiple)
- Find all factor pairs of a given number; find all common factors for a pair of numbers
- Multiply and divide numbers mentally drawing upon known facts e.g. $7 \times 8 = 56$; $7 \times 0.8 = 5.6$; $560 \div 7 = 80$
- Multiply whole numbers and numbers with up to two decimal places by 10, 100 and 1000 and divide corresponding numbers by 10, by 100 and by 1000
- Read, write, compare and order whole numbers up to 500,000
- Read, write, compare and order numbers with up to three decimal places
- Subtract larger numbers mentally by finding the difference, e.g. $2014 - 1995 = 19$ (consider using empty number lines)
- Use knowledge of place value to derive doubles and halves of decimal numbers
- Count forwards and backwards with positive and negative whole numbers, including through zero (refer to number line)
- Recognise, describe and extend linear number sequences including those involving fractions, e.g. 3, $3\frac{1}{2}$, 4, $4\frac{1}{2}$...; find the term to term rule
- Find complements of 1 e.g. 0.83 and $0.17 = 1$
- Convert between different units of measurement using decimal notation e.g. 3.75 km to m, 6.8 cm to mm, 1350 ml to l, 2.25 kg to g
- Compare and order fractions, decimals and percentages (using diagrams and resources to support)
- Recognise and use square numbers (up to 12×12) and the notation e.g. $4^2 = 16$
- Count forwards and backwards in steps of powers of 10 (10,100,1000,10,000) from any given number (within 500,000)

Areas of Study	No of days	Statutory requirements and non-statutory guidance	Suggested Key Vocabulary
<p>Number</p> <p>Number and place value</p> <p>Week 1</p>	<p>5</p>	<p>Read and write numbers to at least 500,000</p> <p>Given a number, identify the number that is ten, one hundred, one thousand or one hundred thousand more or less within 500,000</p> <p>Order and compare numbers within 500,000</p> <p>Round any number up to 500,000 to the nearest 10, 100, 1000 10,000 or 100,000</p> <p>Recognise the place value of each digit in a six-digit number</p> <p>Partition six-digit numbers into hundred thousands, ten thousands, thousands, hundreds, tens and ones/units; continue to use place value cards and charts to support</p> <p>Solve problems using knowledge of place value, including empty box questions and word problems</p> <p>Reason about numbers e.g. a number rounded to the nearest 1,000 is 45,000. What is the smallest/largest number it could be?</p>	<p>Partition, Place value</p> <p>Digit, number</p> <p>Units/ones, Tens, Hundreds, Thousands Ten thousands, Hundred thousands</p> <p>Order</p> <p>Compare</p> <p>More than, greater than, less than, <, ></p> <p>Round</p>

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<p>Number</p> <p>Negative Numbers & Roman Numerals</p> <p>Week 2</p>	<p>3</p> <p>2</p>	<p>Interpret and use negative numbers in context, e.g. temperature or depth below sea level Respond to questions about negative numbers e.g. fill in the missing numbers on the number line; put these temperatures in order, from coldest to warmest</p> <p>Count forwards and backwards in steps through zero to include positive and negative whole numbers, e.g. 7, 3, -1, -5 (describe the term to term rule)</p> <p>Begin to calculate intervals across zero, e.g. the temperature falls from 10° C to -2° C. How many degrees colder is it? (taken from Y6 programmes of study)</p> <p>Read and write Roman numerals to 500 (D) and 1000 (M) Recognise some years written in Roman numerals, e.g. How do you write the year of your birth in Roman numerals? The Battle of Hastings was in 1066 (MLXVI)</p>	<p>Positive, negative (numbers) Temperature, interval, depth ° C, degrees Celsius</p> <p>Roman numerals I, V, X, L, C, D, M</p>
<p>Number</p> <p>Addition and Subtraction</p> <p>Week 3</p>	<p>5</p>	<p>Consolidate using the formal written method of addition to add two four-digit numbers, including decimal numbers in the context of money and measures (See Calculation Policy) Use rounding to estimate and check answers to calculations</p> <p>Consolidate the formal written method of subtraction to subtract two four-digit numbers including decimal numbers in the context of money and measures (See Calculation Policy) Use rounding to estimate and check answers to calculations</p> <p>Solve addition and subtraction one-step, two-step and multi-step word problems (including money and measures problems), deciding which operation to use e.g. A train travels 1428 km on Monday and 1354km on Tuesday. How far does it travel altogether? How much further does it travel on Monday than on Tuesday?</p>	<p>Digit Thousands, hundreds, tens, ones/units</p> <p>Addition, plus, altogether, add, sum of, total, more than, increase</p> <p>Subtraction, subtract, minus, less than, decrease Round, estimate, check</p>
<p>Geometry</p> <p>Properties of Shape (2D)</p> <p>(including angles)</p> <p>Week 4</p>	<p>5</p>	<p>Consolidate acute, obtuse, reflex and right angles Know that angles in a straight line total 180° or half a turn; know that angles at a point total 360° or one whole turn</p> <p>Calculate missing angles in a straight line, e.g. Use a protractor to check the missing angle</p>  <p>Know the properties of rectangles, i.e. all four angles are right angles, opposite sides are equal and parallel and the diagonals bisect one another; understand that a square is a regular rectangle; use conventional markings for parallel lines and right angles</p> <p>Investigate diagonals of other quadrilaterals, e.g. Which other quadrilaterals have diagonals that bisect each other (cut each other in half); which do not? Which quadrilaterals have perpendicular diagonals (meet at right angles); which do not?</p>	<p>Acute, obtuse, right angle, reflex</p> <p>Degrees °</p> <p>Half turn, Whole turn Quadrilateral, square, rectangle, parallelogram, rhombus, kite, trapezium,</p> <p>diagonal, bisect, perpendicular, parallel</p>

<p>Number Fractions</p> <p>Week 7</p>	<p>5</p>	<p>Consolidate mixed numbers and improper fractions in context and/or using diagrams; convert from one form to the other</p> <p>Recognise patterns in equivalent fractions (consider using a times table grid to support), e.g. $1/3 = 2/6 = 3/9 = 4/12$</p> <p>Convert a pair of fractions to make fractions with a common denominator, e.g. $1/2$ and $3/4$ converts to $2/4$ and $3/4$; $3/10$ and $4/5$ converts to $3/10$ and $8/10$</p> <p>Find unit and non-unit fractions of whole number quantities; relate to multiplication and division e.g. $1/5$ of 40 cm; $3/5$ of 40cm; $1/3$ of 150; $2/3$ of 150</p> <p>Add and subtract fractions with the same denominator or denominators that are multiples of the same number, supported by materials and diagrams e.g. $2/3 + 2/3 = 4/3 (= 1\frac{1}{3})$; $3/4 - 1/2 = 3/4 - 2/4 = 1/4$; $3/5 + 3/15 = 9/15 + 3/15 = 12/15$;</p> <p>Multiply proper fractions by whole numbers supported by materials and diagrams, e.g. $1/3 \times 2 = 2/3$; $2/3 \times 2 = 4/3 = 1\frac{1}{3}$; $2/5 \times 3 = 6/5 = 1\frac{1}{5}$</p> <p>Solve word problems using addition, subtraction and multiplication of fractions, using the above</p>	<p>Whole Numerator, denominator, mixed number, improper fraction, unit fraction, non-unit fraction, common denominator, equivalent fraction, simplify</p>
<p>Number Fractions, Decimals & Percentages</p> <p>Week 8</p>	<p>3</p> <p>2</p>	<p>Consolidate understanding of decimal numbers (with one and two decimal places) and convert decimal numbers to fractions e.g. $0.25 = 1/4$; $0.5 = 1/2$; $0.75 = 3/4$; $0.1 = 1/10$; $2/10 = 0.2$; $1/100 = 0.01$; $0.71 = 71/100$</p> <p>Round decimal numbers with two decimal places to the nearest whole number (and then extend rounding to one decimal place)</p> <p>Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents e.g. $245/1000 = 0.245$; relate to measures</p> <p>Recognise the place value of each digit in decimal numbers with up to three decimal places</p> <p>Order a set of decimal numbers with up to three decimal places</p> <p>Consolidate understanding of per cent as number of parts per hundred and record fraction and decimal equivalents of 1%, 10%, 20%, 25%, 50%</p> <p>Solve problems using knowledge of percentage and fraction equivalents e.g. There are 68 questions in a test. I get 50% of them right. How many questions do I get right? How many questions do I get wrong? The coat I want to buy usually sells for £80. In the sale it has a reduction of 10%. How much is the coat now? How do you know? Would you rather have 25% of £200 or 10% of £450?</p>	<p>decimal place, tenth, hundredth, thousandth, equivalent, round</p> <p>per cent, %</p>

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<p>Measurement</p> <p>Length, Perimeter, Area, Volume</p> <p>Week 9</p>	<p>5</p>	<p>Consolidate understanding of kilometres (km), metres (m), centimetres (cm) and millimetres (mm) as units of measurement and the relationship between units; convert between units of length e.g. 8m = 800cm; 100mm = 10cm; 1000mm = 1m; 2km = 2000m</p> <p>Use decimal notation for length e.g. 215cm = 2m and 15cm = 2.15m; 15mm = 1cm and 5mm = 1.5 cm</p> <p>Consolidate understanding of perimeter and express the formula for finding the perimeter of a rectangle in words; calculate the perimeter of rectilinear shapes where the lengths of the sides are given</p> <p>Solve perimeter problems with missing measurements, e.g. the perimeter of a rectangle is 72cm. The shortest side is 9cm. What is the length of the longest side?</p> <p>Calculate the perimeter of composite rectilinear shapes, where the lengths of the sides are given, using cm and/or m; extend by including examples where the length of some of the sides are not given</p> <p>Consolidate understanding of area and relate finding area to arrays and to multiplication</p> <p>Calculate the area of rectangles, using the formula in words, using standard units for square centimetres (cm²) and square metres (m²)</p> <p>Investigate using area and perimeter, e.g. Draw a rectangle with a perimeter of 24cm. Is there more than one way to do this? What are the length of the sides of the rectangle with the largest area?</p> <p>Introduce volume by investigating using 1cm³ blocks to build different cuboids; introduce the terms cubic centimetres, cm³</p>	<p>Perimeter Area</p> <p>metre (m), centimetre (cm), millimetre (mm), kilometre (km)</p> <p>Square centimetres, cm², square metres, m²</p> <p>Volume, cuboids Cubic centimetres, cm³</p>
<p>Statistics</p> <p>Week 10</p>	<p>5</p>	<p>Solve comparison, sum and difference problems using information presented in a line graph e.g. Examine a line graph showing the number of people at the zoo on the hour every hour during the day. How many people were in the zoo at 10 am? How many more people had arrived by 11 am? What was the busiest time at the zoo? What was the least busy time at the zoo? Why do you think this time was least busy? What is the difference in number of people between the busiest and least busy part of the day?</p> <p>Read a range of scales on the axes of different graphs (for example line graphs and bar charts); answer questions about data presented in these graphs</p> <p>Complete, read and interpret information in tables; ask and answer questions about the data in the table</p> <p>Follow a line of enquiry by collecting data and presenting it in a table. Using the information presented in a table, decide the best way to represent it - in a line graph, bar chart or pictogram and explain their decision (Possible link to Science curriculum)</p>	<p>line graph, continuous data, bar chart, discrete data, axis, scale, table, tally, interpret</p>

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<p>Number</p> <p>Addition and Subtraction</p> <p>(Mental Methods and problem solving)</p> <p>Week 11</p>	<p>5</p>	<p>Add/subtract larger numbers and decimals mentally, using jottings such as empty number lines, for example: $1,465 + 2,324$ $6.5 + 2.7$ $7.85 - 1.38$ $6002 - 5989$ (finding a small difference by counting on)</p> <p>Solve addition and subtraction word problems using mental methods with jottings, deciding which operations and mental methods to use e.g. My niece was born in 1994. How old is she now? My nephew was born in 1989. How old will he be in 2020? What is the total of 175, 225, 400, 120 and 80? The car park has spaces for 2,000 cars. There are 1,898 cars in the car park now. How many more cars can fit in? Last week there was a house for sale in my road for £455,000. This week it has increased in value by £1,500. What is the price of the house now?</p> <p>Solve a mathematical problem by working systematically and recording results in a clear and organised way- consider the problems 'Three digits' and 'Nadia's new number plate'</p>	<p>Digit</p> <p>Thousands, hundreds, tens, ones/units</p> <p>Addition, plus, altogether add, sum of, total, increase, more than</p> <p>Subtraction, subtract, minus, difference (between), decrease, less than</p> <p>Empty number line</p> <p>Calculate, calculation</p> <p>Problem, solution</p>
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Additional weeks

To be used for:

- assessment, consolidation and responding to AfL
- additional using and applying activities