

**Oral mental starters (ongoing, throughout the term):**

- Count from (and back to) 0 in multiples of 3, 6, 4, 8, 7, 9, **11, 12**, 25, 50, 100, **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 12<sup>th</sup> multiple)
- Find all factor pairs of a given number
- Use known multiplication and division facts to derive other related facts e.g.  $4 \times 12 = 48$  to calculate  $4 \times 120 = 480$ ;  $40 \times 12 = 480$
- Use place value and known and derived facts to multiply and divide mentally, including multiplying by 0 and 1; dividing by 1
- Multiply numbers with up to two decimal places by 10 and 100 and divide corresponding numbers by 10 and 100
- Compare and order numbers with up to two decimal places (including in the context of money and measures)
- Find pairs of decimal numbers that total one
- Recall and use addition and subtraction facts for multiples of 10 to 1000 (e.g.  $490 + 510 = 1000$ ,  $1000 - 750 = 250$ )
- Given a number, say/identify the number that is 100/1000 more or less within 10,000
- Add three (or more) small numbers together mentally e.g.  $18 + 9 + 12 = 30 + 9 = 39$ ;  $25 + 14 + 5 = 30 + 14 = 44$
- Find doubles of three-digit numbers (using knowledge of partitioning and place value) and find corresponding halves
- Count backwards through zero to include negative numbers (refer to number line)
- Tell the time to the nearest minute on an analogue clock (including using Roman numerals I-XII) and relate to 12/24 hour digital clocks
- Convert between different units of measurement e.g. km to m, cm to mm, ml to l, kg to g

**NB** Also see the **Mental Maths Policy** for further guidance

Areas of Study	No of days	Statutory requirements and non-statutory guidance	Suggested Key Vocabulary
<p><b>Number</b></p> <p>Number and place value</p>	<p>3-5</p>	<p>Read and write numbers to 10,000                      Given a number, say/identify the number that is ten, one hundred or one thousand more or less within 10,000                      Order and compare numbers within 10,000                      Round numbers to the nearest 10, 100 or 1000</p> <p>Recognise the place value of each digit in a four-digit number                      Partition four-digit numbers into thousands, hundreds, tens and ones/units; continue to use place value cards and Diennes apparatus to support</p> <p>Partition whole numbers <b>in different ways</b> e.g. <math>2383 = 2000 + 300 + 80 + 3 = 2000 + 300 + 50 + 30 + 3 = 2000 + 200 + 180 + 3</math>; encourage children to find as many different ways as possible</p>	<p>Partition, Place Value                      Digit, number                      Units/ones, Tens, Hundreds, Thousands</p> <p>Order                      Compare                      More than, Less than, &lt;, &gt;</p> <p>Round</p>

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<p><b>Number</b></p> <p>Decimals (and place value)</p>	<p>5</p>	<p>Consolidate the connection between <b>tenths</b> and <b>hundredths</b> and decimal fractions and use <b>decimal notation</b> (to two decimal places); recognise that <math>1/10 = 0.1</math>, <math>5/10 = 0.5 = 1/2</math>; <math>1/100 = 0.01</math>, <math>2/100 = 0.02</math> etc; <math>0.25 = 25/100 = 1/4</math>, <math>0.75 = 75/100 = 3/4</math> (consider the use of resources to support understanding e.g. 100 square, decimal place value cards and a place value chart); link decimal notation to money and length</p> <p>Recognise the place value of each digit in a decimal number with up to two decimal places ( tens, units/ones, tenths, hundredths) Partition decimal numbers into tens, units/ones, tenths and hundredths; use place value cards and charts to support</p> <p>Round decimal numbers with one decimal place to the nearest whole number Begin to round decimal numbers with two decimal places to the nearest whole number (in the context of money or measures)</p> <p>Compare and order decimal numbers with up to two decimal places; relate to money and measures e.g. put these amounts of money in order from least to most: £11.50, £10.00, £5.05, £11.05, £5.50; which is longer- 15.5 m or 15.05 m?</p>	<p>Partition, Place value Digit, number, decimal tenth, hundredth</p> <p>Order Compare More than, greater than, less than, &lt;, &gt;</p> <p>Round</p>
<p><b>Number</b></p> <p>Addition and Subtraction</p>	<p>5</p>	<p><b>Consolidate using the formal written method of addition</b> to add two two-digit numbers; a three-digit number and a two-digit number; two three-digit numbers (<b>See Calculation Policy</b>)</p> <p><b>Consolidate using formal written method of subtraction</b> to subtract two two-digit numbers; a two-digit number from a three-digit number; a three- digit number from a three- digit number (<b>See Calculation Policy</b>)</p> <p>Solve addition and subtraction one-step and two-step word problems (including money and measures problems), deciding which operations to use e.g. I have £5.75 and you have £2.80 more than me. How much money do you have?</p>	<p>Digit Hundreds, tens, ones/units Addition, plus, altogether add, sum of, total, more than, increase</p> <p>Subtraction, subtract, minus, less than, decrease</p> <p>Calculate, calculation Problem, solution</p>
<p><b>Geometry</b></p> <p>Properties of Shape (3D) and Position and Direction</p>	<p>3</p>	<p>Consolidate names and properties of common 3-D shapes (<b>Y3 programme of study</b>); introduce the term <b>polyhedron</b></p> <p>Identify and describe 3D shapes including the number of faces, vertices and edges; identify 2D shapes on the surface of 3D shapes e.g. triangular faces on a triangular prism</p> <p>Identify simple nets of 3D shapes e.g. unfold boxes and packets to see the shape of the net <b>Investigate</b> the different nets that will make an open cube e.g. using Polydron to support</p> <p>Describe positions on a 2D grid as co-ordinates in the first quadrant; write and use pairs of co-ordinates e.g. (0,5); plot specified points using co-ordinates in the first quadrant</p>	<p>Relevant vocabulary from previous year</p> <p>Polyhedron, net</p> <p>Investigate, investigation</p> <p>Co-ordinates, first quadrant</p>

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	2	<p>Describe movements of shapes between positions as <b>translations</b> of a given unit to the left/right and up/down; describe the new position using co-ordinates</p> <p>Make patterns by repeatedly translating a shape</p>	<p>Translation, translate, left, right, up, down</p>
<p><b>Number</b></p> <p>Multiplication</p>	5	<p>Count in multiples of 11 and multiples of 12, forwards and backwards</p> <p>Recall and use multiplication facts for the 11 times table; look at patterns in the 11 times table</p> <p>Recall and use multiplication facts for the 12 times table; look at patterns in the 12 times table (Consider the use of a multiplication grid to look for patterns in all multiplication tables)</p> <p>Write and calculate mathematical statements for multiplication using 11 and 12 times tables (and other known tables); include multiplying by 0; solve missing number problems</p> <p>Find all factor pairs of a given number</p> <p>Use the <b>formal written method of short multiplication</b> to multiply a two - digit number by a single digit number e.g. <math>37 \times 8 = 296</math> (<b>See Calculation Policy</b>)</p> <p>Solve word problems, which involve multiplication e.g. How many hours are there in a week? There are 32 cherries in a punnet. I have 8 punnets of cherries. How many cherries do I have altogether?</p>	<p>Multiply, multiplication, times, product</p> <p>Partition, value, tens, ones/units</p> <p>Multiplication grid</p> <p>Formal method of short multiplication</p> <p>Factor pairs</p> <p>Calculation</p> <p>Problem, solution</p>
<p><b>Number</b></p> <p>Division</p>	5	<p>Count in multiples of 11 and multiples of 12, forwards and backwards</p> <p>Recall and use division facts for the 11 times table; recall and use division facts for the 12 times table</p> <p>Write and calculate mathematical statements for division using 11 and 12 times tables (and other known tables); solve missing number problems (empty boxes); use the inverse operation to check answers</p> <p>Use the <b>formal method</b> to divide two-digit numbers by a single-digit number (short division) e.g. <math>98 \div 7 = 14</math> (<b>See Calculation Policy</b>)</p> <p><b>Begin</b> to divide numbers over 100 by a one-digit number using the formal method of short division e.g. <math>132 \div 6 = 22</math> (<b>See Calculation Policy - Y5</b>)</p> <p>Solve word problems, which involve division, using the formal method e.g. I have 96 grapes and I share them equally between six friends. How many grapes do they each have?</p>	<p>Divide, division</p> <p>Short division</p> <p>Formal layout <math>\overline{)}</math></p> <p>Inverse</p> <p>Calculation</p> <p>Problem, solution</p>

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<p><b>Number</b></p> <p>Fractions (including decimals)</p>	<p>5</p>	<p>Continue to recognise fractions in the context of parts of a whole, of numbers, measurements, shapes and of quantities; use the terms numerator and denominator; write fractions (unit fractions and non-unit fractions) using notation and words</p> <p>Recognise and show common equivalent fractions <b>using diagrams and fraction walls</b>; extend to using factors and multiples to recognise equivalent fractions and to simplify where appropriate e.g. <math>6/9 = 2/3</math></p> <p>Place fractions on a number line e.g. 0-1 or 0-2 (include improper fractions and mixed numbers - <b>taken from Y5 programme of study</b>)</p> <p>Add and subtract fractions with the same denominator within one whole e.g. <math>5/7 + 1/7 = 6/7</math> and beyond one e.g. <math>3/8 + 7/8 = 10/8</math> (<b>using diagrams to support</b>); where appropriate refer to mixed numbers and improper fractions (<b>taken from Y5 programme of study</b>)</p> <p>Count up and down in hundredths; recognise that hundredths arise when dividing an object by 100 and when dividing tenths by ten (consider using a blank hundred square and a place value chart to support )</p> <p>Recognise and write decimal equivalents of any number of tenths or hundredths e.g. <math>4/10 = 0.4</math> and <math>35/100 = 0.35</math>; recognise that <math>1/4 = 0.25</math>, <math>1/2 = 0.5</math> and <math>3/4 = 0.7575</math> (consider using a blank 100 square to support understanding)</p>	<p>Whole Unit fraction, non-unit fraction Numerator, denominator Equivalent fractions, mixed number, improper fractions</p> <p>Tenths, hundredths Decimal notation</p>
<p><b>Measurement</b></p> <p>Time</p> <p><b>Statistics</b></p> <p>Data Handling</p>	<p>3</p> <p>2</p>	<p>Convert between 12 hour digital clocks and 24 hour digital clocks e.g. What time on the 12 hour clock is 17:45? What time on the 24 hour clock is 11:15 pm?</p> <p>Solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days.</p> <p>Use simple charts to solve time problems e.g. Use a newspaper TV guide to calculate how long each programme lasts</p> <p>Interpret and present <b>discrete</b> and <b>continuous data</b> using appropriate graphical methods including bar charts and time graphs, <b>using a greater range of scales</b> in their representations</p> <p>Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.</p> <p>Follow a line of enquiry e.g. <b>linked to the science curriculum</b>; collect data from their own observations and measurements, make decisions about how to record and analyse the data</p>	<p>All relevant vocabulary from previous years relating to time including: 24 hour digital clock</p> <p>Problem, solution</p> <p>Discrete, continuous, data, scale</p>

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<p><b>Measurement</b></p> <p>Perimeter and Area</p>	<p>5</p>	<p>Measure the perimeter of rectilinear shapes using cm and m</p> <p>Calculate the perimeter of rectilinear shapes (where the length of the sides is given).</p> <p>Express the formula for finding the perimeter of a rectangle in words e.g. Tom found the perimeter of a rectangle by measuring the length and the width, adding these two measurements together and doubling his answer. Was he right?</p> <p>Solve problems relating to perimeter e.g. the perimeter of a square is 28cm. What is the length of one side? Draw two rectangles with the same perimeter as the square.</p> <p>Find the area of rectangles by counting squares; use the notation for square centimetres (cm<sup>2</sup>); find area of rectangles by relating to arrays and multiplication</p> <p>Solve problems involving area and perimeter e.g. Draw a rectangle with an area of 24 cm<sup>2</sup> and a perimeter of 28 cm. Can you find any other rectangles with the same area?</p>	<p>Perimeter, cm, m</p> <p>Area</p> <p>Square centimetres, cm<sup>2</sup></p>
<p><b>Number</b></p> <p>Multiplication and division</p> <p>(Mental Methods)</p>	<p>5</p>	<p>Multiply numbers by ten and one hundred (including numbers with one decimal place) e.g. <math>9 \times 100 = 900</math>; <math>42 \times 100 = 4200</math>; <math>3.5 \times 100 = 350</math>; describe the effect using the language of place value <b>(See Mental Maths Policy)</b></p> <p>Divide numbers by ten and one hundred (including answers with one decimal place)</p> <p>e.g. <math>800 \div 100 = 8</math>; <math>460 \div 100 = 4.6</math>; describe the effect using the language of place value <b>(See Mental Maths Policy)</b></p> <p>Recognise and use factor pairs in <b>mental calculations</b> to multiply three numbers together</p> <p>e.g. <math>2 \times 6 \times 5 = 10 \times 6 = 60</math></p> <p>Use distributive law/partitioning method to calculate <b>mentally</b> (with jottings),</p> <p>e.g. <math>39 \times 7 = (30 \times 7) + (9 \times 7)</math>; <math>78 \div 6 = (60 \div 6) + (18 \div 6)</math></p> <p>Solve integer scaling problems, e.g. When I was born I was 48cm long. Now I am three times as tall. How tall am I?</p>	<p>Place value, digit, decimal place</p> <p>Factor pairs</p> <p>Partition</p> <p>Calculate, calculation</p> <p>Problem, solution</p>

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<p><b>Measurement</b></p> <p>Length, Mass and Capacity</p>	<p>5</p>	<p>Consolidate understanding of measures and know the relationship between units of measurement including <b>kilometres</b> to metres; make estimates of measurements and choose and use suitable equipment and units of measure; read a range of scales</p> <p><b>Solve problems</b> involving length, mass, capacity, e.g.                  A full jug holds 2 litres of orange juice. A full glass holds 1/4 litre. How many glasses will the jug fill?                  On Monday I cycled 13.5km. On Tuesday I cycled 25km. How far did I travel altogether?                  A potato weighs about 250g. How much do 10 potatoes weigh, approximately?                  Here is a recipe for 6 people. Change the ingredients to make enough for 12 people.                  How much is a metre of pennies worth if you arrange them flat on the ground, in a straight line, without any gaps? What if you use 2p pieces? How will you find out?</p> <p><b>Investigate</b> statements relating to measurement, e.g. People with longer arms can throw further. True or false? How will you find out?</p>	<p>Weight, mass, measure Kilograms, kg, grams, g</p> <p>Capacity, measure Litre, l, millilitre, ml</p> <p>Length, height, distance, km, kilometres, cm, centimetre, m, metre, mm, millimetre</p>
<p><b>Additional weeks</b></p> <p>To be used for:</p> <ul style="list-style-type: none"> <li>• assessment, consolidation and responding to AfL</li> <li>• additional using and applying activities</li> </ul>			