# Year 6   term 1 and 2

**Oral and Mental calculation**
- Read and write any integer and know what each digit represents.
- Read and write decimal notation for tenths and hundredths and know what each digit represents.
- Order and compare whole numbers up to 1 000 000, negative numbers and decimals.
- Count forwards and backwards from any number including  decimals
- Know by heart and use all multiplication and division facts for tables up to 12 x 12.
- Find and use all the pairs of decimals with a sum of 0.1, 1 or 10.
- Find and use related facts from those already known e.g.  "If I know 3 x 6=18 or 10 +90 =100  ...then what else do I know "
- Multiply and divide two-digit and single-digit numbers –*with jottings.*
- Double or halve any number-*use partitioning and jottings*.
- Multiply and divide two-digit decimals by a single digit number –*use jottings.*
- Multiply and divide whole numbers and decimals mentally by 10 or 100
- Convert between units of measurement by multiplying or dividing 10, 100 or 100
- Round whole numbers to the nearest 10, 100, 1000
- Round numbers with up to two decimal places to the nearest integer or number of decimal places
- Count in fractional  steps including mixed numbers
- Find and use equivalent fractions.

| Week | Main focus of teaching |
|---|---|
| 1 | **Number – place value**<br>• **Step 19 -** read, write, order and compare numbers, including decimals,  up to 10 000 000 and determine the value of each digit<br>• **Step 19 -** round any number up to 10 000 000 to the nearest 10, 100 and 1000<br>• **Step 19 -** recognise negative numbers, continue negative number sequences and find missing numbers.<br>• **Order and compare positive and negative numbers**<br>• *Identify the value of each digit in numbers to three decimal places*<br>• *Round decimals with three places to the nearest whole number* |
| 2 | **Addition and subtraction**<br>• **Step 19 -** consider whether to solve addition and subtraction calculations mentally or using a written method.<br>• **Step 19 -** explore order of operations (e.g. BODMAS) using brackets.<br>• **Step 19 -** use rounding to check answers to calculations<br>• **Estimate answers**<br>• **Use inverse to check answers to calculations**<br>• *Add and subtract whole numbers and decimals using a formal written method.*<br>• **Steps 19 -21 -** Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.<br>• **Understand how to find the average (mean) of a range of numbers** |

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| **3&4** | **Multiplication and division**<br>• **Estimate answers**<br>• **Step 19 - Use recall of multiplication and division facts up to 12 x 12 to solve other multiplication and division calculations mentally.**<br>• **Step 19 - use knowledge of times tables and place value to multiply 1s.t by 1s e.g. 0.6 x 4 = 2.4.**<br>• **Step 19 - divide 3-digit numbers by 2-digit numbers using the formal method without remainders**<br>• **Step 19 - multiply 3-digit numbers x 2-digit numbers using long multiplication**<br>• *Consider the most appropriate strategy to solve a calculation: calculate mentally, use a jotting or a written method*<br>• **Use inverse to check answers to calculations**<br>• **Use their knowledge of the order of operations (*BODMAS*) to solve problems involving a combination of addition, subtraction, multiplication and/or division**<br>• **Steps 19-21 - Solve problems which involve multiplication and/or division** |
| **5** | **Algebra**<br>• **Step 19 - interpret problems using simple formulae.**<br>• **Step 19 - continue simple linear number sequences.**<br>• **Step 19 - express generalisations of a linear number sequence in words.** |
| **6&7** | **Fractions, Decimals & Percentages**<br>• **Step 19 - add and subtract mixed numbers with the same denominator**<br>• **Step 19 - multiply mixed numbers by a whole number**<br>• **Step 19 - partition decimal numbers up to 3 decimal places and state the value of each digit.**<br>• **Step 19 - associate a fraction with division by converting an integer and fraction to an improper fraction.**<br>• **Step 19 - recall and use equivalences between simple fractions and decimals**<br>• **Step 19 - place fractions > 1 on a numberline**<br>• **Identify and use common factors to simplify fractions**<br>• **Identify and use common multiples to turn two or more fractions to the same denomination**<br>• **Compare and order fractions, including fractions >1**<br>• **Estimate answers**<br>• **Recall and use equivalences between simple fractions, decimals and percentages (*e.g. 50% is the same as 50/100 r 0.5*)**<br>• *Find simple percentages of amounts.* |

# Year 6   term 1 and 2

| 8 & 9 | **Shape and position and direction to solve problems** |
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| | • **Step 19** - **draw 2d shapes using dimensions and angles** |
| | • **Step 19** - **compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes** |
| | • **Step 19** - **illustrate and name parts of circles, including radius, diameter and circumference** |
| | • **Step 19** - **identify acute and obtuse angles and compare and order angles by size** |
| | • **Step 19** - **draw positions of points in the first and second quadrants of a 2D coordinate grid** |
| | • **Step 19** - **identify, describe and represent the position of a shape following a reflection** |
| | • **Build simple 3-D shapes, including making nets.** |
| **10** | **Ratio and proportion to solve problems** |
| | • **Step 19** - **find simple percentages of quantities (e.g.10%, 25%, 50% and 75%) of quantities** |
| | • **Step 19** - **use concrete materials to solve simple ratio problems.** |
| | • **Step 19** - **understand the relationship between common % (E.g. 25% and 50% or 10% and 5%)** |
| | • **Understand ratio as unequal grouping or sharing** |
| | • **Understand proportion as scaling up or down.** |
| **11** | **Statistics to solve problems** |
| | • **Step 19** - **compare a set of data on a table with its representation on a pie-chart.** |
| | • *Link pie charts to angles e.g. 360 degrees* |
| | • *Link pie charts to fractions* |
| | • *Link pie charts to percentages* |
| | • **Construct pie charts** |
| | • **Steps 19-21** - **Interpret pie charts use these to solve problems** |
| **12** | **Measures-length and area and volume /capacity to solve problems** |
| | • **Step 19** - **use, read, write and convert between standard units, converting measurements of length and mass, from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3 decimal places.** |
| | • **Step 19** - **convert between miles and kilometres.** |
| | • **Step 19** - **recognise that shapes with the same areas can have different perimeters and vice versa.** |
| | • **Step 19** - **calculate the area of triangles.** |

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