Year 6 term 1&2

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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 and place value to solve problems • Read and write numbers up to 10 000 000 • Order random numbers including decimal numbers up to 10 000 000 *on a number line* • Order and compare positive and negative numbers- *on a number line* • Determine the value of each digit in numbers up to 10 000 000-*use place value counters* • *Identify the value of each digit in numbers to three decimal places* • Round any whole number to the nearest 10, 100, 1 000 or 10 000 *using a number line.* • *Round decimals with three places to the nearest whole number* • Use negative numbers in context and calculate intervals across zero • ALGEBRA –*complete* or generate linear number sequences • ALGEBRA –describe linear number sequences

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	• Solve number and practical problems that involve number and place value • ALGEBRA –*find* all the possibilities of combinations of twp variables
2	Addition and subtraction to solve problems • Estimate answers • *Consider the most appropriate strategy to solve a calculation: calculate mentally, use a jotting or a written method* • Use inverse to check answers to calculations • *Add whole numbers and decimals using a formal written method.* • Solve addition multi-step problems in contexts, deciding which operations and methods to use and why. • *Subtract whole numbers and decimals using a formal written method* • Solve subtraction multi-step problems in contexts, deciding which operations and methods to use and why. • ALGEBRA- find pairs of number that satisfy number sequences involving two unknowns e.g. x+y= 1.5 • Understand how to find the average (mean) of a range of numbers • Use their knowledge of the order of operations (*BODMAS*) to solve problems • Solve problems involving a combination of addition, subtraction, multiplication and/or division
3	Multiplication and division to solve problems • Estimate answers • *Consider the most appropriate strategy to solve a calculation: calculate mentally, use a jotting or a written method* • Use inverse to check answers to calculations • Multiply numbers with up to 4 digits by a two-digit whole number using a formal written method of long multiplication. • Multiply one-digit numbers with up to two decimal places by whole numbers • ALGEBRA find pairs of number that satisfy number sequences involving two unknowns *e.g. a x b = 60* • Divide numbers up to 4 digits by a two-digit number using a formal written method of short division *where appropriate* • Divide numbers up to 4 digits by a two-digit whole number using a formal written method of long division

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	• Interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context. • Divide one-digit numbers with up to two decimal places by whole numbers. • ALGEBRA- find pairs of number that satisfy number sequences involving two unknowns *e.g. 100 ÷a =b* • Use their knowledge of the order of operations (*BODMAS*) to solve problems involving a combination of addition, subtraction, multiplication and/or division • Solve problems which involve multiplication and/or division
4	Fractions to solve problems • Identify and use common factors to simplify fractions • Identify and use common multiples to turn two or more fractions to the same denomination • Identify use prime numbers. • Compare and order fractions, including fractions >1 *(including on a number line).* • Estimate answers • *Consider the most appropriate strategy to solve a calculation: calculate mentally, use a jotting or a written method* • Add fractions with different denominators • Subtract fractions with different denominators • Add mixed numbers, using the concept of equivalent fractions • Subtract mixed numbers, using the concept of equivalent fractions • ALGEBRA- find pairs of number that satisfy number sequences involving two unknowns e.g. x+y= 3/5 • Link fractions with division • Find decimal fraction equivalents for a simple fractions • Solve problems involving fractions

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5	Percentages to solve problems • *Recognise the % symbol(year 5)* • *Understand that per cent relates to "number of parts per 100"(year 5)* • *Write percentages as a fraction with denominator 100 (year 5)* • *Write percentages as a decimal (year 5)* • Recall and use equivalences between simple fractions, decimals and percentages (*e.g. 50% is the same as 50/100 r 0.5*) • *Find simple percentages of amounts.* • Use percentages for comparison • Solve problems involving percentages
6	Ratio and proportion to solve problems • *Understand ratio as unequal grouping or sharing* • *Understand proportion as scaling up or down* • Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts. • Solve problems involving similar shapes where the scale factor is known or can be found. • Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples
7	Shape and position and direction to solve problems • Draw 2-D shapes using given dimensions and angles-*using ruler and protractor*. • Build simple 3-D shapes, including making nets. • Compare and classify 2D and 3D shapes based on their properties and angle sizes –*regular and irregular* • Recognise angles where they meet at a point, are on a straight line, or are vertically opposite • Find unknown angles in any triangle, quadrilateral or other regular polygons. • Illustrate and name parts of circles, including radius, diameter and circumference • Know that the diameter is twice the radius

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	• ALGEBRA-use simple formulae *expressed in words* • Solve problems involving shape including problems involving similar shapes where the scale factor is known or can be found
8	Measures-length and area and volume /capacity to solve problems • *Practical opportunities to use measures* • *Introduce concept of thousandths in context of accurate measurement* • *Read and interpret scales on a range of measuring instruments* • Solve problems involving the calculation and conversion of units of measure using decimal notation up to three decimal places where appropriate • ALGEBRA- finds pairs of number that satisfy number sequences involving two unknowns e.g. x +y =250 g • *Calculate the area of rectangles and squares-link to other shapes* • Calculate the area of parallelograms and triangles • Recognise that shapes with the same area can have different perimeter and vice versa • ALGEBRA –use simple formulae *expressed in words* • Use the formulae for the area of shapes *where possible* • *Solve problems involving measures*
9	Statistics to solve problems *Link pie charts to angles e.g. 360 degrees* *Link pie charts to fractions* *Link pie charts to percentages* construct pie charts construct line graphs Interpret pie charts use these to solve problems Interpret line graphs and use these to solve problems
10	