



Year 6 term 5 and 6

Oral and Mental calculation

- Read and write any integer and know what each digit represents.
- Read and write decimal notation for tenths, hundredths and thousandths and know what each digit represents.
- Order and compare whole numbers up to 1 000 000 including 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 $3 \times 6=18$ 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*.
- Mentally multiply and divide two-digit decimals by a single digit number, e.g., (O.t x O or O.t ÷ O).
- 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
- Compare and order fractions, including fractions >1 *on a number line*
- Count in fractional steps including mixed numbers

| Week | Main focus of teaching |
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| 1 | <p>Number – place value</p> <ul style="list-style-type: none"> • Step 21 - choose to round any whole number up to the nearest 10, 100, 1000 and 10,000 depending on the required accuracy. • Step 21 - solve sum and difference problems involving negative numbers using concrete resources. • End of year expectations - read, write, order and compare numbers up to 10,000,000 and determine the value of each digit • End of year expectations - round any whole number to a required degree of accuracy. • End of year expectations - use negative numbers in context, and calculate intervals across 0. |
| 2 | <p>Addition & Subtraction</p> <ul style="list-style-type: none"> • Step 21 - Add and subtract numbers mentally with increasingly large numbers and mixed operations. |



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| | <ul style="list-style-type: none"> • Step 21 - use brackets and inverses effectively e.g. $(24+P) \times 6 = 150$. • Step 21 & End of Year expectations - use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy • End of Year expectations – perform mental calculations, including with mixed operations and large numbers. • End of Year expectations – use my knowledge of the order of operations to carry out calculations involving the 4 operations. |
| 3&4 | <p>Multiplication and division</p> <ul style="list-style-type: none"> • Step 21 - multiply numbers to 2 d.p. by a single-digit number using short multiplication. • Step 21 - identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. • Step 21 - use brackets and inverses effectively e.g. $(24+P) \times 6 = 150$ • Step 21 & End of year expectations - divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context. • End of year expectations – can multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication. • End of year expectations – perform mental calculations, including with mixed operations and large numbers. • End of year expectations – identify common factors, common multiples and prime numbers. • End of year expectations – multiply one-digit numbers with up to 2 decimal places by whole numbers. |
| 5 | <p>Algebra</p> <ul style="list-style-type: none"> • Step 21 & End of year expectations - Use symbols and letters to represent an unknown number. • Step 21 - recognise negative numbers and continue positive negative number sequences and find missing numbers • Step 21 & End of year expectations - generate linear sequences to calculate solutions to a problem. • Step 21 - express generalisations of a linear number sequence using algebraic expressions. • End of year expectations - can use simple formulae • End of year expectations - express missing number problems algebraically. |



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| | <ul style="list-style-type: none"> ● End of year expectations - enumerate possibilities of combinations of 2 variables. |
| 6&7 | <p>Fractions, Decimals & Percentages</p> <ul style="list-style-type: none"> ● Step 21 & End of year expectations - add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. ● Step 21 & End of year expectations - multiply simple pairs of proper fractions, writing the answer in its simplest form. ● Step 21 & End of year expectations - - identify the value of each digit in numbers given to 3 decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers up to 3 decimal places. ● Step 21 & End of year expectations - divide proper fractions by whole numbers ● Step 21& End of year expectations - associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction. ● Step 21 & End of year expectations - - recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. ● End of year expectations - use common factors to simplify fractions; use common multiples to express fractions in the ● End of year expectations - compare and order fractions, including fractions >1. ● End of year expectations - use written division methods in cases where the answer has up to two decimal places. |
| 8&9 | <p>Geometry – property of shape/position & Direction</p> <ul style="list-style-type: none"> ● Step 21 - make 3d shapes using modelling materials; recognise 3d shapes in different orientations and describe them. ● Step 21 - find unknown angles in any triangles, quadrilaterals, and regular polygons by representing the relationship algebraically. ● Step 21 - express the relationship between radius and diameter as $d=2r$ or $2 \times r$ ● Step 21 - describe positions on a 2D grid as coordinates in the first quadrant ● Step 21 - identify, describe and represent the position of a shape following a reflection or a translation, using the appropriate language, and know that the shape has not changed. ● End of Year expectations - draw 2-D shapes using given dimensions and |



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| | <p>angles recognise, describe and build simple 3-D shapes, including making nets.</p> <ul style="list-style-type: none">• End of Year expectations - compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.• End of Year expectations - illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.• End of Year expectations - recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.• End of Year expectations - describe positions on the full coordinate grid (all 4 quadrants).• End of Year expectations - draw and translate simple shapes on the coordinate plane, and reflect them in the axes. |
| 10 | <p>Ratio</p> <ul style="list-style-type: none">• Step 21 - reduce a ratio to its simplest form and use it in problem solving by multiplying (e.g. given the ingredients in a recipe for 5 people, calculate the quantities needed for 8)• Step 21 - calculate simple fractions and percentages of quantities (e.g. $\frac{3}{8}$ of 980g, 15% of 360).• Step 21 - partition % in to manageable units to calculate. (E.g. 15% of 360 is 10% of 360 + 5% of 360)• End of Year expectations - solve problems involving the relative sizes of 2 quantities where missing values can be found by using integer multiplication and division facts.• End of Year expectations - solve problems involving similar shapes where the scale factor is known or can be found.• End of Year expectations - solve problems involving the calculation of percentages (for example, of measures such as 15% of 360) and the use of percentages for comparison• End of Year expectations - solve problems involving unequal sharing and grouping using knowledge of fractions and multiples. |
| 11 | <p>Statistics</p> <ul style="list-style-type: none">• Step 21 - complete, read and interpret information in tables, including time tables• Step 21 - convert discrete data to % and then convert to degrees to construct a pie chart for common % (E.g. 75%, 50%, 25%, 20%, 10%, 5%) |



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| | <ul style="list-style-type: none">● Step 21 & End of year expectations- calculate and interpret the mean as an average● End of year expectations- interpret and construct pie charts and line graphs and use these to solve problems. |
| 12 | <p>Measurement</p> <ul style="list-style-type: none">● Step 21 & End of year expectations- use, read, write and convert between standard units, converting measurements of time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3 decimal places.● Step 21 - recognise when it is possible to use formulae for area and volume of shapes● Step 21 - relate the area of rectangles to triangles and parallelograms and calculate their areas, understanding and using formula● Step 21 & End of year expectations- calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres and cubic metres (and extending to other units (for example, mm and km)).● End of year expectations- convert between miles and kilometres.● End of year expectations- recognise that shapes with the same areas can have different perimeters and vice versa.● End of year expectations- recognise when it is possible to use formulae for area and volume of shapes● End of year expectations- calculate the area of parallelograms and triangles● End of year expectations- calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres and cubic metres (and extending to other units (for example, mm and km)). |