



Year 6 End of Year Maths Expectations

Working at the Expected Standard (EXP):

Pupil(s) are confidently and independently able to apply their knowledge:

Number & Place Value


- Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit.
- Round any whole number to a required degree of accuracy.
- Use negative numbers in context, and calculate intervals across zero.
- Solve number and practical problems that involve ordering and comparing numbers to 10,000,000, rounding to a required degree of accuracy, using negative numbers and calculating intervals across zero.

Addition & Subtraction

- Perform mental calculations with mixed operations to carry out calculations involving the four operations.
- Solve multi-step problems in contexts, deciding which operations and methods to use and why.
- Solve problems involving addition and subtraction.
- Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.

Multiplication & Division


- Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication.
- Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context.
- 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.


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- Perform mental calculations, including with mixed operations and large numbers.
 - Identify common factors, common multiples and prime numbers.
 - Use his/her knowledge of the order of operations to carry out calculations involving the four operations.
 - Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.
 - Solve problems involving addition, subtraction, multiplication and division.
 - Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.

Fractions

- Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.
- Compare and order fractions, including fractions > 1 .
- Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions, e.g. $4\frac{2}{3} - \frac{2}{5}$.
- Multiply simple pairs of proper fractions, writing the answer in its simplest form e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$.
- Divide proper fractions by whole numbers e.g. $\frac{1}{3} \div 2 = \frac{1}{6}$.
- Associate a fraction with division and calculate decimal fraction equivalents e.g. 0.375 for a simple fraction e.g. $\frac{3}{8}$.
- Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places.
- Multiply one-digit numbers with up to two decimal places by whole numbers.
- Solve problems which require answers to be rounded to specified degrees of accuracy.
- Use written division methods in cases where the answer has up to two decimal places.
- Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

Properties of Shape

- Draw 2-D shapes using given dimensions and angles.
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- Recognise, describe and build simple 3-D shapes, including making nets.
 - Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.
 - Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.
 - Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.

Position & Direction

- Describe positions on the full coordinate grid (all four quadrants).
- Draw and translate simple shapes on the coordinate plane, and reflect them in the axis.


Measurement


- Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.
- Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation up to three decimal places.
- Convert between miles and kilometres.
- Recognise that shapes with the same area can have different perimeters and vice versa.
- Recognise when it is possible to use formulae for the area and volume of shapes.
- Calculate the area of parallelograms and triangles.
- Calculate, estimate and compare the volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units e.g. mm^3 and km^3 .

Statistics

- Interpret and construct pie charts and line graphs and use these to solve problems.
- Calculate and interpret the mean as an average.

Ratio & Proportion

- 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 the calculation of percentages e.g. of measures, such as 15% of 360 and the use of percentages for comparison.
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- 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.

Algebra

- Use simple formulae.
 - Generate and describe linear number sequences.
 - Express missing number problems algebraically.
 - Find pairs of numbers that satisfy an equation with two unknowns.
 - Enumerate possibilities of combinations of two variables.
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