

Number - number and place value

- Read, write, order and compare numbers to at least 10 000 000
- Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000.
- Determine the place value of each digit in numbers up to 10 000 000.
- Round any whole number to a required degree of accuracy.
- Use negative numbers in context and calculate intervals across zero.
- Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.
- Identify common factors, common multiples and prime numbers.
- Perform mental operations, including those with mixed operations, with large numbers.
- Multiply multi-digit numbers with up to 4 digits by 2 digit numbers, using the formal method of long division.
- Divide numbers with up to 4 digits by 2 digit whole numbers, using the formal method of long division, interpreting the remainders as whole number remainders, fractions or by rounding up or down depending upon the context.
- Divide numbers with up to 4 digits by 2 digit whole numbers, using the formal method of short division, interpreting the remainders depending upon the context.
- Solve problems involving addition, subtraction, multiplication and division.
- Use their knowledge of the order of operations to carry out calculations involving the four operations.

Fractions, decimals and percentages

- Use common factors to simplify fractions and common multiples to express fractions with the same denomination.
- Compare and order fractions, including fractions greater than 1.
- Add and subtract fractions and mixed numbers with different denominators
- Multiply simple pairs of proper fractions, giving answers in their simplest form. • Divide proper fractions by whole numbers eg $1/3 \div 2 = 1/6$.
- Associate a fraction with division to calculate decimal fraction equivalents (eg: 0.375) for a simple fraction [eg: $3/8$].
- Identify the value of each digit to three decimal places and multiply and divide numbers by 10,100 and 1000 giving answers up to three decimal places.

All Saints' CE Primary School



End of Year 6 Maths Expectations

Geometry

- 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 of up to three decimal places.
- Convert between miles and kilometres.
- Recognise that shapes with the same areas can have different perimeters and vice versa.
- Calculate the area of parallelograms and triangles.
- Recognise when it is possible to use the formulae for the area of shapes. • Calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm^3) and cubic metres (m^3), and extending to other units [eg: mm^3 and km^3].
- Recognise when it is possible to use the formulae for the volume of shapes.
- Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.
- Compare and classify geometric shapes based on their properties and sizes.
- Describe simple 3-D shapes.
- Draw 2-D shapes using given dimensions and angles.
- Recognise and build simple 3D shapes, including making nets.
- Find unknown angles in any triangles, quadrilaterals and regular polygons.
- Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.
- Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.
- Draw and translate simple shapes on the co-ordinate plane, and reflect them in the axes.
- Describe positions on the full co-ordinate grid (all four quadrants).

Statistics

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

Fractions, decimals and percentages continued

- Multiply one-digit numbers with up to two decimal places by whole numbers.
- 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.

Ratio and proportion

- Solve ratio and proportion problems by using multiplication and division.
- Solve problems involving the calculation of percentages [eg: of measures such as 15% of 360] and the use of percentages for comparison.
- Solve problem 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

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