

Name: _____

October 2024

Pupils working at national standard (MATHS)

A pupil is able to demonstrate sufficient evidence of the following:

Number and place value

- Solve problems and reason about place value and number.
- Use place value in whole numbers to at least 10 000 000 to read, write, compare and order numbers.
- Identify the value of each digit in numbers with up to 3 decimal places.
- Round any whole number to the nearest 10, 100, 1,000, 10,000, 100,000.
- Use approximation to estimate and check answers to calculations and determine, in the context of a problem, levels of accuracy.
- Use negative numbers in practical contexts and solve problems, including calculating intervals across 0.

Addition, subtraction, multiplication, division

- Use knowledge of the 4 operations to reason and to solve problems, including puzzles not set in a context (aims).
- Add and subtract mentally with increasingly large numbers.
- Add and subtract whole numbers with more than 4 digits, using formal written methods.
- Solve addition and subtraction multi-step problems in context.
- Recognise and use:
 - o multiples and factors;
 - o prime numbers to at least 19; and
 - o square numbers, at least up to 144.
- Use understanding of place value to multiply and divide whole numbers and decimals with up to 3 decimal places by 10, 100 and 1000.
- Multiply and divide numbers mentally, drawing upon multiplication facts, including with mixed operations and large numbers.
- Perform mental calculations including with mixed operations and large numbers.
- Fluently multiply numbers up to 4 digits by a 2-digit number using the long multiplication method.
- Fluently divide numbers with up to 4 digits by a 1-digit number using the formal written method.
- Use long division with 2-digit divisors.
- Interpret remainders according to the context.
- Solve problems involving addition, subtraction, multiplication and division.
- Use estimation to check answers to calculations and determine, in the context of a problem, appropriate levels of accuracy.

Fractions including decimals and percentages

- Solve problems and reason about fractions, decimals and percentages (aims).
- Use common factors to simplify fractions and identify equivalent fractions, using common multiples to express fractions in the same denomination.
- Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred'.
- Recall and use equivalences between simple fractions, decimals and percentages, in different contexts.
- Associate a fraction with division and begin to calculate decimal fraction equivalents.
- Calculate simple fractions and percentages of whole numbers and quantities.
- Add and subtract fractions with denominators that are multiples of the same number.
- Convert and calculate between improper fractions and mixed numbers where appropriate for the context.
- Fluently add and subtract decimal numbers and round when required to specified degrees of accuracy.
- Multiply one-digit numbers with up to 2 decimal places by whole numbers.
- Use written division methods in cases where the answer has up to 2 decimal places.

Name: _____

October 2024

Ratio and proportion

- Use simple ratio and proportional reasoning to solve problems.
- Solve problems involving similar shapes where the scale factor is known or can be found.

Algebra

- Use simple formulae in words, and express missing number problems algebraically.
- Generate and describe linear number sequences.
- Find possible values in missing number problems and equations involving 1 or 2 unknowns.

Measurement

- Read, write and convert time between analogue clocks (including clock faces using Roman numerals) and digital 12- and 24-hour clocks, using am and pm where necessary.
- Read Roman numerals to 1000 (M).
- Solve problems involving converting units of time, including problems involving the duration of events.
- Use, read, write and convert between standard metric units of measure.
- Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.
- Recognise that shapes with the same areas can have different perimeters and vice versa.
- Estimate the area of irregular shapes by counting squares (including half squares and fractions of squares).
- Calculate and compare the area of squares and other rectangles including using standard units, square centimetres (cm²) and square metres (m²).
- Solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 decimal places where appropriate.
- Reason and solve problems involving measures.

Geometry – properties of shapes

- Solve problems and reason about shapes and their properties.
- Compare and classify geometric shapes based on their properties and sizes.
- Recognise, describe and build simple 3-D shapes, including using nets and other 2-D representations.
- Draw 2-D shapes using given lengths and angles with increasing accuracy.
- Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.
- Find unknown angles in triangles.
- Illustrate and describe parts of circles including radius, diameter and circumference.

Geometry – position and movement

- Draw and translate simple shapes on the co-ordinate plane in the first quadrant.
- Describe positions of a 2-D grid as co-ordinates in the first quadrant.
- Use reasoning to solve problems related to co-ordinates, reflections and translations.

Statistics

- Present, complete, read and interpret information in tables and bar charts.
- Construct and interpret line graphs, interpret pie charts and use both to solve problems.
- Calculate and interpret the mean as an average for simple sets of discrete data in different contexts.