Year 5 Maths

End of Year Expectations

GEOMETRY

- Identify 3-D shapes, including cubes and other cuboids, from 2-D representations
- Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.
- Draw given angles, and measure them in degrees.
- Identify: angles at a point and one whole turn, angles at a point on a straight line and ½ a turn and other multiples of 90o.
- Use the properties of rectangles to deduce related facts and find missing lengths and angles.
- Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.
- Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.

FRACTIONS AND DECIMALS

- Compare and order fractions whose denominators are all multiples of the same number.
- Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.
- Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number
- Add and subtract fractions with the same denominator and denominators that are multiples of the same number.
- Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams
- Read and write decimal numbers as fractions [for example, 0.71 = 71/100.
- Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents
- Recognise the per cent symbol (%), write percentages as a fraction with denominator 100, and as a decimal.
- Solve problems which require knowing percentage and decimal equivalents of ½, ¼, 1/5, 2/5 and 4/5 and those fractions with a denominator of a multiple of 10 or 25.

NUMBER AND PLACE VALUE

- Read, write, order and compare numbers to at least 1 000 000 and know the value of each digit.
- Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000.
- Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.
- Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000.
- Solve number problems and practical problems that involve all of the above.
- Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.
- Round decimals with two decimal places to the nearest whole number and to one decimal place.
- Read, write, order and compare numbers with up to three decimal places.
- Solve problems involving number up to three decimal places.

STATISTICS

- Solve comparison, sum and difference problems using information presented in a line graph.
- Complete, read and interpret information in tables, including timetables.

MEASURES

- Convert between different units of metric measure (for example, kilometre and metre)
- Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.
- Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.
- Calculate and compare the area of rectangles, including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes.
- Estimate volume and capacity.
- Solve problems involving converting between units of time.
- Use all four operations to solve problems involving measure using decimal notation.

CALCULATION

- Add and subtract whole numbers with more than 4 digits, including using the column method.
- Add and subtract numbers mentally with increasingly large numbers.
- Use rounding to check answers to calculations.
- Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.
- Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.
- Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.
- Establish whether a number up to 100 is prime and recall prime numbers up to 19.
- Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers.
- Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context
- Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.
- Recognise and use square numbers and cube numbers.
- Solve problems using the above knowledge.