Mathematics Year 5

Number and Place Value

1. I can read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit.
2. I can count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 E.g. count from 67,000 in 10,000's.
3. I can interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.
4. I can round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000.
5. I can solve number problems and practical problems that involve all of the above.
6. I can read Roman numerals to 1000 (M) and recognise years written in Roman numerals.
7. I can recognise and describe linear number sequences, including those involving fractions and decimals (for example, 3, 3 1/2, 4, 4 1/2…), and find the term-to-term rule (for example, add 1/2).

Addition and Subtraction

1. I can add and subtract whole numbers with more than 4 digits, including using formal written methods.
2. I can add and subtract numbers mentally with increasingly large numbers.
3. I can use rounding to check answers and calculation and determine, in the context of a problem, levels of accuracy (for example, 12,462 - 2,300 - 10,162).
4. I can solve addition and subtraction multi-step problems in context, deciding which operations and methods to use and why.

Multiplication and Division

1. I can identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.
2. I know and can use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.
3. I can establish whether a number up to 100 is prime and recall prime numbers up to 19.
4. I can 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 to solve problems.
5. I can multiply and divide numbers mentally drawing upon known facts.
6. I can 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 (for example, $98 \div 4 = 98/4 = 24$ r2 $= 24$ 1/2 $= 24.5 \approx 25$.
7. I can multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 and in context e.g. converting between units such as km and m.
8. I can recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3).
9. I can solve problems involving multiplication and division using their knowledge of factors and multiples, squares and cubes.
10. I can solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.

NOTE: Please see additional ARE sheet for times tables.

Fractions, Decimals, Percentages and Proportions

1. I can compare and order fractions whose denominators are all multiples of the same number.
2. I can identify, name and write equivalent fractions of any given fraction.
3. I can recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, 2/5 + 4/5 = 6/5 = 1 1/5].
4. I can add and subtract fractions with the same denominator and denominators that are multiples of the same number.
5. I can multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.
6. I can read and write decimal numbers as fractions [for example, 0.71 = 71/100].
7. I can recognise and use thousands and relate them to tenths, hundredths and decimal equivalents.
8. I can round decimals with two decimal places to the nearest whole number and to one decimal place.
9. I can read, write, order and compare numbers to the nearest whole number and to one decimal place.
10. I can solve problems involving number up to three decimal places.
11. I can recognise and understand the percent symbol (%) and understand tat it relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal.
12. I can solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25.
13. I can count forwards and backwards in simple fractions.

Measure

1. I can convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre).
2. I understand and use approximate equivalences between metric units and common imperial units such as inches, miles, pounds and pints.
3. I can measure and calculate the perimeter of composite rectilinear shapes in cm and m.
4. I can calculate and compare the area of rectangles (including squares), and including using standard units, squared cm (cm^2) and squared metres (m^2) and estimate the area of irregular shapes, including those with unknown lengths.
5. I can estimate volume and capacity [for example, using $1cm^3$ blocks to build cuboids (including cubes)] and capacity [for example, using water].
6. I can solve problems involving converting between units of time.
7. I can use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.

Geometry
1. I can identify 3-D shapes, including cubes and other cuboids, from 2-D representations.
2. I can use the properties of rectangles to deduce related facts and find missing lengths and angles.
3. I can identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape is the same.
4. I know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.
5. I can draw given angles, an measure then in degrees (^{0})
6. I can identify angles at a point and one whole turn (total 360^0), at a straight line and 1/2 a turn (total 180^0), other multiples of 90^0.
7. I can distinguish between regular and irregular polygons based on reasoning about equal sides and angles.
8. I can continue to use a 2D grid and coordinates in the first and second quadrant with reflections in lines that are parallel to the axes.
Statistics
1. I can solve comparison (mean, median, mode and range), sum and difference problems using information presented in a line graph.
2. I can complete, read and interpret information in tables, including timetables.
3. I can continue to work on coordinated and scales to their interpretation of time graphs.