



Year 6 MATHS Subject Map



Number: Place Value Number: Addition, Subtraction, Multiplication and Division Number: Fractions Measurement: Converting Units	Number: Decimals Number: Percentages Number: Algebra Measurement: Perimeter, Area and Volume Number: Ratio	Statistics Geometry: Properties of Shape Consolidation and Themed Projects
---	--	--

AGE RELATED EXPECTATIONS

WORKING TOWARDS ARE

1. Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit.
2. Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.
3. Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction).
4. Add and subtract numbers mentally with increasingly large numbers (e.g. $12462 - 2300 = 10162$).
5. Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.
6. Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.
7. Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.
8. Compare and order fractions whose denominators are all multiples of the same number.
9. Read and write decimal numbers as fractions [for example, $0.71 = 71/100$].
10. Read, write, order & compare numbers with up to three decimal places.
11. Solve problems which require knowing percent & 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.
12. Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre & millilitre).
13. Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes.
14. Draw given angles, and measure them in degrees ($^\circ$).
15. Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.
16. Complete, read and interpret information in tables, including timetables.

MATHEMATICAL LANGUAGE	ADDITION AND SUBTRACTION	FRACTIONS, DECIMALS AND PERCENTAGES	ALGEBRA	SHAPE AND GEOMETRY
38. Apply knowledge of measures to other areas of the curriculum such as science using sophisticated mathematical language	27. Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why 28. Solve problems involving addition, subtraction, multiplication and division 29. Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy	30. Use common factors to simplify fractions; use common multiples to express fractions in the same denomination 31. Compare and order fractions, including fractions > 1 32. Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions 33. Multiply simple pairs of proper fractions, writing the answer in its simplest form 34. Divide proper fractions by whole numbers 35. Associate a fraction with division and calculate decimal fraction equivalents for a simple fraction 36. 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 37. Multiply one-digit numbers with up to two decimal places by whole numbers 38. Use written division methods in cases where the answer has up to two decimal places 39. Solve problems which require answers to be rounded to specified degrees of accuracy 40. Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts	45. Use simple formulae 46. Generate and describe linear number sequences 47. Express missing number problems algebraically 48. Find pairs of numbers that satisfy an equation with two unknowns 49. Enumerate possibilities of combinations of two variables.	57. Draw 2-D shapes using given dimensions and angles 58. Recognise, describe and build simple 3-D shapes, including making nets 59. Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons 60. Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius 61. Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.
PLACE VALUE	MULTIPLICATION AND DIVISION	RATIO AND PROPORTION	MEASUREMENT	DIRECTION AND POSITION
17. Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit 18. Round any whole number to a required degree of accuracy 19. Use negative numbers in context, and calculate intervals across zero 20. Solve number and practical problems that involve all of the above.	21. Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication 22. 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 23. 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 24. Perform mental calculations, including with mixed operations and large numbers 25. Identify common factors, common multiples and prime numbers 26. Use their knowledge of the order of operations to carry out calculations involving the four operations	41. Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts 42. Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison 43. Solve problems involving similar shapes where the scale factor is known or can be found 44. Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.	50. Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate 51. 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 52. Convert between miles and kilometres 53. Recognise that shapes with the same areas can have different perimeters and vice versa 54. Recognise when it is possible to use formulae for area and volume of shapes 55. Calculate the area of parallelograms and triangles 56. Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units [for example, mm^3 and km^3].	62. Describe positions on the full coordinate grid (all four quadrants) 63. Draw and translate simple shapes on the coordinate plane, and reflect them in the axes
				STATISTICS AND DATA HANDLING
				64. Interpret and construct pie charts and line graphs and use these to solve problems 65. Calculate and interpret the mean as an average.