

Year 6 National Curriculum Maths objectives

Place value:

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| 1. Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit. Round any whole number to a required degree of accuracy. |
| 2. Use negative numbers in context, and calculate intervals across zero. Solve number and practical problems that involve all of the above. |

Addition and Subtraction, multiplication and division:

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| 3. Multiply & divide numbers up to 4 digits by a 2-digit whole number using the formal written methods and interpret remainders as whole number remainders, fractions, or by rounding. |
| 4. Identify common factors, common multiples and prime numbers. |
| 5. Use their knowledge of the order of operations to carry out calculations involving the four operations. |
| 6. Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. |

Fractions

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| 7. Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. |
| 8. Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. |
| 9. Multiply simple proper fractions and simplify the answer (e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$). Divide proper fractions by whole numbers (e.g. $\frac{1}{3} \div 2 = \frac{1}{6}$). |
| 10. Identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places. |
| 11. 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. |
| 12. Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. |

Percentages and ratio

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| 13. Solve problems involving the calculation of percentages (e.g. of measures) such as 15% of 360 and the use of percentages for comparison. |
| 14. Solve problems 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

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| 15. Express missing number problems algebraically. Use simple formulae expressed in words. |
| 16. Generate and describe linear number sequences. |
| 17. Find pairs of numbers that satisfy number sentences involving two unknowns. Enumerate all possibilities of combinations of two variables. |

Measure

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| 18. Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate. Convert between miles and km. |
| 19. Use, read, write & convert between standard units of measure, converting length, mass, volume & time from smaller to larger units, and vice versa, using dec' notation to up to 3 dp. |
| 20. Recognise that shapes with the same areas can have different perimeters and vice versa. |
| 21. Calculate the area of parallelograms and triangles. Recognise when it is possible to use formulae for area and volume of shapes. |
| 22. 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. |

Geometry

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| 23. Draw 2-D shapes using given dimensions and angles. Recognise, describe and build simple 3-D shapes, including making nets. |
| 24. Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons. |
| 25. Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius. |
| 26. Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. |

Position and direction

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| 27. Describe positions on the full coordinate grid (all four quadrants). |
| 28. Draw and translate simple shapes on the coordinate plane, and reflect them in the axes. |

Statistics

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| 29. Interpret and construct pie charts and line graphs and use these to solve problems. |
| 30. Calculate and interpret the mean as an average. |