

11+ Topics Check List

Skills needed before problem solving:

- Understanding of Place Value
 - 100
 - 1,000
 - 10,000
 - 1,000,000
 - 10,000,000
- Addition -up to
 - 100
 - 1,000
 - 10,000
 - 1,000,000
 - 10,000,000
- Subtraction up to
 - 100
 - 1,000
 - 10,000
 - 1,000,000
 - 10,000,000
- Multiplication
 - Show understanding of what it looks like (e.g. 4×7 means 4 lots of 7s)
 - Commutative law ($4 \times 7 = 7 \times 4$)
 - Distributive law $\{12 \times 30 = (10 \times 30) + (2 \times 30)\}$
 - Times table (very useful to know)
 - Square numbers
 - An efficient strategy to multiply 2 digit by 2 digit numbers
- Fractions
 - What are they?
 - Equivalent fractions
 - Simplifying fractions
 - Comparing and ordering fractions (larger and smaller)
 - Highest Common Factor (HCF) and Lowest Common Multiple (LCM)
 - Addition of basic fractions
 - Subtraction of basic fractions
 - Addition of unlike fractions
 - Subtraction of unlike fractions
 - Addition which leads to mixed numbers
 - Improper fractions
 - Mixed numbers
 - Subtraction where the first number has a smaller fraction than the second number (mixed number)
 - Multiplying fractions
 - Fractions of amounts
 - Dividing a fraction by a whole number
 -
- Decimals
 - Comparing and ordering
 - Addition, subtraction, multiplication (by whole number) and dividing (whole number)
 - Converting between Decimals, Fractions and Percentages

- Money
 - Understanding money
 - Currency conversion
 - Revenue/profit/Change
- Metric systems
 - Knowing conversion rates
 - Length conversion (e.g. cm to metre and vice-versa)
 - Volume conversion (ml to litres and vice-versa)
- Time
 - Time in not just hours, minutes and seconds but also Years and Months
 - Adding and subtracting time
 - Finding the difference in time
- Unique patterns
 - Prime numbers
 - Square numbers
 - Triangular numbers
- Patterns and sequences
 - Finding next term in pattern
 - Using the pattern numbers to relate to pattern amount – Higher level of thinking
 - Finding the 10th, 100th or any large term
- Perimeter, Area and Volume
 - Perimeter of basic shapes
 - Perimeter with missing labels
 - Perimeter of shapes from a combination of known shapes with given lengths
 - Area of square (only one side given), rectangle and triangle
 - Volume of cube and cuboid
 - Working out how many units of length/area/volume fit into another length/area/volume
- Averages and Range
 - Mean
 - Mode
 - Median
 - Range
 - Combination of two averages
 - Missing data from an average
- Distance, Speed & Time
 - Distance given speed and time
 - Speed given distance and time
 - Time given distance and speed
 - Understanding specific units for above
 - Working out the time in hours and minutes
- Data handling
 - Line Graphs
 - Bar Chart
 - Pie Charts – interpreting
 - Basic Probability – how things are less and more likely
 - Probability – using fractions and percentages to describe a probability
- Algebra
 - Basic algebra – simplifying
 - Using algebra to create an equation from a problem
 - Solving equations
 - Solving equations with x on both sides (only a few independent schools want this)
- Angles

- Angles of quadrilaterals
- Triangles
- Straight line
- Around a point
- Internal angles of a regular n-sided shape
- Co-ordinates
 - Missing points of shapes
 - Reflection, Translation and Rotation
 - Reflection on y and x axis
 - Reflection with diagonals
- Percentages
 - Converting into fractions and decimals
 - Finding a % of an amount
 - Reverse %
 - Working out % reduction and increase
- Ratio
 - What are they? When do we use them and why?
 - Simplifying
 - Finding an amounts given a ratio
 - Finding total given one ratio and it's amount as well as the other ratio
- Bearings
- Nets of Shapes
- Mass
 - Interpreting scales

A great deal of depth is needed for all the above topics as there is a large number of problem solving in each 11+ examination.

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