



SCHOLASTIC COUNCIL FOR ACADEMIC EXCELLENCE

The All India Scholastic Quest Olympiads "Scholastic Maths Olympiad"

Syllabus

Scholastic Maths Olympiad - Class 2

1. **Numbers:** Numbers and number names, Ascending and Descending numbers, Odd/Even numbers, Comparison
2. **Place Value:** Place value and face value of a number
3. **Addition:** Horizontal and vertical addition, simple word problems involving addition
4. **Subtraction:** Basic subtraction problems, simple word problems on subtraction
5. **Multiplication:** Multiplication Tables up to 5 and multiplication by 10 and 100
6. **Fractions:** Expressing part of the whole as a fraction
7. **Shapes:** Shapes and Lines, Plane shapes (Square, Rectangle, Triangle, Circle and Oval) Solid Shapes (Cube, Cuboid, Cylinder, Sphere and Cone)
8. **Measurement:** Measurement of Length (centimetres and metres), Weight (Gram and Kilograms), Capacity (Millilitres and Litres)
9. **Time:** Time and Calendar, Reading time in hour and half hour, calculation of time period
10. **Money:** Addition and subtraction of money, word problems
11. **Patterns:** Figures and Numbers Patterns, Series Completion, Find Odd one Out

Scholastic Maths Olympiad - Class 3

1. **Numbers:** Numerals and Number Name (up to 9999), Even/Odd numbers. Arranging numbers in ascending and descending order, Formation of greatest and smallest number.
2. **Place Value:** Place value and face value, Expanded Form
3. **Addition:** Basic operations of Addition, simple word problems.
4. **Subtraction:** Basic operations of Addition, simple word problems
5. **Multiplication:** Tables up to 12. Multiplication by 10, 100 and 1000. Properties of multiplication.
6. **Division:** Division of 2 digit numbers by divisors up to 12. Division by 10 and 100.
7. **Fractions:** Fraction of a collection, Making whole from parts, Writing fractions
8. **Shapes:** Plane shapes, Straight and Curved Lines, Symmetry, Plane and curved surfaces, Solid Shapes
9. **Measurement:** Measurement of Length (centimetres and metres), Weight (Grams and Kilograms), Capacity (Millilitres and Litres). Addition and Subtraction of Length, Weight and Capacity
10. **Time:** Reading Time in steps of 5 minutes, Conversion of units: minutes, hours, days
11. **Money:** Expressing money in figures and words, addition, subtraction, multiplication and division of money.
12. **Patterns:** Figures and Numbers Patterns, Series Completion, Find Odd one Out, Mirror Images

Scholastic Maths Olympiad - Class 4

1. **Numbers:** Numerals and Number Name, Even/Odd numbers, Formation of greatest and smallest number.
2. **Place Value:** Place value and face value, Expanded Form
3. **Roman Numerals:** Introduction to Roman Numerals, conversion of Roman numerals to International numerals and vice-versa
4. **Squares of Numbers:** Perfect squares, Finding squares of 2 digit numbers, squares of numbers ending in zeros.
5. **Order of Operations:** BODMAS rule, problems involving nested brackets and operators: +, -, \times , \div
6. **Factors and Multiples:** Divisibility by 2, 3, 4, 5, 6, 8, 9, 10, 11. Prime and Composite numbers, LCM and HCF of 2 digit numbers.
7. **Fractions:** Proper, improper and mixed fractions. Addition/subtraction of like fractions, comparison of fractions.
8. **Decimal Fractions:** Addition/subtraction of decimal fractions, multiplication/division of decimal fractions by 10, 100, .., multiplication/division of decimal fraction by another decimal fraction
9. **Time and Calendar:** Reading calendar, units of time and conversion of units, word problems on time and calendar.
10. **Perimeter:** Perimeter of triangles, quadrilateral and other polygons. Perimeter of any shape involving straight edges.
11. **Area:** Areas of square, rectangle, triangle. Finding areas of composite figures involving addition and subtraction of areas. Application based word problems.
12. **Series and Patterns:** Figures and Numbers Patterns, Series Completion, Find Odd one Out, Mirror Images

Scholastic Maths Olympiad - Class 5

1. **Numbers:** Indian and International Numeration System, Operations on large numbers, Place value, Formation of greatest and smallest numbers using given digits.
2. **Operations on Numbers:** Basic operations of addition, subtraction, multiplication and division on large numbers.
3. **Order of operations:** BODMAS rule
4. **Divisibility:** Prime numbers, Composite numbers, Co-prime numbers, Tests of divisibility by 2, 3, 4, 5, 6, 8, 9, 10, 11.
5. **Unitary method:** Direct variation and Inverse variation.
6. **Fractions and Decimal Fractions:** Proper fractions, Improper fractions, Mixed fractions, Equivalent fractions, comparison of fractions, operations on fractions.
7. **Percentage:** Writing percentage as fraction and decimal fractions, finding percentage.
8. **Simple Interest:** Finding simple interest, principal, rate of interest.
9. **Lines and Angles: Complete angle, right angle, straight angle, acute angle, obtuse angle, reflex angle,** complementary angles supplementary angles
10. **Triangles:** Equilateral, Isosceles, Scalene, Acute, Obtuse and Right angled triangles.
11. **Perimeter:** Perimeter of triangle, square, rectangle and parallelogram.
12. **Area:** Area of triangle, square, rectangle, parallelogram.

Scholastic Maths Olympiad - Class 6

1. **Divisibility:** Tests of divisibility by 2, 3, 4, 5, 6, 8, 9, 10, 11. Applications of divisibility to solve real life problems.
2. **GCD and LCM:** Greatest Common divisor of two and three numbers, Least Common Multiple of two and three numbers. Applications of GCD and LCM to solve real life problems.
3. **Order of Operations:** BODMAS rule to solve numerical expressions involving integers and fractions.
4. **Indices:** Laws of indices.
5. **Ratio and Proportion:** Ratio, equivalent ratio, proportion, mean proportion, comparison of ratios, Formulate and solve a proportion to find the unknown quantity, Applications Ratio and Proportion to solve real life problems.
6. **Percentage:** Calculate percentage increases and decreases.
7. **Simple Interest:** concept of interest and related terms, computation of simple interest, principal, rate of interest, time.
8. **Algebraic Expressions:** variables, constants, numerical expressions and algebraic expressions, use of different letters to represent a variable, translate phrases in algebraic expressions. Basic operations on algebraic expressions.
9. **Linear Equations in one variable:** Solution of linear equation in one variable, Applications of linear equations to solve real life problems.
10. **Angles:** Parallel lines and transversal, interior angles, exterior angles, corresponding angles, alternative angles, pairs of angles and their properties.
11. **Area:** Area of square, rectangle, parallelogram, rhombus, trapezium.
12. **Surface Area and Volume:** Surface area and volume of cube and cuboid.

Scholastic Maths Olympiad - Class 7

1. **Numbers:** Natural Numbers, Whole numbers, Prime numbers, Integers, Rational numbers and Irrational numbers.
2. **Square and square roots:** Perfect square numbers, properties of square numbers, finding square roots of natural numbers and decimals.
3. **Indices:** Laws of indices.
4. **Fractions and Decimal fractions:** converting fractions into decimals and decimals into fractions, basic operations on fractions and decimals.
5. **Ratio and proportions:** , Formulate and solve a proportion to find the unknown quantity, Applications Ratio and Proportion to solve real life problems.
6. **Average:** finding the mean of a set of numbers. Determine the sum of n numbers given the mean and the value of n . Determine the missing number in a set of data given the mean and the other numbers in that set.
7. **Profit and Loss:** Cost price, Selling price, Profit percentage, loss percentage.
8. **Partnership:** Ratio and Division of profit/loss.
9. **Simple and Compound interest:** Simple Interest, Compound interest compounded yearly, half yearly and quarterly.
10. **Algebraic expressions:** Basic operations on algebraic expressions. Evaluating algebraic expressions for different values of variables.
11. **Linear Equations:** Formation and Solution of linear equation in one variable, Applications of linear equations to solve real life problems
12. **Perimeter and Area:** Perimeter and area of square, rectangle, parallelogram, rhombus, trapezium and circle.
13. **Surface Area and Volume:** Surface area and volume of cube, cuboid, cylinder, cone and sphere.

Scholastic Maths Olympiad - Class 8

- 1. Numbers:** Rational numbers, Real Numbers,
- 2. Squares and Square roots:** Perfect square numbers, finding square roots of natural numbers and decimals.
- 3. Direct and Inverse Proportion:** Word problems on a variety of direct and inverse variation, real life examples
- 4. Profit, Loss and Discount:** Cost price, Selling price, % discount, successive discounts, Profit percentage, loss percentage.
- 5. Simple and Compound Interest:** Simple Interest, Compound interest compounded yearly, half yearly and quarterly.
- 6. Algebraic expressions:** Basic operations on algebraic expressions. Evaluating algebraic expressions for different values of variables. Forming algebraic expressions
- 7. Identities: Basic identities:** $(a+b)^2$, $(a-b)^2$, (a^2-b^2) and problems using these identities.
- 8. Factorization of algebraic expressions:** Factorisation of simple algebraic expressions upto second degree. Higher degree expressions based on simple identities.
- 9. Polygons:** Polygons and their properties, various types of Quadrilaterals and their properties (square, rectangle, parallelogram, rhombus, trapezium).
- 10. Perimeter and Area:** Perimeter of polygons and circle. Area of triangle, quadrilaterals and circle.
- 11. Volume and surface area of solid bodies:** Volume and surface area of cylinder, cone and sphere.
- 12. Statistics:** Data Handling, Pie chart, Pictorial and Joint bar graphs.