

OUR UK + NIGERIAN CURRICULUM.

...let's walk you through.

Unlocking Mathematical Potential: WAOKMATH Curriculum

Welcome to the WAOKMATH Comprehensive Curriculum, designed for students in Grades 7 to 12. This programme offers a structured and engaging approach to mathematics, building foundational skills and advancing to complex concepts. Our goal is to foster a deep understanding and appreciation for mathematics, preparing students for academic success and real-world applications.



GRADES 7-12

The Foundational Journey: Grade 7 Mathematics

In Grade 7, students embark on a comprehensive journey through fundamental mathematical concepts. The curriculum focuses on building a strong number sense, introducing algebraic thinking, and exploring basic geometry, probability, and statistics. This grade lays the groundwork for more advanced topics in subsequent years, ensuring a solid understanding of core principles.

Number Sense & Operations

Mastering integers, fractions, decimals, percentages, and their conversions, alongside estimation and money applications.

Introduction to Algebra

Learning algebraic notation, simplifying expressions, formula substitution, and solving simple linear equations.

Geometry & Measures

Exploring 2D and 3D shapes, angle rules, area, perimeter, and metric conversions.



GRADE 7

Deep Dive: Grade 7 Number & Algebra

The Grade 7 curriculum begins with strengthening number skills, progressing from basic numeration to complex operations with integers, fractions, and decimals. Students learn to navigate percentages, ratios, and estimation, essential for everyday problem-solving. Algebra is introduced with a focus on understanding algebraic notation, simplifying expressions, and solving fundamental equations, laying crucial foundations for future mathematical studies.

Number Concepts

- Reading and writing numbers up to one million
- Operations with positive and negative integers
- Factors, multiples, primes, squares, cubes
- Fractions, decimals, and percentages: conversions and calculations
- Estimation and rounding techniques
- Practical applications in money, time, temperature, volume, and capacity

Algebra Fundamentals

- Understanding algebraic symbols and conventions
- Simplifying expressions by collecting like terms
- Expanding and factorising basic expressions
- Formula substitution and solving one or two-step linear equations
- Generating number sequences and finding the nth term
- Plotting coordinates in all four quadrants

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GRADES 7-12

Advancing Skills: Grade 8 Mathematics

Grade 8 builds upon the foundations laid in Grade 7, introducing more intricate concepts across all mathematical strands. Students will enhance their understanding of number systems, delve deeper into algebraic manipulation, and explore advanced geometric principles. This grade emphasises problem-solving and applying mathematical knowledge to real-world scenarios, preparing them for the rigour of higher-level mathematics.

01

Advanced Number Work

Focus on numeration up to one billion, indices, roots, and advanced percentage and ratio applications.

02

Algebraic Mastery

Simplifying expressions with powers, solving linear and simultaneous equations, and interpreting linear graphs.

03

Geometry & Transformations

Geometric constructions, congruence, similarity, mensuration of compound shapes, and Pythagoras' Theorem.

04

Probability & Statistics

Theoretical probability, frequency trees, Venn diagrams, two-way tables, and various data representations.

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GRADE 9

Building Complexity: Grade 9 Mathematics

Grade 9 marks a significant step towards more abstract and complex mathematical ideas. The curriculum introduces higher powers, irrational numbers, and advanced percentage problems within the Number strand. Algebra takes a leap into quadratic expressions, solving simultaneous equations with diverse methods, and interpreting various types of graphs. Geometry expands with circle theorems, loci, and the introduction of trigonometry, providing students with a robust analytical toolkit.

Number Theory

Higher powers and roots, standard form, recurring decimals, irrational numbers and surds.

Quadratic Algebra

Expanding, factorising, and solving quadratic equations, including linear-quadratic systems.

Geometric Proofs

Circle geometry, constructions, similarity proofs, and introduction to trigonometry.

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GRADE 10

Intermediate Mathematics: Grade 10 Focus

In Grade 10, students consolidate their understanding of advanced number concepts, including surds and bounds. Algebraic skills are refined with complex expression manipulation and graphical solutions to various equations. The curriculum also introduces sophisticated geometric measurements, 3D applications of Pythagoras and trigonometry, and an exploration of longitude and latitude. Probability and statistics become more detailed, covering independent and dependent events and data collection methods.

Algebraic Mastery

- Expanding, factorising, and simplifying complex algebraic expressions.
- Solving linear and quadratic equations and inequalities.
- Graphing and interpreting various functions.
- Simplification and operations with algebraic fractions.

Advanced Geometry

- In-depth angle rules, including parallel lines and circle theorems.
- Surface area and volume of complex solids (cylinders, cones, spheres).
- Pythagoras' and trigonometry applications in 2D and 3D.
- Understanding longitude and latitude.

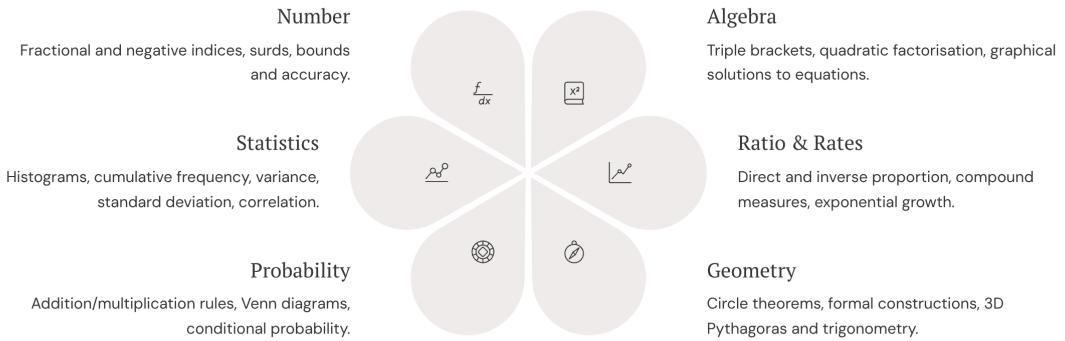
Additionally, Grade 10 students explore compound measures in real-world contexts and delve into the nuances of experimental versus theoretical probability, alongside developing robust statistical data collection and analysis skills.

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GRADE 11

Pre-University Mathematics: Grade 11 Curriculum

Grade 11 prepares students for the highest levels of secondary mathematics, deepening their understanding of abstract concepts and problem-solving techniques. The curriculum covers a wide array of topics, from advanced number theory involving surds and indices, to complex algebraic manipulations, simultaneous equations, and inequalities. Geometry focuses on comprehensive circle theorems and 3D trigonometry, while probability and statistics demand a sophisticated analysis of distributions and correlations.



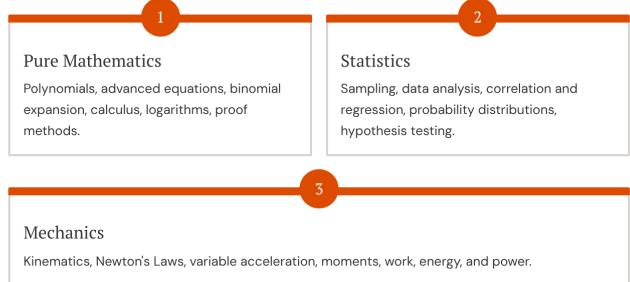
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GRADE 12

Mastering Advanced Mathematics: Grade 12

Grade 12 represents the pinnacle of the WAOOKMATH curriculum, integrating Pure Mathematics, Statistics, and Mechanics. This year focuses on preparing students for university-level studies and beyond. Pure Mathematics covers advanced algebraic manipulation, calculus (differentiation and integration), and complex functions. Statistics delves into hypothesis testing and distributions, while Mechanics applies mathematical principles to real-world physics, fostering a holistic understanding of the subject.



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Beyond the Core: Optional Add-ons

To cater to diverse interests and academic aspirations, the WAOKMATH curriculum offers a range of optional add-ons across all grades. These modules provide opportunities for deeper exploration into specific mathematical fields, fostering critical thinking, logical reasoning, and a broader appreciation for the subject's vastness.



Set Theory

Introduction to sets, Venn diagrams, and advanced set notation, intersection, and complements.



Logical Reasoning

Engaging logic puzzles, problem-solving strategies, and mathematical proofs (deduction, exhaustion, contradiction).



Financial Mathematics

Understanding profit, loss, tax, interest rates (simple and compound), and budgeting principles.



Matrices & Logarithms

Basic matrix operations, determinants, and applications of logarithms in calculations.



Further Calculus & Polar Coordinates

Integration by parts, differential equations, and representing curves in polar form.

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Assessment & Project-Based Learning

The WAOKMATH curriculum employs a diverse range of assessment styles to comprehensively evaluate student understanding and progress. Our approach combines traditional testing with innovative project-based learning, designed to encourage critical thinking, problem-solving, and practical application of mathematical concepts.

Fluency & Reasoning Tasks

Regular problem-solving and reasoning tasks to assess conceptual understanding and application.

Mid-term Topic Tests

Structured tests to evaluate mastery of specific topics throughout the academic year.

End-of-Year Examinations

Comprehensive exams, including both non-calculator and calculator papers, to gauge overall learning.

Homework & Math Projects

Engaging assignments and projects to encourage independent learning, research, and creative problem-solving.

This varied assessment strategy ensures a thorough and fair evaluation, preparing students for success in future academic pursuits and real-world challenges.

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