

Course Curriculum: Grade 3 Math - IB Program

Welcome to Mathematics Grade 3, an exciting journey into the world of numbers, shapes, and patterns. Designed for our third-grade students, this course aims to provide a solid foundation in elementary mathematics, enhancing computational skills, conceptual understanding, and a capacity to solve real-world problems. Our unique approach to teaching mathematics in Grade 3 will involve a combination of guided learning, hands-on activities, engaging mathematical games, and interactive problem-solving exercises.

Aligned with the International Baccalaureate (IB) objectives, this course fosters inquiry-based learning, critical thinking, and a global perspective. It aims to develop students who are knowledgeable, principled, and reflective thinkers, ready to face future challenges with confidence and creativity.

IB Program Objectives:

- Develop problem-solving skills and critical thinking.
- Foster a love for learning and a curiosity about mathematics.
- Encourage the use of mathematical language to communicate ideas.
- Promote the application of mathematical concepts in real-life situations.
- Build confidence in students' abilities to tackle mathematical challenges.

Throughout the course, students will delve into various segments of mathematics, including:

- **Number Sense and Operations:** Here, students will strengthen their understanding of place value, work with three-digit numbers, and develop proficiency in addition, subtraction, multiplication, and division. They will also get familiar with fractions and learn how to compare and order them.
- **Geometry and Measurement:** The course introduces students to fundamental geometric concepts such as identifying and describing shapes, understanding the properties of shapes, and recognizing symmetry. Measurement topics include telling time, understanding units of measure, and calculating perimeter and area.
- **Data Analysis:** Students will explore basic concepts of statistics by learning to collect, organize, display, and interpret data using charts and graphs.
- **Problem Solving:** This integral aspect of the course encourages students to apply their mathematical knowledge to real-world situations, fostering critical thinking and logical reasoning skills.

Our highly interactive course employs a variety of teaching methods, including hands-on activities, group discussions, and practical applications to ensure comprehensive understanding. The curriculum is aligned with standard educational requirements and aims to prepare students for more advanced mathematical concepts in the future.

Whether your child is new to math or wants to strengthen their foundational skills, Exploring Mathematics: Grade 3 provides the perfect platform for enhancing their mathematical competence and confidence.

The content of the Course:

Number System:

- Number skills and concepts up to 9999.
- Round to the nearest 1000.
- Addition and subtraction (integers) mastery.
- Mental arithmetic.
- Skip counting in both directions.
- Multiplication up to 10×10 .
- Multiplication of a single digit number by another number up to three digits.
- Long division by a single digit number without a remainder.
- Describe and create number patterns resulting from performing addition or subtraction.
- Cancelling zero in division.
- Solving word problems.
- Model and represent unit fractions including $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$ and their multiples to a complete whole.
- Addition and subtraction of fractions with identical denominators.

Measurement:

- Convert between common metric units of length (mm, cm and m) - no decimals.
- Describe measures that fall between numbers on a measurement scale.
- Use standard units of measurement and appropriate tools to solve problems in real-life situations involving length, mass and capacity.

Shape and Space:

- Solving word problems.
- Make models of three-dimensional objects and describe key features.
- Number of vertices edges and faces.
- Identify angles as measures of turn and compare angle sizes in everyday situations.
- Draw and identify parallel, perpendicular and intersecting lines.

Pattern and Function:

- Describe and create number patterns resulting from performing addition or subtraction.
- Solve word problems by using number sentences involving addition, subtraction, multiplication or division where there is no remainder (single-step word problems).

Data Handling:

- Identify questions or issues for Categorical variables.
- Identify data sources and plan methods.
of data collection and recording Collect data, organize into categories and create displays using lists, tables, picture graphs and simple column graphs, with and without the use of digital technologies.
- Interpret and compare data Displays (tallies & pictogram).

The table below clarifies the course content, the chapters and the main skills in each chapter:

#	Chapter	Skills
1	Chapter One: Number System – Part 1 - Reading, writing and arranging numbers up to 9999	• Reading & writing numbers up to 9999. • Writing addition equations that add up to 1000. • Specifying the place value of numbers. • Writing numbers made of four place values using the decomposition method. • Skip counting by fives, tens and hundreds. • Skip counting - Counting up and counting down using a number line. • Completing a pattern using skip counting. • Comparing numbers made of four place values. • Comparing numbers using a number line and a place values chart. • Arranging numbers up to 9999 using a place values chart. • Arranging numbers up to 9999 in ascending and descending orders. • Rounding numbers using a number line. • Rounding numbers to the nearest ten, hundred and thousand.
2	Chapter Two: Number System – Part 2 - Adding & Subtracting Numbers up to 9999	• Finding the sum of two or more numbers up to 9999 using regrouping, and without regrouping. • Representing addition up to 9999 using various methods, making sure the addition up to 9999 is correct. • Finding the difference between two or more numbers using regrouping, and without regrouping. • Making sure the subtraction is correct using addition. • Representing subtraction using various methods.
3	Chapter Three: Number System – Part 3 - Reading, writing, comparing and arranging fractions	• Reading & writing simple fractions. • Representing & writing fractions as part of a whole, and as part of a group. • Learning about mixed numbers and how to write them. • Writing mixed numbers represented in several ways.

		• Representing mixed numbers in different ways. • Finding the sum of equivalent fractions. • Using the fraction tables to add equivalent fractions. • Finding the difference of equivalent fractions. • Using fraction tables to find the difference of equivalent fractions.
4	Chapter Four: Measurement - Measurements and Time	• Measuring lengths using metric units (mm, cm, m, km). • Choosing the appropriate unit for measuring different lengths. • Learning about the time units to read time. • Learning about the units for measuring time in a day, a month and a year. • Comparing between the different units of time. • Reading an analog clock and a digital clock. • Learning about (a quarter of an hour, a third of an hour, half an hour, three quarters of an hour, two thirds of an hour). • Learning the number of minutes that equal (a quarter of an hour, a third of an hour, half an hour, three quarters of an hour, two thirds of an hour). • Measuring different masses using metric units (gram, kilogram). • Learning the symbol for gram (g) and for kilogram (kg). • Distinguishing when to use the gram versus the kilogram. • Learning about volume. • Learning about the liter. • Measuring volume using the liter. • Estimating the volumes of vessels.
5	Chapter Five: Number System – Part 4 - Multiplication within two and three digits	• Learning and understanding the multiplication tables for 6 & 7. • Solving any problems regarding the multiplication of 6 & 7. • Learning the multiplication tables for 8 & 9. • Solving problems regarding the multiplication of 8 & 9. • Learning multiplication of the number 10. • Multiplying tens and solving problems in that area. • Multiplying hundreds and solving problems in that area.
6	Chapter Six: Number System – Part 5 Division	• Learning division as equal groups, forming equal groups. • Solving problems regarding simple division as equal groups. • Learning the rules of multiplication and how it relates to division. • Learning division and solving division problems. • Learning to divide by 10 and solve related problems. • Learning and solving long division. • Learning about dividends and divisors.

		• Dividing by 5 & 1 and solving related problems. • Learning about the division facts for dividing by 2, 4, & 8 and how they relate to the multiplication facts. • Learning the division facts for dividing by 3, 6, 7, & 9 and how they relate to the multiplication facts, and using them to solve problems.
7	Chapter Seven: Pattern and Function - Patterns & Geometry	• Learning the basic terms (pattern, etc.). • Learning about ascending and descending patterns. • Forming numerical patterns with one calculation. • Describing a numerical pattern and finding its rule. • Writing patterns, solving problems regarding patterns and how to write them. • Learning about two dimensional shapes (square, rectangle, etc.) • learning about three dimensional shapes (pyramid, cube, etc.) • Distinguishing between two dimensional and three-dimensional shapes.
8	Chapter Eight: Data Handling - Data Collection & Representation	• Learning about tallies and tally charts. • Organizing data in a tally chart. • Learning about gathering data, learning different ways to gather and organize data. • Obtaining and organizing outcomes by asking questions. • Obtaining experimental outcomes. • Solving problems regarding the gathered data. • Reading data represented as pictures and shapes. • Representing data using pictures and shapes. • Discovering different ways to represent data.