Course Curriculum: Grade 2 Math IB

This course is designed to help young learners build a strong foundation in essential math concepts, aligning with the International Baccalaureate (IB) program objectives. Our goal is to foster a deep understanding and appreciation for mathematics, setting the stage for future learning with fun and engaging activities.

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.

In this course, students will use the four operations - addition, subtraction, multiplication, and division - to solve simple word problems. They will be introduced to place values up to hundreds, allowing them to understand the importance of the position of digits in a number. The course also includes work on basic fractions, teaching students to visualize and compare halves and quarters.

The concept of measuring lengths will be introduced, teaching them to use standard and non-standard units of measurement. Students will expand their knowledge on geometry, by identifying and describing various shapes and their attributes.

Further, to make learning more fun and effective, the course features a variety of engaging activities such as math games, puzzles, and interactive exercises. These activities not only make math enjoyable but also help students understand concepts better by applying them in different contexts.

Throughout the course, students will develop problem-solving skills, critical thinking abilities, and a love for math, which will be an incredible asset for them in their later academic years.

In conclusion, Grade 2 Mathematics course is all about making math fun and interactive for students while ensuring they build a solid foundation in key mathematical concepts.

The content of the Course:

Number System:

- Investigate number sequences, initially those increasing and decreasing by twos, threes, five and ten from any starting Point, then moving to other sequences.
- Recognize, model, represent and order numbers to at least 999.
- Group, partition and rearrange collections up to 100 in hundreds, tens and ones to facilitate more efficient counting.
- Explore the connection between addition and subtraction up to 999.
- Use of the relationship between addition and subtraction.
- Recognize and represent multiplication as repeated addition, groups.
- Multiplication to 5x5.
- Multiplication by 0 or 10.
- Division within 25 based on multiplication facts.
- Use of relationship between multiplication and division.
- Recognize and interpret common uses of halves, quarters and eighths of shapes and collections (Fractions).

Measurement:

- Estimate, measure, compare and record lengths, distances, masses and capacities using non-standard and standard units (m, cm).
- Estimate, measure, compare and record areas using non-standard units.
- Use standard and non-standard units of measurement to solve problems in real-life situations involving length, area, mass, capacity.

Shape and Space:

- Describe and draw two-dimensional shapes, with and without digital technologies.
- Describe the features of three-dimensional objects.
- Identify and describe half and quarter Turns.
- Create and follow directions to draw a path on a simple plan to show a described route (up, down, left, right).

Pattern and Function:

- Identify and describe the rules for number patterns
- Identify and model the inverse relationship between addition and subtraction

Data Handling:

- Identify questions or issues for categorical variables. Identify data sources and plan methods of data collection and recording.
- Collect data, organize them into categories and create displays using tally marks, lists, tables, pictographs, simple bar graphs.
- Interpret and compare data displays describing their similarities and differences.

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

#	Chapter	Skills
1	Chapter One: Pattern and Function - Comparing, arranging, and counting numbers up to 999	• Reading & writing numbers, • Comparing numbers and arranging them in increasing and decreasing orders, • Distinguishing between even and odd numbers, • Identifying even and odd numbers on a number line, • Skip counting (ones, twos, threes, fives, tens), • Backward skip counting
2	Chapter Two: Shape and Space - Fractions & Geometry	• Fractions and representing them using symbols and words, • Determining directions (right, left, up, down, under, over, inside, outside), • Determining objects' positions relative to each other, patterns, unit for patterns, • Completing an incomplete pattern, two dimensional shapes (square, rectangle, circle, triangle), • Describing two dimensional shapes based on the number of sides and vertices, • Three dimensional shapes (cube, pyramid, rectangular prism, sphere, cylinder, cone), • Describing figures based on the number of faces, the shape, number of sides and vertices
3	Chapter Three: Number System - Part 1 – Addition up to 999	• Mental addition, • Addition without regrouping and • Addition with regrouping using the vertical and horizontal methods
4	Chapter Four: Number System - Part 2 - Subtraction up to 999	• Subtraction without regrouping • Subtraction with regrouping using the vertical and horizontal methods
5	Chapter Five: Number System - Part 3 - Multiplication	• Continuous addition & multiplication, • Multiplication facts (1, 3, 4, 2, 5, 10) • Real life multiplication problems
6	Chapter Six: Number System - Part 4 - Division	• Division and its sign, • Relating multiplication and division, • Checking if the quotient is correct, • Solving word problems related to division
7	Chapter Seven: Measurement Time	• Measuring lengths using non-standard units, • Standard units for measuring lengths • Distinguishing between the types of clocks,

		• Reading an hour, a quarter of an hour, a half hour and three quarters of an hour, • Distinguishing between the minute hand and the hour hand, • Calculating the time needed to complete daily activities and identifying certain time events (longer time, less time)