Year 1 – Mathematics

The specific mathematics syllabus for year 1 students in international schools can vary depending on the country and curriculum being followed. However, in general, year 1 students typically learn the following topics:

Number and Place Value: Students will learn about the value of digits in numbers up to 20 or 30 and will be able to count forwards and backwards from any given number up to 100.

- **Counting:** Children learn to count up to 100, count forwards and backwards, and recognize and write numbers up to 20 or 30.
- **Number sequences:** Children learn to identify and continue number sequences, such as counting by twos, fives, and tens.
- **Comparing and ordering numbers:** Children learn to compare and order numbers using words such as "greater than", "less than", and "equal to".
- **Place value:** Children learn about place value by understanding that a two-digit number is made up of tens and ones. They learn to recognize the place value of each digit in a two-digit number, for example, understanding that the number 23 has 2 tens and 3 ones.
- **Addition and subtraction:** Children learn to add and subtract using concrete objects, pictures, and number lines. They also begin to learn related concepts such as counting on, finding one more or one less, and using the inverse relationship between addition and subtraction.
- **Problem solving:** Children learn to solve simple problems involving numbers, such as finding the total number of objects in a group or sharing objects equally between two or more people.

Addition and Subtraction: Students will learn different strategies for adding and subtracting numbers, including using number bonds and mental methods.

- **Basic addition and subtraction facts:** Children learn to add and subtract using numbers up to 10. They learn to recall basic addition and subtraction facts, such as the sums of numbers that add up to 10.
- **Counting on and back:** Children learn to count on and back to solve addition and subtraction problems. For example, to solve the problem 3 + 2, a child might count on from 3 to reach the answer of 5.
- **Number bonds:** Children learn to recognize number bonds, which are pairs of numbers that add up to a given number. For example, the number bonds for 5 are 0 + 5, 1 + 4, 2 + 3, 3 + 2, 4 + 1, and 5 + 0.
- **Using concrete materials:** Children learn to use concrete materials, such as manipulatives or pictures, to represent addition and subtraction problems. For example, they might use blocks or pictures of objects to show the addition problem 3 + 2 = 5.
- **Problem solving:** Children learn to solve simple addition and subtraction problems in real-life contexts, such as counting objects in a group or sharing objects equally between two or more people.
- **Related concepts:** Children begin to learn related concepts such as the commutative property of addition (that the order of the addends does not affect the sum) and the relationship between addition and subtraction.

Geometry: Students will learn about different shapes and their properties, including lines, angles, and symmetry.

- **Shapes:** Children learn to recognize and name 2D and 3D shapes, such as squares, circles, triangles, rectangles, cubes, and spheres.
- **Describing and comparing shapes:** Children learn to describe shapes based on their properties, such as the number of sides, the length of sides, and the number of corners. They also learn to compare and sort shapes based on their attributes.
- **Position and direction:** Children learn about position and direction by describing the location of objects in relation to other objects or to a reference point. They learn words and phrases such as "above", "below", "next to", "in front of", and "behind".
- **Patterns:** Children learn to recognize and create simple repeating patterns using shapes, colours, or objects.
- Spatial reasoning: Children begin to develop spatial reasoning skills by recognizing and predicting how shapes can be moved or transformed. For example, they might predict what a shape will look like after it is rotated or flipped.
- **Measurement:** Children learn to compare the size of objects using non-standard units, such as their own hand or a block. They also begin to learn about concepts such as length, height, and weight.

Measurement: Students will learn about measuring length, weight, and capacity using non-standard units (such as paperclips or cubes).

- **Non-standard units:** Children learn to measure objects using non-standard units, such as blocks, cubes, or their own hands. They learn to compare the length, height, or weight of different objects using these units.
- **Standard units:** Children begin to learn about standard units of measurement, such as centimeters, meters, grams, and kilograms. They learn to recognize these units and use them to measure objects.
- **Time:** Children learn to tell time using analog clocks with hour and minute hands. They learn to tell time to the hour and half hour, and to understand concepts such as morning, afternoon, and evening.

- **Money:** Children learn to recognize and count different coins and bills, and to understand their value. They also learn to make simple purchases and give change.
- **Temperature:** Children learn to recognize and compare temperatures using a thermometer, and to understand basic concepts such as hot and cold.
- **Data and graphs:** Children begin to learn about collecting and organizing data using graphs and charts. They might create simple graphs to represent information about their classroom or community.

Data Handling: Students will learn about collecting and sorting data, and represent data using pictograms.

- **Collecting data:** Children learn to collect data by asking and answering simple questions. For example, they might ask their classmates about their favourite colours or animals.
- **Organizing data:** Children learn to organize data using tally marks and simple charts, such as bar graphs or pictographs.
- **Interpreting data:** Children learn to interpret data by reading and analysing simple charts. For example, they might compare the number of different colours or animals in a chart.
- **Making predictions:** Children begin to develop their ability to make predictions based on data. For example, they might predict which colour or animal will be the most popular based on the data they have collected.
- **Simple statistics:** Children learn to use basic statistical vocabulary, such as "most", "least", "more than", and "less than". They also begin to understand concepts such as "average" and "range".

Money: Students will learn about different coins and be able to count and compare amounts of money.

- **Identifying coins and notes:** Children learn to identify and recognize different coins and notes, and understand their values.
- **Counting money**: Children learn to count money using different combinations of coins and notes, and develop their skills in addition and subtraction.
- **Making simple purchases**: Children learn to make simple purchases, and understand the concept of exchanging money for goods or services.
- **Giving change:** Children learn to give change, and understand the concept of getting back money when paying for something with more than the exact amount.
- **Problem solving:** Children apply their knowledge of money to solve simple problems, such as figuring out how much change they should receive or how much money they need to buy a particular item.
- **Real-life applications:** Children learn to recognize the importance of money in daily life, and understand its role in society and the economy.

Time: Students will learn how to tell the time on a clock and understand concepts such as morning, afternoon, and evening.

- **Telling time:** Children learn to tell time on analog clocks, and understand the concept of hours, minutes, and seconds.
- **Reading calendars:** Children learn to read calendars, and understand the concepts of days, weeks, and months.
- Understanding time intervals: Children learn to understand time intervals, and develop their skills in addition and subtraction.
- **Using time vocabulary:** Children learn to use time-related vocabulary, such as "morning", "afternoon", "evening", "yesterday", "today", and "tomorrow".
- **Real-life applications:** Children learn to recognise the importance of time in daily life, and understand its role in scheduling and planning.

These topics are typically taught using a range of teaching strategies, including hands-on activities, group work, and independent practice.