# Maths

## Data Handling

### Level 1

**IB Phase 1**

Learners will develop an understanding of how the collection and organization of information helps to make sense of the world. They will sort, describe and label objects by attributes and represent information in graphs including pictographs and tally marks. The learners will discuss chance in daily events.

**IB Phase 2**

Learners will understand how information can be expressed as organized and structured data and that this can occur in a range of ways. They will collect and represent data in different types of graphs, interpreting the resulting information for the purpose of answering questions. The learners will develop an understanding that some events in daily life are more likely to happen than others and they will identify and describe likelihood using appropriate vocabulary.

**Conceptual Understandings IB1**

We collect information to make sense of the world around us.
Organizing objects and events helps us to solve problems.
Events in daily life involve chance.

**Conceptual Understandings IB2**

Information can be expressed as organized and structured data.
Objects and events can be organized in different ways.
Some events in daily life are more likely to happen than others.

## Learning outcomes

**Data Handling**

Collect, organize and represent data (including pictograms, tally marks and living graphs using real objects and people)

Interpret data where one object or drawing represents one value

Interpret data by comparing quantities for example, more, fewer, less than, greater than

**Probability**

Identify familiar events involving chance and describe them using everyday language such as ‘will happen', ‘won't happen' or ‘might happen'

# Pattern and Function

## Level 1

### IB Phase 1

Learners will understand that patterns and sequences occur in everyday situations. They will be able to identify, describe, extend and create patterns in various ways.

### IB Phase 2

Learners will understand that whole numbers exhibit patterns and relationships that can be observed and described, and that the patterns can be represented using numbers and other symbols. As a result, learners will understand the inverse relationship between addition and subtraction, and the associative and commutative properties of addition. They will be able to use their understanding of pattern to represent and make sense of real-life situations and, where appropriate, to solve problems involving addition and subtraction.

### Conceptual Understandings IB1

Patterns and sequences occur in everyday situations. Patterns repeat and grow.

### Conceptual Understandings IB2

Whole numbers exhibit patterns and relationships that can be observed and described.Patterns can be represented using numbers and others symbols.

## Learning outcomes

### Pattern and Function

Sort and classify familiar objects and explain the basis for these classification.

Copy, extend, create and describe patterns with objects and drawings

Recognise patterns in the number system

Investigate and describe number patterns formed by skip counting

# Shape and Space

## Level 1

### IB Phase 1

Learners will understand that shapes have characteristics that can be described and compared. They will understand and use common language to describe paths, regions and boundaries of their immediate environment.

### IB Phase 2

Learners will continue to work with 2D and 3D shapes, developing the understanding that shapes are classified and named according to their properties. They will understand that examples of symmetry and transformations can be found in their immediate environment. Learners will interpret, create and use simple directions and specific vocabulary to describe paths, regions, positions and boundaries of their immediate environment.

### Conceptual Understandings IB1

Shapes can be described and organized according to their properties.
Objects in our immediate environment have a position in space that can be described according to a point of reference.

### Conceptual Understandings IB2

Shapes are classified and named according to their properties.
Some shapes are made up of parts that repeat in some way.
Specific vocabulary can be used to describe an object's position in space.

## Learning outcomes

### 2D and 3D Shape

Sort, descibe, construct and name familiar two-dimentional shapes and objects in the environment

### Location

Describe position and direction in a practical context for example, inside, outside, above, below, next to, behind, in front of, up, down

# Measurement

## Level 1

### IB Phase 1

Learners will develop an understanding of how measurement involves the comparison of objects and the ordering and sequencing of events. They will be able to identify, compare and describe attributes of real objects as well as describe and sequence familiar events in their daily routine.

### IB Phase 2

Learners will understand that standard units allow us to have a common language to measure and describe objects and events, and that while estimation is a strategy that can be applied for approximate measurements, particular tools allow us to measure and describe attributes of objects and events with more accuracy. Learners will develop these understandings in relation to measurement involving length, mass, capacity, money, temperature and time.

### Conceptual Understandings IB1

Measurement involves comparing objects and events.
Objects have attributes that can be measured using non-standard units.
Events can be ordered and sequenced.

### Conceptual Understandings IB2

Standard units allow us to have a common language to identify, compare, order and sequence objects and events.
We use tools to measure the attributes of objects and events.
Estimation allows us to measure with different levels of accuracy.

## Learning outcomes

### Measurement of shape and space

Estimate, compare, describe and measure the length, mass and capacity of objects using nonstandard units

### Measurement of time

Read and write the time to the hour

Name and order the days of the week

Compare and order the duration of events using the every day language of time

Connect days of the week to familiar events and actions

# Number

## Level 1

### IB Phase 1

Learners will understand that numbers are used for many different purposes in the real world. They will develop an understanding of one-to-one correspondence and conservation of number, and be able to count and use number words and numerals to represent quantities.

### IB Phase 2

Learners will develop their understanding of the base 10 place value system and will model, read, write, estimate, compare and order numbers to hundreds or beyond. They will have automatic recall of addition and subtraction facts and be able to model addition and subtraction of whole numbers using the appropriate mathematical language to describe their mental and written strategies. Learners will have an understanding of fractions as representations of whole-part relationships and will be able to model fractions and use fraction names in real-life situations.

### Conceptual Understandings IB1

Numbers are a naming system.
Numbers can be used in many ways for different purposes in the real world.
Numbers are connected to each other through a variety of relationships.
Making connections between our experiences with number can help us to develop number sense.

### Conceptual Understandings IB2

The base 10 place value system is used to represent numbers and number relationships.
Fractions are ways of representing whole- part relationships.
The operations of addition, subtraction, multiplication and division are related to each other and are used to process information to solve problems.
Number operations can be modelled in a variety of ways.

## Learning outcomes

### Place Value

Count by naming numbers in sequences, to 100,

Apply place value to partition and rename two-digit numbers

Skip count in tens starting from zero

Recognise, model, read, and order numbers to

Use the language of mathematics to compare quantities, for example, more, less.

Estimate and subitise groups of up to ten objects

### Four Operations

Recall addition facts for single-digit numbers and related subtraction facts

Solve simple addition and subtraction problems using concrete material

Solve simple addition and subtraction problems using part/whole strategies

## Fractions

Share collections into equal parts

Divide objects into equal parts