



*Inspiring excellence, empowering global minds*

## Overview

The Math Syllabus at GEMS Wesgreen International Primary School aims to support students to develop their ability to calculate fluently, to reason and solve problems through application of knowledge and transferable skills. Throughout the year we recover and extend objectives as the focus is on securing an understanding in the subject by developing a greater depth.

## Learning Outcomes

The aims of all subjects state what a teacher may expect to teach and what a student may expect to experience and learn. These aims suggest how the student may be changed by the learning experience.

The aims of the Math Syllabus are to encourage and enable students to:

- become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

## Unit Overviews

### Term 1

#### Unit 1 – Number and Place Value (Up to 20)

**Approximate length: 3 weeks**

In this first unit the children will build on their understanding of numbers up to 10.

#### Specific National Curriculum Objectives Covered:

- Given a number, identify one more and one less.
- Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least.
- Read and write numbers from 1 to 20 in numerals and words.

**Unit 2 – Number: Addition and Subtraction within 10 Approx. length: 3 weeks**

In this unit the children will build on their understanding of addition and subtraction within 10.

Specific National Curriculum Objectives Covered:

- Read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs.
- Represent and use number bonds and related subtraction facts within 20.
- Add and subtract one-digit and two-digit numbers to 20, including zero.
- Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems.

**Unit 3 – Geometry: Shapes****Approximate length: 2 weeks**

In this unit the children will explore 2D and 3D shapes including learning their properties.

Specific National Curriculum Objectives Covered:

- Recognise and name common 2-D and 3-D shapes, including:
  - 2-D shapes [for example, rectangles (including squares), circles and triangles]
  - 3-D shapes [for example, cuboids (including cubes), pyramids and spheres].

**Unit 3 – Geometry: Position and Direction****Approximate length: 1 week**

Continuing on from the previous unit, children will explore position and direction of shapes and objects.

Specific National Curriculum Objectives Covered:

- Describe position, direction and movement, including whole, half, quarter and three-quarter turns.

**Unit 4 – Measure: Length and Height****Approximate length: 2 weeks**

In this unit the children will explore vocabulary related to length and height including long, short, tall, short.

Specific National Curriculum Objectives Covered:

- Compare, describe and solve practical problems for lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]
- Measure and begin to record lengths and heights

**Term 2****Unit 5 – Number and Place Value (Up to 50)****Approximate length: 2 weeks**

In this unit the children will build on their understanding of number and what digits represent. They extend their knowledge to numbers up to 50.

Specific National Curriculum Objectives Covered:

- Given a number, identify one more and one less.
- Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least.
- Read and write numbers from 1 to 20 in numerals and words.

**Unit 6 – Number: Addition and Subtraction within 20****Approx. length: 2 weeks**

In this unit the children will build on their understanding of addition and subtraction within 20.

Specific National Curriculum Objectives Covered:

- Read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs.
- Represent and use number bonds and related subtraction facts within 20.
- Add and subtract one-digit and two-digit numbers to 20, including zero.
- Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as  $7 = \square - 9$ .

**Unit 7 – Number: Multiplication and Division****Approximate length: 2 weeks**

In this unit, the children explore division and multiplication practically in the forms of grouping and sharing. We develop their understanding by using concrete objects to group together and to share out equally.

Specific National Curriculum Objectives Covered:

- Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.

**Unit 8 – Measure: Weight and Mass****Approximate length: 1 week**

In this unit the children will explore weight and mass practically by using balance scales to compare toys and real-life objects.

Specific National Curriculum Objectives Covered:

- Compare, describe and solve practical problems for capacity and volume [for example, heavy/light, heavier than, lighter than]
- Measure and begin to record mass/ weight

**Unit 9 – Measure: Money****Approximate length: 1 week**

In this unit the children will explore and recognise different coins and notes and make comparisons between UAE and UK money as well as be involved in role-play shops.

Specific National Curriculum Objectives Covered:

- Recognise and know the value of different denominations of coins and notes

**Unit 10 – Measure: Time****Approximate length: 1 week**

In this unit, the children explore time by identifying o'clock and half past. They take part in games, races and fun activities to see how long it takes to complete something.

Specific National Curriculum Objectives Covered:

- Compare, describe and solve practical problems for time [for example quicker, slower, earlier, later]
- Measure and begin to record time (hours, minutes, seconds)
- Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.

**Term 3****Unit 11 – Number: Place Value (up to 100)****Approximate length: 2 weeks**

In this unit the children will build on their understanding of number and what digits represent. They extend their knowledge to numbers up to 100.

Specific National Curriculum Objectives Covered:

- Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number.
- Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens.
- Given a number, identify one more and one less.
- Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least.

**Unit 12 – Number: Multiplication and Division****Approximate length: 2 weeks**

In this unit, the children explore division and multiplication of 2, 5 and 10 practically in the forms of grouping and sharing. We develop their understanding by using concrete objects to group together and to share out equally.

Specific National Curriculum Objectives Covered:

- Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.

**Unit 13 – Number: Fractions****Approximate length: 2 weeks**

In this unit, the children are introduced to the concept of what a whole one and fractions of a whole one represent. We develop their understanding by using concrete objects and pictorial representations of fractions and use real life objects that they can relate to.

Specific National Curriculum Objectives Covered:

- Recognise, find and name a half as one of two equal parts of an object, shape or quantity.
- Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.

**Unit 14 – Measure: Capacity and Volume****Approximate length: 1 week**

In this unit the children will explore capacity and volume in water play.

Specific National Curriculum Objectives Covered:

- Compare, describe and solve practical problems for capacity and volume [for example, full/empty, more than, less than, half, half full, quarter]
- Measure and begin to record capacity and volume

**Unit 15 – Measure: Time****Approximate length: 1 week**

In this unit, the children explore time by identifying o'clock and half past. They take part in games, races and fun activities to see how long it takes to complete something.

Specific National Curriculum Objectives Covered:

- Compare, describe and solve practical problems for time [for example quicker, slower, earlier, later]
- Measure and begin to record time (hours, minutes, seconds)
- Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.

## Assessment

**Formative:** Throughout the units, the children will complete graded work, quizzes and problem solving activities which allows the teacher to assess the student's attainment and inform their planning.

**Summative:** At the end of each term we complete internal and standardized tests. This allows us to measure the students' progress throughout the term and year.