

Spark Education

Offline Spark Math Program

L2 Syllabus



Suitable for

- Grade 1 students in the United States

Class Format

Impactful and fun small group classes

Course Content

- School Syllabus
- Higher-Order Thinking Questions in Examinations
- Calculation Strategies
- Competition Mathematics

Program Aims

- Students will master the core concepts and skills taught in Grade 1 Mathematics in advance.
- Students will apply effective problem-solving strategies to their daily practices and schoolwork.
- Students will develop interest, build confidence and have an edge in Mathematics.
- With the impartation of concepts in expanded breadth and depth, within and beyond classroom content, we help our students achieve the best results in examinations.

Heuristics

Act It Out

Before and After

Draw a Diagram

Form an Equation

Guess and Check

Look for a Pattern

Make a List

Make a Supposition

Restate the Problem

Simplify the Questions

Solve Part of the Problem

Work Backwards

Thinking Skills

Observation

Inquiry

Numeracy

Transfer

Logical Thinking

Reading
Comprehension

Spatial Visualization

Expressive Language



September**Module****Lesson****Number and Algebra**

Fun With Number Bonds

Fact Families

Comparing Numbers (Part 1)

Comparing Numbers (Part 2)

Revision Test

1

Module	Lesson
Number and Algebra	Fun With Number Bonds
Key Concepts and Skills	<ul style="list-style-type: none">• Make number bonds• Understand part-whole relationships• Use number bonds to solve word problems• Solve complex number bonds

2

Module	Lesson
Number and Algebra	Fact Families
Key Concepts and Skills	<ul style="list-style-type: none">• Write addition and subtraction facts for a given picture and number bond• Understand the relationship between addition and subtraction

3

Module	Lesson
Number and Algebra	Comparing Numbers (Part 1)
Key Concepts and Skills	<ul style="list-style-type: none">• Compare the number of objects in 2 or more sets• Understand comparative and superlative statements• Compare numbers using the $<$ and $>$ symbols

4

Module	Lesson
Number and Algebra	Comparing Numbers (Part 2)
Key Concepts and Skills	<ul style="list-style-type: none">• Compare numbers using a number line and terms such as "more than" and "less than" to describe the comparison• Understand comparative and superlative statements

Revision Test

October

Module	Lesson
Number and Algebra	Methods of Addition
	Methods of Subtraction
	Addition Stories
	Subtraction Stories
Revision Test	

1

Module	Lesson
Number and Algebra	Methods of Addition
Key Concepts and Skills	<ul style="list-style-type: none">• Understand and identify the place values of 2-digit numbers (tens and ones)• Learn addition strategies such as making 10 and adding ones• Apply addition strategies to solve number puzzles

2

Module	Lesson
Number and Algebra	Methods of Subtraction
Key Concepts and Skills	<ul style="list-style-type: none">• Learn subtraction strategies such as subtracting from 10 and subtracting from the ones• Apply subtraction strategies to solve number puzzles

3

Module	Lesson
Number and Algebra	Addition Stories
Key Concepts and Skills	<ul style="list-style-type: none">• Write an addition equation using the + and = symbols for each story• Use addition to find the sum (whole)

4

Module	Lesson
Number and Algebra	Subtraction Stories
Key Concepts and Skills	<ul style="list-style-type: none">• Write a subtraction equation using the - and = symbols for each story• Use subtraction to find the original amount (missing part)

Revision Test

October

Module	Lesson
Number and Algebra	Completing Equations
	Forming Equations
Measurement and Geometry	Measurement: Length (Part 1)
	Measurement: Length (Part 2)
Revision Test	

1

Module	Lesson
Number and Algebra	Completing Equations
Key Concepts and Skills	<ul style="list-style-type: none">Identify the whole and the parts in equationsSolve for unknown variables in addition and subtraction equations

2

Module	Lesson
Number and Algebra	Forming Equations
Key Concepts and Skills	<ul style="list-style-type: none">Form addition and subtraction equations (e.g. $a + b = c + d$)

Revision Test

3

Module	Lesson
Measurement and Geometry	Measurement: Length (Part 1)
Key Concepts and Skills	<ul style="list-style-type: none">• Measure the length of objects in centimeters starting from the 0 mark• Measure the length of objects in centimeters from any mark• Measure the height and width of large objects

4

Module	Lesson
Measurement and Geometry	Measurement: Length (Part 2)
Key Concepts and Skills	<ul style="list-style-type: none">• Compare and order the lengths of objects• Compare straight lines and curves• Measure and compare the lengths of objects in non-standard units

December

Module	Lesson
Statistics	Graphs
Number and Algebra	Numbers up to 120
	Addition Strategies
	Subtraction Strategies
Revision Test	

1

Module	Lesson
Statistics	Graphs
Key Concepts and Skills	<ul style="list-style-type: none">• Read and interpret data from both horizontal and vertical picture graphs• Describe the data presented in the graph using terms such as "most," "least," "greatest," "smallest," "as many as," and "as much as"

2

Module	Lesson
Number and Algebra	Numbers up to 120
Key Concepts and Skills	<ul style="list-style-type: none">• Understand and identify the place values of numbers up to 120 (hundreds, tens, and ones)• Compare numbers up to 120 using terms such as "more than" and "less than"• Solve number puzzles involving numbers up to 120

3

Module	Lesson
Number and Algebra	Addition Strategies
Key Concepts and Skills	<ul style="list-style-type: none">• Pair numbers to make 10• Use 3 numbers to make 10

4

Module	Lesson
Number and Algebra	Subtraction Strategies
Key Concepts and Skills	<ul style="list-style-type: none">• Subtract to make 10

Revision Test

February

Module	Lesson
Number and Algebra	Word Problems Involving Differences
Measurement and Geometry	Two-Dimensional Shapes
	Tangram Puzzles
	Three-Dimensional Shapes
Revision Test	

1

Module	Lesson
Number and Algebra	Word Problems Involving Differences
Key Concepts and Skills	<ul style="list-style-type: none">Solve word problems involving unchanged difference

2

Module	Lesson
Measurement and Geometry	Two-Dimensional Shapes
Key Concepts and Skills	<ul style="list-style-type: none">Recognize 2D shapesDivide 2D shapes into equal partsCopy figures onto grids

3

Module	Lesson
Measurement and Geometry	Tangram Puzzles
Key Concepts and Skills	<ul style="list-style-type: none">Recognize the relationship between the sizes of the 7 tangram piecesCreate complex figures with tangram pieces

4

Module	Lesson
Measurement and Geometry	Three-Dimensional Shapes
Key Concepts and Skills	<ul style="list-style-type: none">Recognize and describe 3D shapesCount the number of cubes in a given figure

Revision Test

March

Module	Lesson
Measurement and Geometry	Telling Time (Part 1)
	Telling Time (Part 2)
Number and Algebra	Addition Within 100 (Part 1)
	Addition Within 100 (Part 2)
Revision Test	

1

Module	Lesson
Measurement and Geometry	Telling Time (Part 1)
Key Concepts and Skills	<ul style="list-style-type: none">• Tell time to the hour/half hour• Tell time in 5 minute-intervals

2

Module	Lesson
Measurement and Geometry	Telling Time (Part 2)
Key Concepts and Skills	<ul style="list-style-type: none">• Tell time using "am" and "pm"• Duration of 1 hour/half hour

3

Module	Lesson
Number and Algebra	Addition Within 100 (Part 1)
Key Concepts and Skills	<ul style="list-style-type: none">• Add 2-digit and 1-digit numbers without renaming• Add 2-digit and 1-digit numbers with renaming• Solve addition puzzles

4

Module	Lesson
Number and Algebra	Addition Within 100 (Part 2)
Key Concepts and Skills	<ul style="list-style-type: none">• Add two 2-digit numbers without renaming• Add two 2-digit numbers with renaming• Solve addition puzzles

Revision Test

April

Module	Lesson
Number and Algebra	Subtraction Within 100 (Part 1)
	Subtraction Within 100 (Part 2)
	Word Problems Involving Addition and Subtraction (Part 1)
	Word Problems Involving Addition and Subtraction (Part 2)
Revision Test	

1

Module	Lesson
Number and Algebra	Subtraction Within 100 (Part 1)
Key Concepts and Skills	<ul style="list-style-type: none">• Subtract 1-digit numbers from 2-digit numbers without renaming• Subtract 1-digit numbers from 2-digit numbers with renaming• Solve subtraction puzzles

2

Module	Lesson
Number and Algebra	Subtraction Within 100 (Part 2)
Key Concepts and Skills	<ul style="list-style-type: none">• Subtract 2-digit numbers from 2-digit numbers without renaming• Subtract 2-digit numbers from 2-digit numbers with renaming• Solve subtraction puzzles

3

Module	Lesson
Number and Algebra	Word Problems Involving Addition and Subtraction (Part 1)
Key Concepts and Skills	<ul style="list-style-type: none">• Solve up to 2-step word problems involving addition and subtraction• Draw part-whole models to illustrate the concepts of addition and subtraction, and to determine the operation needed to solve the problem

4

Module	Lesson
Number and Algebra	Word Problems Involving Addition and Subtraction (Part 2)
Key Concepts and Skills	<ul style="list-style-type: none">• Solve word problems involving the comparison of 2 quantities• Draw comparison models to illustrate the concepts of addition and subtraction, and to determine the operation needed to solve the problem

May**Module****Lesson****Number and Algebra**

Money (Part 1)

Money (Part 2)

Revision Test

1

Module	Lesson
Number and Algebra	Money (Part 1)
Key Concepts and Skills	<ul style="list-style-type: none">Count bills and coinsFind ways to make an amount of money

2

Module	Lesson
Number and Algebra	Money (Part 2)
Key Concepts and Skills	<ul style="list-style-type: none">Exchange moneyCompare amounts of money