



## Singapore Maths Innovative Learning Experience (SMILE International)

### Grade 4 Content List

#### Grade 4

Welcome to word problems! Your child sees how to identify word problems and navigate tricky problem sums. We will share useful heuristics problem-solving concepts like Working Backwards, Constant Difference and more. Strengthen foundation through practices and examples on Fractions, as well as breeze through concepts on Area, Angles, Decimals, Statistics and Time.

### Content List

#### Whole Numbers

Title	Synopsis
Lesson 1	Comparing and ordering numbers up to 100,000.
Lesson 2	Identifying number patterns.
Lesson 3	Rounding off numbers to the nearest 10, 100 or 1000.
Worksheet 1	Homework for Lessons 1 to 3.
Quiz 1	Recap of Lessons 1 to 3.
Lesson 4	What is a factor and a multiple?
Lesson 5	Learn about factors and common factors. Using common factors to simplify fractions.
Lesson 6	Learn about multiples and common multiples. Using the lowest common multiple to find a common denominator.
Worksheet 2	Homework for Lessons 4 to 6.
Lesson 7	Multiplying a 4-digit number by a 1-digit number; and a 3-digit number by a 2-digit number.
Worksheet 3	Homework for Lesson 7.
Lesson 8	Dividing a 4-digit number by a 1-digit number.
Worksheet 4	Homework for Lesson 8.
Quiz 2	Recap of Lessons 4 to 8.
Lesson 9	Solving a word problem using concept of elimination and common multiples.
Lesson 10	Using "Constant difference" concept to solve a word problem.
Lesson 11	Using "Constant difference" concept to solve a word problem.
Lesson 12	Practice using "Constant difference" concept to solve a word problem.
Worksheet 5	Homework for Lessons 9 to 12.
Lesson 13	Using "Working backwards" concept to solve a word problem.
Lesson 14	Using "Working backwards" concept to solve a word problem.
Lesson 15	Practice using "Working backwards" concept to solve a word problem.
Worksheet 6	Homework for Lessons 13 to 15.

Lesson 16	Using "Guess and check with assumption" concept to solve a word problem.
Lesson 17	Using "Guess and check with assumption" concept to solve a word problem.
Lesson 18	Using "Guess and check" with assumptions to solve a word problem.
Lesson 19	Practice using "Guess and check" with assumptions to solve a word problem.
Worksheet 7	Homework for Lessons 16 to 19.
Quiz 3	Recap of Lessons 9 to 19.
Lesson 20	Using "Constant total" concept to solve a word problem.
Lesson 21	Using "Constant total" concept to solve a word problem.
Lesson 22	Practice using "Constant total" concept to solve a word problem.
Worksheet 8	Homework for Lessons 20 to 22.
Lesson 23	Using "Constant part" concept to solve a word problem.
Lesson 24	Using "Constant part" concept to solve a word problem.
Lesson 25	Practice using "Constant part" concept to solve a word problem.
Worksheet 9	Homework for Lessons 23 to 25.
Lesson 26	Using "Total changed" concept to solve a word problem.
Lesson 27	Using "Total changed" concept to solve a word problem.
Lesson 28	Practice using "Total changed" concept to solve a word problem.
Worksheet 10	Homework for Lessons 26 to 28.
Quiz 4	Recap of Lessons 20 to 28.
Lesson 29	Using "Excess-shortage" concept to solve a word problem.
Lesson 30	Using "Excess-shortage" concept to solve a word problem.
Lesson 31	Practice using "Excess-shortage" concept to solve a word problem.
Worksheet 11	Homework for Lessons 29 to 31.
Lesson 32	Using "Excess-excess" concept to solve a word problem.
Lesson 33	Practice using "Excess-excess" concept to solve a word problem.
Worksheet 12	Homework for Lessons 32 and 33.
Lesson 34	Using "Shortage-shortage" concept to solve a word problem.
Lesson 35	Practice using "Shortage-shortage" concept to solve a word problem.
Worksheet 13	Homework for Lessons 34 and 35.
Quiz 5	Recap of Lessons 29 to 35.
Lesson 36	Using simultaneous concept to solve a word problem.
Lesson 37	Practice using simultaneous concept to solve a word problem.
Worksheet 14	Homework for Lessons 36 and 37.
Quiz 6	Recap of Lessons 36 and 37.
Lesson 38	Summary on comparing, ordering, rounding off numbers, finding factors and multiples.
Lesson 39	Summary on multiplication, division and identifying the type of concept to use to solve word problems.

### Angles

Title	Synopsis
Lesson 1	Learn about angles ( right, acute and obtuse angles ).
Lesson 2	Practice questions about angles.
Worksheet 1	Homework for Lessons 1 and 2.
Quiz 1	Recap of Lessons 1 and 2.
Lesson 3	Learn more about angles.
Lesson 4	Measuring angles and drawing an angle of a given size.

Worksheet 2	Homework for Lessons 3 and 4.
Lesson 5	Learn what a complete turn, quarter turn and a half turn are using a 8-point compass.
Worksheet 3	Homework for Lesson 5.
Lesson 6	Drawing perpendicular and parallel lines.
Worksheet 4	Homework for Lesson 6.
Quiz 2	Recap of Lessons 3 to 6.

### **Length**

<b>Title</b>	<b>Synopsis</b>
Lesson 1	Conversion of units of length across 2 systems of measurement.
Worksheet 1	Homework for Lesson 1.

### **Mass**

<b>Title</b>	<b>Synopsis</b>
Lesson 1	Conversion of units of mass across 2 systems of measurement.
Lesson 2	Conversion of units of mass across 2 systems of measurement.
Worksheet 1	Homework for Lessons 1 and 2.
Quiz 1	Recap of Lessons 1 and 2.

### **Area**

<b>Title</b>	<b>Synopsis</b>
Lesson 1	Finding a dimension of a rectangle or a square given its area or perimeter.
Lesson 2	Finding area of a composite figure made up of rectangles and squares.
Lesson 3	Solving problems on area and perimeter of composite figures made up of rectangles and squares.
Lesson 4	Practice solving problems on area and perimeter of composite figures made up of rectangles and squares.
Worksheet 1	Homework for Lessons 1 to 4.
Quiz 1	Recap of Lessons 1 to 4.

### **Liquid Volume**

<b>Title</b>	<b>Synopsis</b>
Lesson 1	Conversion of units of mass across 2 systems of measurement.
Lesson 2	Conversion of units of mass across 2 systems of measurement.
Worksheet 1	Homework for Lessons 1 and 2.
Quiz 1	Recap of Lessons 1 and 2.

## **Time**

<b>Title</b>	<b>Synopsis</b>
Lesson 1	Reading digital and analogue time in and up to seconds.
Lesson 2	Reading and writing time in 24-hour clock format.
Worksheet 1	Homework for Lessons 1 and 2.
Lesson 3	Understand the relationship between “Starting time”, “Finishing time” and “Duration”.
Lesson 4	Practice solving word problems on time.
Worksheet 2	Homework for Lessons 3 and 4.
Quiz 1	Recap of Lessons 1 to 4.

## **Symmetry**

<b>Title</b>	<b>Synopsis</b>
Lesson 1	Identifying symmetric figures. Determining lines of symmetry. Completing a symmetric figure with respect to a given line of symmetry on a square grid.
Worksheet 1	Homework for Lesson 1.
Quiz 1	Recap of Lesson 1

## **Fractions**

<b>Title</b>	<b>Synopsis</b>
Lesson 1	Identifying mixed numbers and improper fractions.
Lesson 2	Converting mixed numbers to improper fractions and vice versa.
Worksheet 1	Homework for Lessons 1 and 2.
Lesson 3	Finding a fraction of a set of given quantities.
Worksheet 2	Homework for Lesson 3.
Lesson 4	Find the whole given its fractional part by finding one unit.
Lesson 5	Summary of converting mixed numbers to improper fractions and vice versa and finding a fraction of a set of given quantities.
Lesson 6	Adding and subtracting fractions of different denominators.
Worksheet 3	Homework for Lessons 4 to 6.
Lesson 7	Finding the fraction of a whole number.
Lesson 8	Practice solving word problems with fractions.
Worksheet 4	Homework for Lessons 7 and 8.
Lesson 9	Solving word problems with fractions. Finding the remainder of a whole.
Lesson 10	Practice solving word problems with fractions and finding the remainder of a whole.
Worksheet 5	Homework for Lessons 9 and 10.
Lesson 11	Summary on finding fractions of a whole number with remainder and solving word problem with fractions.
Quiz 1	Recap of Lessons 1 to 11.

## **Decimals**

<b>Title</b>	<b>Synopsis</b>
Lesson 1	Learn about decimals.
Lesson 2	Converting a fraction to a decimal.
Lesson 3	Practice converting a decimal to a fraction.
Lesson 4	Rounding off decimals to the nearest whole number, 1-decimal place or 2-decimal places.
Worksheet 1	Homework for Lessons 1 to 4.
Quiz 1	Recap of Lessons 1 to 4.
Lesson 5	Adding and subtracting of decimals.
Worksheet 2	Homework for Lesson 5.
Lesson 6	Multiplying a decimal by a whole number (up to 2-digits).
Lesson 7	Dividing a decimal (up to 2 decimal places) by a whole number (1-digit).
Worksheet 3	Homework for Lesson 6 and 7.
Quiz 2	Recap of Lessons 5 to 7.
Lesson 8	Solving a word problem with models involving decimals.
Lesson 9	Solving word problems with the four operations.