



# Mathematics - Grade 4

## 2022 - 23

Students working at grade level expectations will achieve the following learning objectives:

Number
Read, write, model, and round numbers up to 1,000 (review)
Read, write model, and round numbers, using the base 10 system, to 1,000,000
Automatically recall and use basic number facts
Expand written addition and subtraction to 1,000,000
Review division and multiplication by a 1-digit number
Multiplication and division by multiples of 10
Multiplication and division with 2-digit numbers as the multiplicand, multiplier, dividend and divisor
Create and solve multiple digit multiplication and division problems
Find factors, common factors, and the greatest common factor (GCF) between numbers
Find multiples, common multiples, and the least common multiple (LCM) between numbers
Read, write and model the addition and subtraction of decimals to the tenths place
Round decimals with tenths to the nearest whole number
Develop number sense by comparing and using different symbols e.g. $7000 - 2000 = 4000 + 1000$
Select and defend the most appropriate and efficient method of solving a problem: mental estimation, mental arithmetic, etc.
Mental arithmetic in the number range of 10,000; later up to 100,000

Use the correct terms for the different operations, also correct spelling; (addend, sum); (minuend, subtrahend, difference); (multiplicand, multiplier, product); (dividend, divisor, quotient)
Solve real-life word problems using all operations up to 1,000,000 – two or three steps
<b>Pattern and Functions</b>
Understand and use the relationship between multiplication and addition
Understand and use the relationship between multiplication and division (inverse function)
Understand and use the relationship between division and subtraction
Model and explain number patterns
Use real-life problems to create a number pattern, following a rule
<b>Measurement</b>
Revise all measurements and conversions from Grade 3: length, mass, and time
Select and use appropriate standard units of measurement when estimating, describing, comparing and measuring
Use measuring tools, with simple scales, accurately
Understand that the accuracy of a measurement depends on the situation and the precision of the tools
Determine the difference between area and perimeter
Estimate, measure, calculate, label and compare, using formal methods and standard units of measurement, the dimensions of perimeter and area (rectangles, squares, composite figures)
Introduce $m^2$ to $dm^2$ ; $km^2$ to $m^2$ by interaction and investigation
Understand that an angle is a measure of a rotation
Measure and construct angles in degrees using a protractor
Use and construct timetables (12-hour and 24-hour) and time lines
Measure time: seconds, 24h-clock, duration of time; Difference between duration and point of time
Solve real-life word problems with measurement with two or three steps
Calculate elapsed time in 5 minute intervals.
<b>Shape and space</b>
Use the geometric vocabulary of 2-D and 3-D shapes: parallel, edge, vertex

Understand and use the vocabulary of types of angles: obtuse, acute, straight, and right
Estimate, measure and draw angles
Understand and use the vocabulary of lines: parallel, perpendicular, horizontal, and vertical
Draw perpendicular and parallel lines using a ruler and a set square
Describe, classify, and model 3-D shapes
Turn a 2-D shape into a 3-D shape and vice versa
Solve real-life word problems with shape and space with two or three steps
<b>Data Handling</b>
Design a survey and systematically collect, organize, and record the data in displays: pictograph, bar graph, circle graph (pie chart), line graph
Create, interpret, discuss and compare data displays (pictograph, pie chart, bar/line graph) including how well they communicate information
Find, describe and explain the range, mode, median, and mean in a set of data and understand their use
Solve real-life word problems with data handling with two or three steps