



# Mathematics - Grade 5

## 2022 - 23

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

Number
Read, write, model and calculate, using the base 10 system, with numbers to millions and beyond; and to thousandths and beyond
Automatically recall and use basic number facts and be able to use various mental maths strategies
Create and solve multiple digit multiplication and division problems
Model addition and subtraction of fractions with the same and related denominators
Read, write and model improper fractions and mixed numbers
Model equivalency of fractions: e.g. $\frac{2}{4} = \frac{1}{2}$
Simplify fractions
Use the mathematical vocabulary of fractions: e.g. improper, mixed numbers, denominator, numerator
Read, write and model the addition and subtraction of decimals to the thousandths
Round decimals to a given place or whole number
Read, write and model percentages
Interchange fractions, percentages and decimals
Read, write and model integers
Select and defend the most appropriate and efficient method of solving a problem: mental estimation, mental arithmetic
Real-life word problems with all operations; using fractions, measurements decimals and percentages
Investigate factors and multiples including greatest common factor and lowest common multiples.

Continue to use the correct terms for the different operations, also correct spelling; (addend, sum); (minuend, subtrahend, difference); (multiplicand, multiplier, product); (dividend, divisor, quotient)
Use simple ratios
Understand and solve real-life problems using probability
<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 patterns
Use real-life problems to create a number pattern, following a rule
Real-life word problems with pattern and functions
Students investigate patterns including square numbers, triangle numbers, cube numbers, arithmetic progressions and geometric progressions.
<b>Measurement</b>
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
Develop the relationships between area, perimeter, surface area and volume
Estimate, measure, label and compare, using formal methods and standard units of measurement, the dimensions of area, perimeter and volume
Use decimal notation in measurement: e.g. 3.2 cm, 1.47 kg, 1.63 euros
Understand that an angle is a measure of rotation
Measure and construct angles in degrees using a protractor
Use and construct timetables (12-hour and 24-hour) and time lines
Do a full range of calculations with money. Including calculation of percentages and fractions of money.

Solve real life money problems, for example budgeting and basic financial sense.
Solve real-life word problems with different measurement (multi-step)
Determine and work with times worldwide
Convert times and elapsed time, including with fractions.
Solve real-life problems with time
<b>Shape and space</b>
Use geometric vocabulary of 2-D and 3-D shapes: e.g. parallel, edge, vertex
Understand and use the vocabulary of types of angle: obtuse, acute, straight and reflex
Understand and use geometric vocabulary for circles: diameter, radius and circumference
Use a pair of compasses
Understand and use the vocabulary of lines, rays and segments: parallel, perpendicular
Describe, classify and model 3-D shapes
Turn a 2-D net into a 3-D shape and vice versa
Draw and use scale (ratios) to enlarge and describe position
Read and plot coordinates in four quadrants
Real-life word problems with shape and space
<b>Data Handling</b>
Design and survey and systematically collect, organize and record the data in displays: pictograph, bar graph, circle graph (pie chart), line graph, etc.
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
Create and manipulate an electronic database for their own purposes
Set up a spreadsheet
Understanding and using simple probability
Solve real-life word problems with data handling with multiple steps