Grade 8

The following are highlights of student learning in Grade 8. They are provided to give teachers and parents a quick overview of the mathematical knowledge and skills that students are expected to acquire in each strand in this grade. The expectations on the pages that follow outline the required knowledge and skills in detail and provide information about the ways in which students are expected to demonstrate their learning, how deeply they will explore concepts and at what level of complexity they will perform procedures, and the mathematical processes they will learn and apply throughout the grade.

Number Sense and Numeration: representing and ordering rational numbers; representing numbers using exponential notation; solving multi-step problems involving whole numbers and decimals; multiplying and dividing fractions and integers; multiplying and dividing decimals by powers of ten; applying order of operations in expressions with brackets and exponents; solving problems involving percents to one decimal place and percents greater than 100; solving problems involving rates and proportions

Measurement: converting between cubic centimetres and cubic metres and between millilitres and cubic centimetres; developing circumference and area relationships for a circle; developing and applying the formula for the volume of a cylinder; determining and applying surface-area relationships for cylinders

Geometry and Spatial Sense: sorting quadrilaterals by geometric properties involving diagonals; constructing circles; investigating relationships among similar shapes; determining and applying angle relationships for parallel and intersecting lines; relating the numbers of faces, edges, and vertices of a polyhedron; determining and applying the Pythagorean relationship geometrically; plotting the image of a point on the coordinate plane after applying a transformation

Patterning and Algebra: representing the general term in a linear sequence, using one or more algebraic expressions; translating statements, using algebraic equations; finding the term number in a pattern algebraically when given any term; solving linear equations involving one-variable terms with integer solutions using a "balance" model

Data Management and Probability: collecting categorical, discrete, and continuous data; organizing data into intervals; displaying data using histograms and scatter plots; using measures of central tendency to compare sets of data; comparing two attributes using data management tools; comparing experimental and theoretical probabilities; calculating the probability of complementary events