

GRADE 6 - MATH CURRICULUM CHECKLIST

STRAND A - SEL & MATHEMATICAL PROCESSES

A1 Overall: apply, to the best of their ability, a variety of social-emotional learning skills to support their use of the mathematical processes and their learning in connection with the expectations in the other five strands of the mathematics curriculum

MATHEMATICAL PROCESSES	P	T1	T2	Notes and Assessments
problem solving: develop, select, and apply problem-solving strategies				
reasoning and proving: develop and apply reasoning skills (e.g., classification, recognition of relationships, use of counter-examples) to justify thinking, make and investigate conjectures, and construct and defend arguments				
reflecting: demonstrate that as they solve problems, they are pausing, looking back, and monitoring their thinking to help clarify their understanding (e.g., by comparing and adjusting strategies used, by explaining why they think their results are reasonable, by recording their thinking in a math journal)				
connecting: make connections among mathematical concepts, procedures, and representations, and relate mathematical ideas to other contexts (e.g., other curriculum areas, daily life, sports)				
communicating: express and understand mathematical thinking, and engage in mathematical arguments using everyday language, language resources as necessary, appropriate mathematical terminology, a variety of representations, and mathematical conventions				
representing: select from and create a variety of representations of mathematical ideas (e.g., representations involving physical models, pictures, numbers, variables, graphs), and apply them to solve problems				
selecting tools and strategies: select and use a variety of concrete, visual, and electronic learning tools and appropriate strategies to investigate mathematical ideas and to solve problems				

GRADE 6 - STRAND A - SEL & MATHEMATICAL PROCESSES

CRITERIA	P	T1	T2	Notes and Assessments
1. express and manage their feelings, and show understanding of the feelings of others, as they engage positively in mathematics activities				
2. work through challenging math problems, understanding that their resourcefulness in using various strategies to respond to stress is helping them build personal resilience				
3. recognize that testing out different approaches to problems and learning from mistakes is an important part of the learning process, and is aided by a sense of optimism and hope				
4. work collaboratively on math problems – expressing their thinking, listening to the thinking of others, and practising inclusivity – and in that way fostering healthy relationships				
5. see themselves as capable math learners, and strengthen their sense of ownership of their learning, as part of their emerging sense of identity and belonging				
6. make connections between math and everyday contexts to help them make informed judgements and decisions				

GRADE 6 - STRAND B - NUMBER

B1. Number Sense - demonstrate an understanding of numbers and make connections to the way numbers are used in everyday life

SPECIFIC EXPECTATION GRADE 6	P	T1	T2	Notes and Assessments
Rational Numbers B1.1 read and represent whole numbers up to and including one million, using appropriate tools and strategies, and describe various ways they are used in everyday life				
B1.2 read and represent integers, using a variety of tools and strategies, including horizontal and vertical number lines				
B1.3 compare and order integers, decimal numbers, and fractions, separately and in combination, in various contexts				
Fractions, Decimals, and Percents B1.4 read, represent, compare, and order decimal numbers up to thousandths, in various contexts				
B1.5 round decimal numbers, both terminating and repeating, to the nearest tenth, hundredth, or whole number, as applicable, in various contexts				
B1.6 describe relationships and show equivalences among fractions and decimal numbers up to thousandths, using appropriate tools and drawings, in various contexts				

GRADE 6 - STRAND B - NUMBER

B2. Operations - use knowledge of numbers and operations to solve mathematical problems encountered in everyday life

SPECIFIC EXPECTATION GRADE 6	P	T1	T2	Notes and Assessments
Properties and Relationships B2.1 use the properties of operations, and the relationships between operations, to solve problems involving whole numbers, decimal numbers, fractions, ratios, rates, and whole number percents, including those requiring multiple steps or multiple operations				
Math Facts B2.2 understand the divisibility rules and use them to determine whether numbers are divisible by 2, 3, 4, 5, 6, 8, 9, and 10				
Mental Math B2.3 use mental math strategies to calculate percents of whole numbers, including 1%, 5%, 10%, 15%, 25%, and 50%, and explain the strategies used				
Addition and Subtraction B2.4 represent and solve problems involving the addition and subtraction of whole numbers and decimal numbers, using estimation and algorithms				
B2.5 add and subtract fractions with like and unlike denominators, using appropriate tools, in various contexts				
Multiplication and Division B2.6 represent composite numbers as a product of their prime factors, including through the use of factor trees				
B2.7 represent and solve problems involving the multiplication of three-digit whole numbers by decimal tenths, using algorithms				
B2.8 represent and solve problems involving the division of three-digit whole numbers by decimal tenths, using appropriate tools, strategies, and algorithms, and expressing remainders as appropriate				
B2.9 multiply whole numbers by proper fractions, using appropriate tools and strategies				
B2.10 divide whole numbers by proper fractions, using appropriate tools and strategies				
B2.11 represent and solve problems involving the division of decimal numbers up to thousandths by whole numbers up to 10, using appropriate tools and strategies				
B2.12 solve problems involving ratios, including percents and rates, using appropriate tools and strategies				

GRADE 6 - STRAND C - ALGEBRA

C1. Patterns and Relationships - identify, describe, extend, create, and make predictions about a variety of patterns, including those found in real-life contexts

SPECIFIC EXPECTATION GRADE 6	P	T1	T2	Notes and Assessments
Patterns C1.1 identify and describe repeating, growing, and shrinking patterns, including patterns found in real-life contexts, and specify which growing patterns are linear				
C1.2 create and translate repeating, growing, and shrinking patterns using various representations, including tables of values, graphs, and, for linear growing patterns, algebraic expressions and equations				
C1.3 determine pattern rules and use them to extend patterns, make and justify predictions, and identify missing elements in repeating, growing, and shrinking patterns, and use algebraic representations of the pattern rules to solve for unknown values in linear growing patterns				
C1.4 create and describe patterns to illustrate relationships among whole numbers and decimal numbers				

C2. Equations and Inequalities - demonstrate an understanding of variables, expressions, equations, and inequalities, and apply this understanding in various contexts

SPECIFIC EXPECTATION GRADE 6	P	T1	T2	Notes and Assessments
Variables and Expressions C2.1 add monomials with a degree of 1 that involve whole numbers, using tools				
C2.2 evaluate algebraic expressions that involve whole numbers and decimal tenths				
Equalities and Inequalities C2.3 solve equations that involve multiple terms and whole numbers in various contexts, and verify solutions				
C2.4 solve inequalities that involve two operations and whole numbers up to 100, and verify and graph the solutions				

GRADE 6 - STRAND C - ALGEBRA

C3. Coding - solve problems and create computational representations of mathematical situations using coding concepts and skills

SPECIFIC EXPECTATION GRADE 6	P	T1	T2	Notes and Assessments
Coding Skills C3.1 solve problems and create computational representations of mathematical situations by writing and executing efficient code, including code that involves conditional statements and other control structures				
C3.2 read and alter existing code, including code that involves conditional statements and other control structures, and describe how changes to the code affect the outcomes and the efficiency of the code				

C4. Mathematical Modelling - apply the process of mathematical modelling to represent, analyse, make predictions, and provide insight into real-life situations

This overall expectation has no specific expectations. Mathematical modelling is an iterative and interconnected process that is applied to various contexts, allowing students to bring in learning from other strands. Students' demonstration of the process of mathematical modelling, as they apply concepts and skills learned in other strands, is assessed and evaluated.

OVERALL EXPECTATION	P	T1	T2	Notes and Assessments
apply the process of mathematical modelling to represent, analyse, make predictions, and provide insight into real-life situations				

GRADE 6 - STRAND D - DATA

D1. Data Literacy - manage, analyse, and use data to make convincing arguments and informed decisions, in various contexts drawn from real life

SPECIFIC EXPECTATION GRADE 6	P	T1	T2	Notes and Assessments
Data Collection and Organization D1.1 describe the difference between discrete and continuous data, and provide examples of each				
D1.2 collect qualitative data and discrete and continuous quantitative data to answer questions of interest about a population, and organize the sets of data as appropriate, including using intervals				
Data Visualization D1.3 select from among a variety of graphs, including histograms and broken-line graphs, the type of graph best suited to represent various sets of data; display the data in the graphs with proper sources, titles, and labels, and appropriate scales; and justify their choice of graphs				
D1.4 create an infographic about a data set, representing the data in appropriate ways, including in tables, histograms, and broken-line graphs, and incorporating any other relevant information that helps to tell a story about the data				
Data Analysis D1.5 determine the range as a measure of spread and the measures of central tendency for various data sets, and use this information to compare two or more data sets				
D1.6 analyse different sets of data presented in various ways, including in histograms and broken-line graphs and in misleading graphs, by asking and answering questions about the data, challenging preconceived notions, and drawing conclusions, then make convincing arguments and informed decisions				

GRADE 6 - STRAND D - DATA

D2. Probability - describe the likelihood that events will happen, and use that information to make predictions

SPECIFIC EXPECTATION GRADE 6	P	T1	T2	Notes and Assessments
Probability D2.1 use fractions, decimals, and percents to express the probability of events happening, represent this probability on a probability line, and use it to make predictions and informed decisions				
D2.2 determine and compare the theoretical and experimental probabilities of two independent events happening				

GRADE 6 - STRAND E - SPATIAL SENSE

E1. Geometric and Spatial Reasoning - describe and represent shape, location, and movement by applying geometric properties and spatial relationships in order to navigate the world around them

SPECIFIC EXPECTATION GRADE 6	P	T1	T2	Notes and Assessments
Geometric Reasoning E1.1 create lists of geometric properties of various types of quadrilaterals, including the properties of the diagonals, rotational symmetry, and line symmetry				
E1.2 construct three-dimensional objects when given their top, front, and side views				
Location and Movement E1.3 plot and read coordinates in all four quadrants of a Cartesian plane, and describe the translations that move a point from one coordinate to another				
E1.4 describe and perform combinations of translations, reflections, and rotations up to 360° on a grid, and predict the results of these transformations				

GRADE 6 - STRAND E - SPATIAL SENSE

E2. Measurement - compare, estimate, and determine measurements in various contexts

SPECIFIC EXPECTATION GRADE 6	P	T1	T2	Notes and Assessments
The Metric System E2.1 measure length, area, mass, and capacity using the appropriate metric units, and solve problems that require converting smaller units to larger ones and vice versa				
Angles E2.2 use a protractor to measure and construct angles up to 360° , and state the relationship between angles that are measured clockwise and those that are measured counter-clockwise				
E2.3 use the properties of supplementary angles, complementary angles, opposite angles, and interior and exterior angles to solve for unknown angle measures				
Area and Surface Area E2.4 determine the areas of trapezoids, rhombuses, kites, and composite polygons by decomposing them into shapes with known areas				
E2.5 create and use nets to demonstrate the relationship between the faces of prisms and pyramids and their surface areas				
E2.6 determine the surface areas of prisms and pyramids by calculating the areas of their two-dimensional faces and adding them together				

GRADE 6 - STRAND F - FINANCIAL LITERACY

F1. Money and Finances - demonstrate the knowledge and skills needed to make informed financial decisions

SPECIFIC EXPECTATION GRADE 6	P	T1	T2	Notes and Assessments
Money Concepts F1.1 describe the advantages and disadvantages of various methods of payment that can be used to purchase goods and services				
Financial Management F1.2 identify different types of financial goals, including earning and saving goals, and outline some key steps in achieving them				
F1.3 identify and describe various factors that may help or interfere with reaching financial goals				
Consumer and Civic Awareness F1.4 explain the concept of interest rates, and identify types of interest rates and fees associated with different accounts and loans offered by various banks and other financial institutions				
F1.5 describe trading, lending, borrowing, and donating as different ways to distribute financial and other resources among individuals and organizations				