

GRADE 5 - 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 5 - 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 5 - 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 5	P	T1	T2	Notes and Assessments
Whole Numbers B1.1 read, represent, compose, and decompose whole numbers up to and including 100 000, using appropriate tools and strategies, and describe various ways they are used in everyday life				
B1.2 compare and order whole numbers up to and including 100 000, in various contexts				
Fractions, Decimals, and Percents B1.3 represent equivalent fractions from halves to twelfths, including improper fractions and mixed numbers, using appropriate tools, in various contexts				
B1.4 compare and order fractions from halves to twelfths, including improper fractions and mixed numbers, in various contexts				
B1.5 read, represent, compare, and order decimal numbers up to hundredths, in various contexts				
B1.6 round decimal numbers to the nearest tenth, in various contexts				
B1.7 describe relationships and show equivalences among fractions, decimal numbers up to hundredths, and whole number percents, using appropriate tools and drawings, in various contexts				

Grade 5 - STRAND B - NUMBER

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

SPECIFIC EXPECTATION GRADE 5	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 and decimal numbers, including those requiring more than one operation, and check calculations				
Math Facts B2.2 recall and demonstrate multiplication facts from 0×0 to 12×12 , and related division facts				
Mental Math B2.3 use mental math strategies to multiply whole numbers by 0.1 and 0.01 and estimate sums and differences of decimal numbers up to hundredths, and explain the strategies used				
Addition and Subtraction B2.4 represent and solve problems involving the addition and subtraction of whole numbers that add up to no more than 100 000, and of decimal numbers up to hundredths, using appropriate tools, strategies, and algorithms				
B2.5 add and subtract fractions with like denominators, in various contexts				
Multiplication and Division B2.6 represent and solve problems involving the multiplication of two-digit whole numbers by two-digit whole numbers using the area model and using algorithms, and make connections between the two methods				
B2.7 represent and solve problems involving the division of three-digit whole numbers by two-digit whole numbers using the area model and using algorithms, and make connections between the two methods, while expressing any remainder appropriately				
B2.8 multiply and divide one-digit whole numbers by unit fractions, using appropriate tools and drawings				
B2.9 represent and create equivalent ratios and rates, using a variety of tools and models, in various contexts				

Grade 5 - 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 5	P	T1	T2	Notes and Assessments
Patterns C1.1 identify and describe repeating, growing, and shrinking patterns, including patterns found in real-life contexts				
C1.2 create and translate growing and shrinking patterns using various representations, including tables of values and graphs				
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				
C1.4 create and describe patterns to illustrate relationships among whole numbers and decimal tenths and hundredths				

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

SPECIFIC EXPECTATION GRADE 5	P	T1	T2	Notes and Assessments
Variables and Expressions C2.1 translate among words, algebraic expressions, and visual representations that describe equivalent relationships				
C2.2 evaluate algebraic expressions that involve whole numbers				
Equalities and Inequalities C2.3 solve equations that involve whole numbers up to 100 in various contexts, and verify solutions				
C2.4 solve inequalities that involve one operation and whole numbers up to 50, and verify and graph the solutions				

Grade 5 - STRAND C - ALGEBRA

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

SPECIFIC EXPECTATION GRADE 5	P	T1	T2	Notes and Assessments
Coding Skills C3.1 solve problems and create computational representations of mathematical situations by writing and executing 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				

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 5 - 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 5	P	T1	T2	Notes and Assessments
Data Collection and Organization D1.1 explain the importance of various sampling techniques for collecting a sample of data that is representative of a population				
D1.2 collect data, using appropriate sampling techniques as needed, to answer questions of interest about a population, and organize the data in relative frequency tables				
Data Visualization D1.3 select from among a variety of graphs, including stacked-bar 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 relative-frequency tables and stacked bar graphs, and incorporating any other relevant information that helps to tell a story about the data				
Data Analysis D1.5 determine the mean and the median and identify the mode(s), if any, for various data sets involving whole numbers and decimal numbers, and explain what each of these measures indicates about the data				
D1.6 analyse different sets of data presented in various ways, including in stacked-bar 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 5 - STRAND D - DATA

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

SPECIFIC EXPECTATION GRADE 5	P	T1	T2	Notes and Assessments
Probability D2.1 use fractions 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 an event happening				

Grade 5 - 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 5	P	T1	T2	Notes and Assessments
Geometric Reasoning E1.1 identify geometric properties of triangles, and construct different types of triangles when given side or angle measurements				
E1.2 identify and construct congruent triangles, rectangles, and parallelograms				
E1.3 draw top, front, and side views of objects, and match drawings with objects				
Location and Movement E1.4 plot and read coordinates in the first quadrant of a Cartesian plane using various scales, and describe the translations that move a point from one coordinate to another				
E1.5 describe and perform translations, reflections, and rotations up to 180° on a grid, and predict the results of these transformations				

Grade 5 - STRAND E - SPATIAL SENSE

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

SPECIFIC EXPECTATION GRADE 5	P	T1	T2	Notes and Assessments
The Metric System E2.1 use appropriate metric units to estimate and measure length, area, mass, and capacity				
E2.2 solve problems that involve converting larger metric units into smaller ones, and describe the base ten relationships among metric units				
Angles E2.3 compare angles and determine their relative size by matching them and by measuring them using appropriate non-standard units				
E2.4 explain how protractors work, use them to measure and construct angles up to 180° , and use benchmark angles to estimate the size of other angles				
Area E2.5 use the area relationships among rectangles, parallelograms, and triangles to develop the formulas for the area of a parallelogram and the area of a triangle, and solve related problems				
E2.6 show that two-dimensional shapes with the same area can have different perimeters, and solve related problems				

Grade 5 - STRAND F - FINANCIAL LITERACY

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

SPECIFIC EXPECTATION GRADE 5	P	T1	T2	Notes and Assessments
Money Concepts F1.1 describe several ways money can be transferred among individuals, organizations, and businesses				
F1.2 estimate and calculate the cost of transactions involving multiple items priced in dollars and cents, including sales tax, using various strategies				
Financial Management F1.3 design sample basic budgets to manage finances for various earning and spending scenarios				
F1.4 explain the concepts of credit and debt, and describe how financial decisions may be impacted by each				
Consumer and Civic Awareness F1.5 calculate unit rates for various goods and services, and identify which rates offer the best value				
F1.6 describe the types of taxes that are collected by the different levels of government in Canada, and explain how tax revenue is used to provide services in the community				