

WNCP B.C. GRADE 5, 6 & 7 MATHEMATICS AT A GLANCE

NOTE: Text in *italics* is from the suggested achievement indicators.

STRAND: NUMBER

General Outcome: Develop number sense.

Grade 5 Prescribed Learning Outcomes	Grade 6 Prescribed Learning Outcomes	Grade 7 Prescribed Learning Outcomes
A1 Represent and describe whole numbers to 1 000 000.	A1 Demonstrate an understanding of place value numbers: (a) greater than one million (b) less than one thousandth.	
A2 Use estimation strategies in problem-solving contexts, including: (a) front-end rounding (b) compensation (c) compatible numbers	A2 Solve problems involving large numbers, using technology.	
A3 Apply mental mathematics strategies & number properties, such as: (a) skip counting from a known fact (b) using doubling or halving (c) using patterns in the 9s facts (d) using repeated doubling or halving to determine (<i>recall</i>) answers for basic multiplication facts to 81 and related division facts.	A3 Demonstrate an understanding of factors and multiples (<i>concretely, pictorially and symbolically</i>) by: (a) determining multiples & factors of numbers less than 100 (b) identifying prime and composite numbers (c) solving problems involving multiples.	A1 Determine and explain why a number is divisible by 2, 3, 4, 5, 6, 8, 9 or 10 and why a number cannot be divided by 0.
A4 Apply mental mathematics strategies for multiplication, such as: (a) annexing then adding zero (b) halving and doubling (c) using the distributive property.	May be reviewed but do not assess	
A5 Demonstrate an understanding of 2-digit by 2-digit multiplication (<i>concretely, pictorially and symbolically</i>) to solve problems.		
A6 Demonstrate, with and without concrete materials, an understanding of division (3-digit by 1-digit) and interpret remainders to solve problems.		
A7 Demonstrate an understanding of fractions using concrete and pictorial representations to: (a) create sets of equivalent fractions (b) compare fractions with like and unlike denominators.	A4 Relate improper fractions to mixed numbers (<i>using models</i>).	A7 Compare and order positive fractions, positive decimals (to 1000ths) and whole numbers, by using: (a) benchmarks (b) place value (c) equivalent fractions and/or decimals
A8 Describe & represent decimals (tenths, hundredths and thousandths) concretely, pictorially & symbolically.		A4 Demonstrate an understanding of the relationship between positive repeating decimals and positive fractions, and positive terminating decimals and positive fractions.
A9 Relate decimals to fractions (to thousandths).		A5 Demonstrate an understanding of adding and subtracting positive fractions and mixed numbers, with like and unlike denominators, concretely, pictorially and symbolically (limited to positive sums and differences).
A10 Compare and order decimals (to thousandths) by using: (a) benchmarks (b) place value (c) equivalent decimals.	May be reviewed / explored but do not assess	A2 Demonstrate an understanding of the addition, subtraction, multiplication and division of decimals (for more than 1-digit divisors or 2-digit multipliers, the use of technology is expected) to solve problems.
A11 Demonstrate an understanding of addition and subtraction of decimal fractions (limited to thousandths).	A8 Demonstrate an understanding of multiplication and division of decimals (1-digit whole number multipliers and 1-digit natural number divisors). A5 Demonstrate an understanding of ratio, concretely, pictorially and symbolically. A6 Demonstrate an understanding of percent (limited to whole numbers), concretely, pictorially and symbolically. A7 Demonstrate an understanding of integers, concretely, pictorially and symbolically. A9 Explain & apply the order of operations, excluding exponents, with and without technology (limited to whole numbers).	May be reviewed but do not assess
May be explored informally but do not assess		A3 Solve problems involving percent from 1% to 100%.
		A6 Demonstrate an understanding of addition and subtraction of integers, concretely, pictorially and symbolically.
		May be reviewed but do not assess

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STRAND: STATISTICS & PROBABILITY (DATA ANALYSIS)

General Outcome: Collect, display and analyze data to solve problems.

Grade 5 Prescribed Learning Outcomes	Grade 6 Prescribed Learning Outcomes	Grade 7 Prescribed Learning Outcomes
D1 Differentiate between first-hand and second-hand data.	May be reviewed but do not assess	
D2 Construct/interpret double bar graphs to draw conclusions.	D1 Construct, label and interpret line graphs to draw conclusions. D2 Select, justify and use appropriate methods of collecting data, including: (a) questionnaires (b) experiments (c) databases (d) electronic media.	D3 Construct, label and interpret circle graphs to solve problems.
May be explored informally but do not assess	May be explored informally but do not assess	May be reviewed but do not assess
		D1 Demonstrate an understanding of central tendency and range by: (a) determining the measures of central tendency (mean, median, mode) and range (b) determining the most appropriate measures of central tendency to report findings.
		D2 Determine the effect on the mean, median and mode when an outlier is included in a data set.

STRAND: STATISTICS & PROBABILITY (CHANCE AND UNCERTAINTY)

General Outcome: Use experimental or theoretical probabilities to represent & solve problems involving uncertainty.

D3 Describe the likelihood of a single outcome occurring using words such as: (a) impossible (b) possible (c) certain.	D4 Demonstrate an understanding of probability (<i>with and without technology</i>) by: (a) identifying all possible outcomes of a probability experiment (b) differentiating between experimental and theoretical probability (c) determining the theoretical probability of outcomes in a probability experiment (d) determining the experimental probability of outcomes in a probability experiment (e) comparing experimental results with the theoretical probability for an experiment.	D4 Express probabilities as ratios, fractions and percents.
D4 Compare the likelihood of two possible outcomes occurring using words such as: (a) less likely (b) equally likely (c) more likely.		D5 Identify the sample space (where the combined sample space has 36 or fewer elements) for a probability experiment involving two independent events.
May be explored informally but do not assess		D6 Conduct a probability experiment to compare the theoretical probability (determined using a tree diagram, table or other graphic organizer) and experimental probability of two independent events (<i>with and without technology</i>).

STRAND: PATTERNS AND RELATIONS (PATTERNS)

General Outcome: Use patterns to describe the world and solve problems.

B1 Determine the pattern rule to make predictions about subsequent elements (<i>with and without concrete materials</i>).	May be reviewed but do not assess	
May be explored informally but do not assess	B1 Demonstrate an understanding of the relationships within tables of values to solve problems (<i>concretely, pictorially and symbolically</i>). B2 Represent and describe patterns and relationships using graphs and tables.	May be reviewed but do not assess
	May be explored informally but do not assess	B1 Demonstrate an understanding of oral and written patterns and their equivalent linear relations. B2 Create a table of values from a linear relation, graph the table of values and analyze the graph to draw conclusions to solve problems.

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STRAND: PATTERNS & RELATIONS (VARIABLES & EQUATIONS)

General Outcome: Represent algebraic expressions in multiple ways.

Grade 5 Prescribed Learning Outcomes	Grade 6 Prescribed Learning Outcomes	Grade 7 Prescribed Learning Outcomes
B2 Solve problems involving single-variable, one-step equations with whole number coefficients and whole number solutions.	B3 Represent generalizations arising from number relationships using equations with letter variables. B4 Demonstrate and explain the meaning of preservation of equality concretely, pictorially and symbolically.	B5 Evaluate an expression given the value of the variable(s). B3 Demonstrate and explain the meaning of preservation of equality by: (a) modeling preservation of equality concretely, pictorially, and symbolically (b) applying preservation of equality to solve equations. B4 Explain the difference between an expression and an equation. B6 Model and solve problems that can be represented by one-step linear equations of the form $x + a = b$, concretely, pictorially and symbolically, where a and b are integers. B7 Model and solve problems that can be represented by linear equations of the form: $ax + b = c$ $ax = b$ $\frac{x}{a} = b$ $a \neq 0$ concretely, pictorially and symbolically, where a , b and c are whole numbers.
May be explored informally but do not assess	May be explored informally but do not assess	

STRAND: SHAPE AND SPACE (MEASUREMENT)

General Outcome: Use direct or indirect measurement to solve problems.

C1 Design and construct different rectangles given either perimeter, or area, or both (whole numbers) and draw conclusions.	C3 Develop and apply a formula for determining the: (a) perimeter of polygons (b) area of rectangles (c) volume of right rectangular prisms.	C2 Develop & apply a formula for determining the area of: (a) triangles (b) parallelograms (c) circles.
C2 Demonstrate an understanding of measuring length (mm) by: (a) selecting and justifying referents for the unit mm (b) modelling and describing the relationship between mm and cm units, and between mm and m units.		
C3 Demonstrate an understanding of volume by: (a) selecting & justifying referents for cm^3 or m^3 (b) estimating volume using referents for cm^3 or m^3 (c) measuring and recording volume (cm^3 or m^3) (d) constructing rectangular prisms for a given volume.		
C4 Demonstrate an understanding of capacity by: (a) describing the relationship between mL and L (b) selecting and justifying referents for mL or L units (c) estimating capacity by using referents for mL or L (d) measuring and recording capacity (mL or L).	May be reviewed but do not assess	

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STRAND: SHAPE AND SPACE (MEASUREMENT) (continued)

General Outcome: Use direct or indirect measurement to solve problems.

Grade 5 Prescribed Learning Outcomes	Grade 6 Prescribed Learning Outcomes	Grade 7 Prescribed Learning Outcomes
May be explored informally but do not assess	<p>C1 Demonstrate an understanding of angles by:</p> <p>(a) identifying examples of angles in the environment (b) classifying angles according to their measure (c) estimating the measure of angles using 45°, 90° and 180° as reference angles (d) determining angle measures in degrees (e) drawing /labelling angles when measure specified.</p> <p>C2 Demonstrate the sum of interior angles is: (a) 180° in a triangle (b) 360° in a quadrilateral.</p>	<p>C1 Demonstrate an understanding of circles by:</p> <p>(a) describing the relationships among radius, diameter and circumference of circles (b) relating circumference to pi (c) determining the sum of the central angles (d) constructing circles with a given radius or diameter (e) solving problems involving the radii, diameters and circumferences of circles.</p> <p style="text-align: center;">May be reviewed but do not assess</p>

STRAND: SHAPE AND SPACE (3-D OBJECTS & 2-D SHAPES)

General Outcome: Describe the characteristics of 3-D objects and 2-D shapes, and analyze the relationships among them.

<p>C5 Describe and provide examples of edges and faces of 3-D objects, and sides of 2-D shapes that are: (a) parallel (b) intersecting (c) perpendicular (d) vertical (e) horizontal.</p> <p>C6 Identify and sort quadrilaterals, according to their attributes, including: (a) rectangles (b) squares (c) trapezoids (d) parallelograms (e) rhombuses.</p>	May be reviewed but do not assess	
<p>Gr. 3 Sort regular and irregular polygons according to the number of sides</p>	May be explored informally but do not assess	May be reviewed but do not assess

STRAND: SHAPE AND SPACE (TRANSFORMATIONS)

General Outcome: Describe and analyze position and motion.

<p>C7 Perform a single transformation (translation, rotation or reflection) of a 2-D shape, with and without technology and draw and describe the image.</p> <p>C8 Identify a single transformation including a translation, rotation and reflection of 2-D shapes.</p>	<p>C6 Perform a combination of translation(s), rotation(s) and/or reflection(s) of a single 2-D shape, with and without technology, and draw and describe the image.</p> <p>C7 Perform a combination of successive transformations of 2-D shapes to create a design, and identify and describe the transformations.</p> <p>C8 Identify and plot points in the first quadrant of a cartesian plane (whole number ordered pairs)</p> <p>C9 Perform and describe single transformations of a 2-D shape in the first quadrant of a Cartesian plane (limited to whole number vertices).</p>	May be reviewed but do not assess
May be explored informally but do not assess	<p>C4 Identify and plot points in the four quadrants of a Cartesian plane using integral ordered pairs.</p> <p>C5 Perform and describe transformations (translations, rotations or reflections) of a 2-D shape in all 4 quadrants of a Cartesian plane (limited to integral number vertices).</p>	