

WNCP B.C. GRADE 5 & 6 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
A1 Represent and describe whole numbers to 1 000 000.	A1 Demonstrate an understanding of place value for numbers: (a) greater than one million (b) less than one thousandth.
A2 Use estimation strategies including: (a) front-end rounding (b) compensation (c) compatible numbers in problem-solving contexts.	A2 Solve problems involving large numbers, using technology.
A3 Apply mental mathematics strategies and 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 and factors of numbers less than 100 (b) identifying prime and composite numbers (c) solving problems involving multiples.
A4 Apply mental mathematics strategies for multiplication such as: (a) annexing then adding zero (b) halving and doubling (c) using distributive property.	May be reviewed but do not assess
A5 Demonstrate an understanding of multiplication (2-digit by 2-digit) to solve problems <i>concretely, pictorially and symbolically</i> .	
A6 Demonstrate, with and without concrete materials, an understanding of division (3-digit by 1-digit) and interpret remainders to solve problems <i>(remainders may be expressed as decimals or fractions)</i> .	
A7 Demonstrate an understanding of fractions by using concrete & pictorial representations to: (a) create sets of equivalent fractions (b) compare fractions with like and unlike denominators.	
A8 Describe and represent decimals (tenths, hundredths and thousandths) <i>concretely, pictorially and symbolically</i> .	May be reviewed but do not assess
A9 Relate decimals to fractions (to thousandths) <i>concretely, pictorially & symbolically</i> .	
A10 Compare and order decimals (to thousandths) by using: (a) benchmarks (b) place value (c) equivalent decimals.	
A11 Demonstrate an understanding of addition and subtraction of decimals (limited to thousandths).	A8 Demonstrate an understanding of multiplication and division of decimals (1- digit whole number multipliers and 1-digit natural number divisors).

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STRAND: NUMBER (continued)

Grade 5 Prescribed Learning Outcomes

May be explored informally but do not assess

Grade 6 Prescribed Learning Outcomes

- A5** Demonstrate an understanding of ratio, concretely, pictorially & symbolically.
- A6** Demonstrate an understanding of percent (limited to whole numbers), concretely, pictorially and symbolically.
- A7** Demonstrate an understanding of integers, concretely, pictorially & symbolically.
- A9** Illustrate and explain the order of operations, excluding exponents, with and without technology (limited to whole numbers).

STRAND: STATISTICS & PROBABILITY (DATA ANALYSIS)

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

D1 Differentiate between first-hand and second-hand data.

D2 Construct and interpret double bar graphs to draw conclusions.

May be explored informally but do not assess

May be reviewed but do not assess

D1 Create, 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 Graph collected data and analyze the graph to solve problems.

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 Compare the likelihood of two possible outcomes occurring using words such as:
(a) less likely (b) equally likely (c) more likely.

May be explored informally but do not assess

D4 Demonstrate an understanding of probability (*with & without technology*) 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.

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STRAND: PATTERNS AND RELATIONS (PATTERNS)

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

Grade 5 Prescribed Learning Outcomes

B1 Determine the pattern rule to make predictions about subsequent elements (*with and without concrete materials*).

May be explored informally but do not assess

Grade 6 Prescribed Learning Outcomes

May be reviewed but do not assess

B1 Demonstrate an understanding of the relationships within tables of values to solve problems (*concretely, pictorially and symbolically*).

B2 Represent and describe patterns and relationships using graphs and tables.

STRAND: PATTERNS & RELATIONS (VARIABLES & EQUATIONS)

General Outcome: Represent algebraic expressions in multiple ways.

B2 *Solve problems involving single-variable, one-step equations with whole number coefficients and whole number solutions.*

May be explored informally but do not assess

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.

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.

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 and justifying referents for cm^3 or m^3 units
 (b) estimating volume by 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).

C3 Develop and apply a formula for determining the:
 (a) perimeter of polygons
 (b) area of rectangles
 (c) volume of right rectangular prisms.

May be reviewed but do not assess

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STRAND: SHAPE AND SPACE (MEASUREMENT) (continued)

Grade 5 Prescribed Learning Outcomes	Grade 6 Prescribed Learning Outcomes
May be explored informally but do not assess	<p>C1 Demonstrate an understanding of angles by:</p> <ul style="list-style-type: none"> (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 and labelling angles when the measure is specified <p>C2 Demonstrate that the sum of interior angles is:</p> <ul style="list-style-type: none"> (a) 180° in a triangle (b) 360° in a quadrilateral.

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:</p> <ul style="list-style-type: none"> (a) parallel (b) intersecting (c) perpendicular (d) vertical (e) horizontal. 	May be reviewed but do not assess
<p>C6 Identify and sort quadrilaterals, including:</p> <ul style="list-style-type: none"> (a) rectangles (b) squares (c) trapezoids (d) parallelograms (e) rhombuses according to their attributes. 	<p>C4 Construct and compare triangles including:</p> <ul style="list-style-type: none"> (a) scalene (b) isosceles (c) equilateral (d) right (e) obtuse (f) acute in different orientations.
May be explored informally but do not assess	<p>C5 Describe and compare the sides and angles of regular & irregular polygons.</p>

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