WNCP B.C. MATHEMATICS AT A GLANCE OVERVIEW – GRADE 6

Mathematical Processes

C = Communication **PS = Problem Solving** **V = Visualization**
R = Reasoning **CN = Connections** **T = Technology**
ME = Mental Mathematics and Estimation

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

STRAND: NUMBER **General Outcome: Develop number sense** ***It is expected that students will:***	**Mathematical Processes**
A1 Demonstrate an understanding of place value for numbers: **(a)** greater than one million **(b)** less than one thousandth.	C CN R T
A2 Solve problems involving large numbers, using technology.	ME PS T
A3 Demonstrate an understanding of factors and multiples *(concretely, pictorially and symbolically)* by: **(a)** determining multiples and factors of numbers less than 100 **(b)** identifying prime and composite numbers **(c)** solving problems involving multiples.	PS R V
A4 Relate improper fractions to mixed numbers *(using models).*	CN ME R V
A5 Demonstrate an understanding of ratio, concretely, pictorially & symbolically.	C CN PS R V
A6 Demonstrate an understanding of percent (limited to whole numbers), concretely, pictorially & symbolically.	C CN PS R V
A7 Demonstrate an understanding of integers, concretely, pictorially & symbolically.	C CN R V
A8 Demonstrate an understanding of multiplication and division of decimals (1-digit whole number multipliers and 1-digit natural number divisors).	C CN ME PS R V
A9 Explain and apply the order of operations, excluding exponents, with and without technology (limited to whole numbers).	CN ME PS T

STRAND: STATISTICS & PROBABILITY (DATA ANALYSIS) **General Outcome: Collect, display and analyze data to solve problems.**	**Mathematical Processes**
D1 Create, label and interpret line graphs to draw conclusions.	C CN PS R V
D2 Select, justify and use appropriate methods of collecting data, including: **(a)** questionnaires **(b)** experiments **(c)** databases **(d)** electronic media.	C PS T
D3 Graph collected data and analyze the graph to solve problems.	C CN PS
STRAND: STATISTICS & PROBABILITY (CHANCE & UNCERTAINTY) **General Outcome: Use experimental or theoretical probabilities to represent and solve problems involving uncertainty.**	**Mathematical Processes**
D4 Demonstrate an understanding of probability *(with and 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.	C ME PS T

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STRAND: PATTERNS AND RELATIONS (PATTERNS) General Outcome: Use patterns to describe the world and solve problems.		Mathematical Processes
B1	Demonstrate an understanding of the relationships within tables of values to solve problems *(concretely, pictorially and symbolically).*	C CN PS R
B2	Represent and describe patterns and relationships using graphs and tables.	C CN ME PS R V
STRAND: PATTERNS & RELATIONS (VARIABLES & EQUATIONS) **General Outcome: Represent algebraic expressions in multiple ways.**		**Mathematical Processes**
B3	Represent generalizations arising from number relationships using equations with letter variables.	C CN PS R V
B4	Demonstrate and explain the meaning of preservation of equality concretely, pictorially and symbolically.	C CN PS R V

STRAND: SHAPE AND SPACE (MEASUREMENT) General Outcome: Use direct or indirect measurement to solve problems.		Mathematical Processes
C1	Demonstrate an understanding of angles by: **(a)** identifying examples of angles in the environment **(b)** classifying angles according to their measure **(c)** estimating the measure of angles using 45°, 90° & 180° as reference angles **(d)** determining angle measures in degrees **(e)** drawing and labelling angles when the measure is specified.	C CN ME V
C2	Demonstrate that the sum of interior angles is: **(a)** 180° in a triangle **(b)** 360° in a quadrilateral.	C R
C3	Develop and apply a formula for determining the: **(a)** perimeter of polygons **(b)** area of rectangles **(c)** volume of right rectangular prisms.	C CN PS R V
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.**		**Mathematical Processes**
C4	Construct and compare triangles, including: **(a)** scalene **(b)** isosceles **(c)** equilateral **(d)** right **(e)** obtuse **(f)** acute in different orientations.	C PS R V
C5	Describe and compare the sides and angles of regular and irregular polygons.	C PS R V
STRAND: SHAPE AND SPACE (TRANSFORMATIONS) **General Outcome: Describe and analyze position and motion.**		**Mathematical Processes**
C6	Perform a combination of translation(s), rotation(s) and/or reflection(s) on a single 2-D shape, with and without technology, and draw and describe the image.	C CN PS V T
C7	Perform a combination of successive transformations of 2-D shapes to create a design, and identify and describe the transformations.	C CN V T
C8	Identify & plot points in the first quadrant of a Cartesian plane using whole number ordered pairs.	C CN V
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).	C CN PS V T