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| **Unit –Time** | **BC Big Ideas (Understand)** | **BC Curricular Competencies (Do)** | **BC Content (Know)** | **Instructional Strategies/ Learning Activities** | **Materials & Resources** | **Assessment Methods/Assessment Date** | **Key Vocabulary** |
| **Unit 1:**  Number concepts to 10 000  Week 1, 3 weeks  Aug 29th - Sep 19th | **Students are expected to understand the following:**  We use patterns to represent identified regularities and to form generalization: The regular change in increasing and decreasing patterns can be identified. | **Students are expected to do the following:**  Use mathematical vocabulary and language to contribute to mathematical discussions  **Reasoning and analyzing:**  -Use reasoning to explore and make connections  **Understanding and solving:**  -Develop, demonstrate, and apply mathematical understanding through play, inquiry, and problem solving  -Visualize to explore mathematical concepts  **Communicating and representing:**  -Communicate mathematical thinking in many ways  -Use mathematical vocabulary and language to contribute to mathematical discussions  **Connecting and reflecting:**  -Incorporate First Peoples worldviews and perspectives to make connections to mathematical concepts | **Students are expected to know the following:**  counting: multiples flexible counting strategies whole number benchmarks Numbers to 10 000 can be arranged and recognized: comparing and ordering numbers estimating large quantities place value: 1000s, 100s, 10s, and 1s understanding the relationship between digit places and their value, to 10 000 | Representing and describing whole numbers  Comparing and ordering whole numbers  Representing and classifying whole numbers | Place value charts  Base ten blocks  Studyladder - online (Use grade 3 place value and number concepts until 10 000)  [www.studyladder.com](http://www.studyladder.com) (free)  Dynamic Classroom (DC) Math textbook  p2-24  Math Makes Sense Unit 2 Lessons 1 and 2  <http://cemc2.math.uwaterloo.ca/mathfrog/> worksheets (free) | Observe students using base ten blocks and place value charts to write numbers in expanded form.  One Questions quiz: Monday Tuesday, Wednesday  Multiplication  Quiz  Weekly cumulative quizzes  Class work (textbook/  workbook)  Entry slip  Exit slip  Common Unit Test date:  September 20th | Place Value  Expanded Notation  Numeral  Rounding |
| **Unit 2:**  Number operations  week 4  8 weeks  September 23rd - November 1st | **Students are expected to understand the following:**  Development of computational fluency and multiplicative thinking requires analysis of patterns and relations in multiplication and division. | **Students are expected to know the following:**  **Reasoning and analyzing:**  -Use reasoning to explore and make connections  -Develop mental math strategies and abilities to make sense of quantities  -Use technology to explore mathematics  **Understanding and solving:**  -Develop, demonstrate, and apply mathematical understanding through play, inquiry, and problem solving  -Develop and use multiple strategies to engage in problem solving  **Communicating and representing:**  -Communicate mathematical thinking in many ways  -Explain and justify mathematical ideas and decisions  **Connecting and reflecting:**  -Reflect on mathematical thinking | **Students are expected to do the following:**  addition and subtraction  using flexible computation strategies, involving taking apart (e.g., decomposing using friendly numbers and compensating) and combining numbers in a variety of ways, regrouping  estimating sums and differences to 10 000  using addition and subtraction in real-life contexts and problem-based situations  whole-class number talks  multiplication and division of two- or three-digit numbers by one-digit numbers  addition and subtraction facts to 20 (developing computational fluency)  multiplication and division facts to 100 (introductory computational strategies) | Addition and subtraction of numbers  Properties of 0 and 1 for multiplication and division.  Rounding numbers  Mental mathematics  Multiplication of numbers  Multiplication using a variety of methods  Division of numbers | **DC math pages**  **36-80**  Base ten blocks  snap cubes  Two color  counters  [http://cemc2.mat](http://cemc2.math.uwaterloo.ca/mathfrog/)  [h.uwaterloo.ca/m](http://cemc2.math.uwaterloo.ca/mathfrog/)  [athfrog/](http://cemc2.math.uwaterloo.ca/mathfrog/) (free)  [www.studyladder.com](http://www.studyladder.com) (free)  MMS Unit 3 and 8 | Observe students using base ten blocks and counters to add and subtract using the expanded form method.  Peer assessment: Students generating and solving word problems using number operations in groups.  Weekly cumulative quizzes  Class work (textbook/  workbook)  Entry slip  Exit slip  Common Unit Test date:  Thursday November 1st | Addition  Plus  Repeated Addition  Doubling  Subtraction  Minus  Multiplication  Multiply  Partitioning  Divide  Share  Quotient  Remainder  Double Rounding  Front-end  Rounding  Estimation  Factor  Product  Number Sequence |
| **Unit 3:** Fractions and decimals  8 weeks  November 4th - December 20th | **Students are expected to understand the following:**  Fractions and decimals are types of numbers that can represent quantities. | **Students are expected to know the following:**  **Reasoning and analyzing:**  -Use reasoning to explore and make connections  **Understanding and solving:**  -Visualize to explore mathematical concepts.  **Communicating and representing:**  -Use mathematical vocabulary and language to contribute to mathematical discussions  -Represent mathematical ideas in concrete, pictorial, and symbolic forms  **Connecting and reflecting:**  -Reflect on mathematical thinking  -Connect mathematical concepts to each other and to other areas and personal interests | **Students are expected to do the following:**  ordering and comparing fractions  decimals to hundredths  addition and subtraction of decimals to hundredths  financial literacy — monetary calculations, including making change with amounts to 100 dollars and making | Fractions as part of a whole  fractions on a number line  Decimals and fractions (including financial literacy: decimals and dollars)  Addition and subtraction of decimals | DC Math pages  98 - 110  Math Makes Sense Unit 5  Lessons 1-14  [http://cemc2.mat](http://cemc2.math.uwaterloo.ca/mathfrog/)  [h.uwaterloo.ca/m](http://cemc2.math.uwaterloo.ca/mathfrog/)  [athfrog/](http://cemc2.math.uwaterloo.ca/mathfrog/) (free)  [www.studyladder.com](http://www.studyladder.com) (free)  [www.superteacherworksheets.com](http://www.superteacherworksheets.com) (subscription) - optional worksheet resource  fraction towers  fraction strips  fraction circles  canadian money | Observe students using manipulatives to relate fractions and decimals.  Weekly cumulative quizzes  Class work (textbook/  workbook)  Entry slip  Exit slip  Common Unit Test date: Thursday, December 20th | Numerator  Denominator  Fraction  Whole  Decimals  Tenth  Hundredth  Dollar  Cents |
| **Unit 4:** Financial literacy (2 weeks)  January 6th- Jan 17th | **Students are expected to understand the following:**  Fractions and decimals are types of numbers that can represent quantities | **Students are expected to know the following:**  **Reasoning and analyzing:**  -Use reasoning to explore and make connections  -Estimate reasonably  -Develop mental math strategies and abilities to make sense of quantities  **Understanding and solving:**  -Develop, demonstrate, and apply mathematical understanding through play, inquiry, and problem solving  -Engage in problem-solving experiences that are connected to place, story, cultural practices, and perspectives relevant to local First Peoples communities, the local community, and other cultures  **Communicating and representing:**  -Communicate mathematical thinking in many ways  **Connecting and reflecting:**  -Reflect on mathematical thinking  -Connect mathematical concepts to each other and to other areas and personal interests | **Students are expected to do the following:**  financial literacy — monetary calculations, including making change with amounts to 100 dollars and making | The canadian money system  Purchasing goods and making change  Making money decisions | **DC math pages**  **123 - 129**  Canadian money  Qatari riyals  [http://cemc2.mat](http://cemc2.math.uwaterloo.ca/mathfrog/)  [h.uwaterloo.ca/m](http://cemc2.math.uwaterloo.ca/mathfrog/)  [athfrog/](http://cemc2.math.uwaterloo.ca/mathfrog/) (free)  [www.studyladder.com](http://www.studyladder.com) (free) | Observe students handling canadian money in mock situations.  Weekly cumulative quizzes  Class work (textbook/  workbook)  Entry slip  Exit slip  Common Unit Test date: Thursday, January 17th | Money  Currency  Denominations  Nickel  Quarter  Dime  Loonie  Toonie  Dollar  Cents  Bill  Estimating Cost  Compare |
| **Unit 5:**  Patterns  2 weeks  January 20th- January 31st | **Students are expected to understand the following:**  Regular changes in patterns can be identified and represented using tools and tables | **Students are expected to do the following:**  **Reasoning and analyzing:**  -Use reasoning to explore and make connections  **Understanding and solving:**  -Develop, demonstrate, and apply mathematical understanding through play, inquiry, and problem solving  **Communicating and representing:**  -Represent mathematical ideas in concrete, pictorial, and symbolic forms  **Connecting and reflecting:**  -Reflect on mathematical thinking | **Students are expected to know the following:**  increasing and decreasing patterns, using tables and charts | What is a pattern?  Describing patterns  Patterns in tables, charts and graphs. | **DC math pages**  **141 - 149**  Connecting cubes/  snap cubes  pattern blocks  square color tiles  Math Makes Sense  Unit 1  [http://cemc2.mat](http://cemc2.math.uwaterloo.ca/mathfrog/)  [h.uwaterloo.ca/m](http://cemc2.math.uwaterloo.ca/mathfrog/)  [athfrog/](http://cemc2.math.uwaterloo.ca/mathfrog/) (free)  [www.studyladder.com](http://www.studyladder.com) (free) | Observe students creating and extending patterns using manipulatives.  Weekly cumulative quizzes  Class work (textbook/  workbook)  Entry slip  Exit slip  Common Unit Test date:  Thursday January 31st | Patterns  Extend  Relationship |
| **Unit 6:**  Variables and Equations ( 3 Weeks)  February 3rd - February 21st | **Students are expected to understand the following:**  Development of computational fluency and multiplicative thinking requires analysis of patterns and relations in multiplication and division. | **Students are expected to do the following:**  -Develop mental math strategies and abilities to make sense of quantities  -Model mathematics in contextualized experiences  **Understanding and solving:**  -Develop and use multiple strategies to engage in problem solving  -Engage in problem-solving experiences that are connected to place, story, cultural practices, and perspectives relevant to local First Peoples communities, the local community, and other cultures  **Communicating and representing:**  -Use mathematical vocabulary and language to contribute to mathematical discussions  -Explain and justify mathematical ideas and decisions  **Connecting and reflecting:**  -Reflect on mathematical thinking  -Connect mathematical concepts to each other and to other areas and personal interests  -Incorporate First Peoples worldviews and perspectives to make connections to mathematical concepts | **Students are expected to know the following:**  -algebraic relationships among quantities  one-step equations with an unknown number, using all operations | Placeholders, Equations, and Word Expressions.  Working with story problems | Grade 4 Mathematics BC Edition Pages **162-184**  Math Makes Sense textbook and Proguide: Unit 1 lessons 4, 5 Patterns and equations  Online resources:  <https://www.khanacademy.org/>  [www.studyladder.com](http://www.studyladder.com) (free)  [www.superteacherworksheets.com](http://www.superteacherworksheets.com) (subscription) - optional worksheet resource  Counters  Base Ten Blocks  Manipulatives | Multiplication table practice every week    Assessment for Learning:  **Class work (textbook/**  **workbook)**  **Entry slip**  **Exit slip**    Assessment of Learning:  **weekly cumulative quizzes**  **Unit Test will be on**  Thursday  February 21st | Variables  Equation  Closed-equation  Open-equation  Expressions  Placeholders  Manipulatives  Value |
| **Unit 7:**  Measurement  4 Weeks  February 24th - March 14th | **Students are expected to understand the following:**  We can describe, measure, and compare spatial relationships: Standards units are used to measure attributes of objects’ shapes. | **Students are expected to do the following:**  -Develop mental math strategies and abilities to make sense of quantities  **Understanding and solving:**  -Develop, demonstrate, and apply mathematical understanding through play, inquiry, and problem solving  -Visualize to explore mathematical concepts  **Communicating and representing:**  -Use mathematical vocabulary and language to contribute to mathematical discussions  -Represent mathematical ideas in concrete, pictorial, and symbolic forms  **Connecting and reflecting**  -Reflect on mathematical thinking  -Connect mathematical concepts to each other and to other areas and personal interests  -Incorporate First Peoples worldviews and perspectives to make connections to mathematical concepts | **Students are expected to know the following:**  -How to tell time with analog and digital clocks, using 12- and 24-hour clocks  -Perimeter of regular and irregular shapes | Time of Day  24-Hour clock  Length and Perimeter | Grade 4 Mathematics BC Edition Pages **185-208**  Math Makes Sense textbook and Proguide: Unit 4 lessons 2-7 Measurement    Online resources:  <https://www.khanacademy.org/>  [www.studyladder.com](http://www.studyladder.com) (free)  [www.superteacherworksheets.com](http://www.superteacherworksheets.com) (subscription) - optional worksheet resource    Play Analog clocks  Clock cards  24-hour demonstration clock  Pattern blocks  Rulers  Grid paper | Multiplication table practice every week    Assessment for Learning:  **Class work (textbook/**  **workbook)**  **Entry slip**  **Exit slip**    Assessment of Learning:  **weekly cumulative quizzes**  **Unit Test will be on**  Thursday  March 14th | Time  O’clock  Space  Analog-clock  Digital-clock  Elapsed Time  A.M  P.M  24-hour Clock  Half  Quarter  Regular  Irregular  Polygon  Figure |
| **Unit 8:**  Polygons and line of symmetry  3 Weeks  March 17th - April 4th | **Students are expected to understand the following:**  Polygons are closed shapes with similar attributes that can be described, measured and compared. | **Students are expected to do the following:**  -Develop mental math strategies and abilities to make sense of quantities  -Use technology to explore mathematics  **Understanding and solving:**  -Develop, demonstrate, and apply mathematical understanding through play, inquiry, and problem solving  -Visualize to explore mathematical concepts  -Develop and use multiple strategies to engage in problem solving  **Communicating and representing:**  -Communicate mathematical thinking in many ways  -Use mathematical vocabulary and language to contribute to mathematical discussions | **Students are expected to know the following:**  -regular and irregular polygons  -line symmetry | Regular and Irregular Polygons  Lines of Symmetry  Symmetrical shapes and mirror symmetry | Grade 4 Mathematics BC Edition Pages **209-226**    Math Makes Sense Proguide and textbook: Unit 6 lessons 1-7 Geometry    Online resources:  <https://www.khanacademy.org/>  [www.studyladder.com](http://www.studyladder.com) (free)  [www.superteacherworksheets.com](http://www.superteacherworksheets.com) (subscription) - optional worksheet resource    Pattern blocks    Geoboards    Grid Paper    Linking cubes  Mira  play dough | Multiplication table practice every week    Assessment for Learning:  **Class work (textbook/**  **workbook)**  **Entry slip**  **Exit slip**    Assessment of Learning:  **weekly cumulative quizzes**  **Unit Test will be on**  Thursday  April 4th | Regular  Irregular  Polygon  Figure  Line Of Symmetry  Symmetry  Centimetre  Metre  Vertical  Horizontal  Prism |
| **Unit 9:**  Data Analysis  4 Weeks  April 14th - May 9th | **Students are expected to understand the following:**  Analyzing and interpreting experiments in data probability develops an understanding of chance. | **Students are expected to do the following:**  -Use reasoning to explore and make connections  -Estimate reasonably  -Develop mental math strategies and abilities to make sense of quantities  **Understanding and solving:**  -Develop, demonstrate, and apply mathematical understanding through play, inquiry, and problem solving  -Visualize to explore mathematical concepts  -Engage in problem-solving experiences that are connected to place, story, cultural practices, and perspectives relevant to local First Peoples communities, the local community, and other cultures  **Communicating and representing:**  -Communicate mathematical thinking in many ways  -Represent mathematical ideas in concrete, pictorial, and symbolic forms  **Connecting and reflecting:**  -Reflect on mathematical thinking  -Incorporate First Peoples worldviews and perspectives to make connections to mathematical concepts | **Students are expected to know the following:**  -one-to-one correspondence and many-to-one correspondence, using bar graphs and pictographs  -probability experiments | One-to-One and Many-to-One Correspondence  Pictographs  Bar Graphs  Probability Experiments | Grade 4 Mathematics BC Edition Pages **227-259**  Math Makes Sense Proguide and textbook: Unit 7 lessons 1-5 Data Analysis  Online resources:  <https://www.khanacademy.org/>  [www.studyladder.com](http://www.studyladder.com) (free)  [www.superteacherworksheets.com](http://www.superteacherworksheets.com) (subscription) - optional worksheet resource  Counters  Grid Paper  Ruler  Pencil Crayons | Multiplication table practice every week    Assessment for Learning:  **Class work (textbook/**  **workbook)**  **Entry slip**  **Exit slip**    Assessment of Learning:  **weekly cumulative quizzes**  **Unit Test will be on**  Thursday  May 9th | Graph  Interval  Data Analysis  Pictograph  Bar Graph  Table  Key  Scale  Tally  Chart  Title  Label  Axis  Vertical bar graph  Vertical axis  Horizontal bar graph  Horizontal axis  Symbol  Correspondence  Intervals  Probability  Experimental-probability  Outcomes |
| **Unit 10:**  Applying Curricular Competencies  (Week , 2 Weeks)  May 12th - May 23rd | **Students are expected to understand the following:**  Review of all big ideas. | **Students are expected to do the following:**  -Number concepts and operations, patterns, equations, measurement, polygons, data analysis, and financial literacy. | **Students are expected to know the following:**  -With numbers, you found that they could be expressed in different ways and that they represented values for use in calculations.  -Working with shapes and objects, you found that they could be used to predict patterns.  -The idea of time was organized into units for use in planning and problem solving.  -You used patterns with variables and symbols to represent problems and solutions.  -Probability experiments were used to inform everyday decisions. | Communicating  Representing  Connecting  Reasoning | Grade 4 Mathematics BC Edition Pages **260-277**    Math Makes Sense textbook: Unit 1-8 Unit review and Unit problem    Online resources:  <https://www.khanacademy.org/>  [www.studyladder.com](http://www.studyladder.com) (free)  [www.superteacherworksheets.com](http://www.superteacherworksheets.com) (subscription) - optional worksheet resource | Multiplication table practice every week    Assessment for Learning:  **Class work (textbook/**  **workbook)**  **Entry slip**  **Exit slip**    Assessment of Learning:  **weekly cumulative quizzes**  **Monday, May 26 Review Quiz** | All the vocabulary from Units 1-9 |
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