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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 000Week 1, 3 weeksAug 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:multiplesflexible counting strategieswhole number benchmarksNumbers to 10 000 can be arranged and recognized:comparing and ordering numbersestimating large quantitiesplace value:1000s, 100s, 10s, and 1sunderstanding the relationship between digit places and their value, to 10 000 | Representing and describing whole numbersComparing and ordering whole numbersRepresenting and classifying whole numbers | Place value chartsBase ten blocksStudyladder - 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 p2-24Math 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, WednesdayMultiplication QuizWeekly cumulative quizzesClass work (textbook/workbook)Entry slipExit slipCommon Unit Test date:September 20th  | Place ValueExpanded NotationNumeralRounding |
| **Unit 2:** Number operationsweek 48 weeksSeptember 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 subtractionusing flexible computation strategies, involving taking apart (e.g., decomposing using friendly numbers and compensating) and combining numbers in a variety of ways, regroupingestimating sums and differences to 10 000using addition and subtraction in real-life contexts and problem-based situationswhole-class number talksmultiplication and division of two- or three-digit numbers by one-digit numbersaddition and subtraction facts to 20 (developing computational fluency)multiplication and division facts to 100 (introductory computational strategies) | Addition and subtraction of numbersProperties of 0 and 1 for multiplication and division.Rounding numbers Mental mathematicsMultiplication of numbersMultiplication using a variety of methodsDivision of numbers | **DC math pages****36-80**Base ten blockssnap cubesTwo 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 quizzesClass work (textbook/workbook)Entry slipExit slipCommon Unit Test date:Thursday November 1st | AdditionPlusRepeated AdditionDoublingSubtractionMinusMultiplicationMultiplyPartitioningDivideShareQuotientRemainderDouble RoundingFront-end RoundingEstimationFactorProductNumber Sequence |
| **Unit 3:** Fractions and decimals8 weeksNovember 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 fractionsdecimals to hundredthsaddition and subtraction of decimals to hundredthsfinancial literacy — monetary calculations, including making change with amounts to 100 dollars and making  | Fractions as part of a wholefractions on a number lineDecimals and fractions (including financial literacy: decimals and dollars)Addition and subtraction of decimals | DC Math pages 98 - 110Math Makes Sense Unit 5Lessons 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 resourcefraction towersfraction stripsfraction circlescanadian money | Observe students using manipulatives to relate fractions and decimals.Weekly cumulative quizzesClass work (textbook/workbook)Entry slipExit slipCommon Unit Test date: Thursday, December 20th | NumeratorDenominatorFractionWholeDecimalsTenthHundredthDollarCents |
| **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 systemPurchasing goods and making changeMaking money decisions | **DC math pages****123 - 129**Canadian moneyQatari 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 quizzesClass work (textbook/workbook)Entry slipExit slipCommon Unit Test date: Thursday, January 17th | MoneyCurrencyDenominationsNickelQuarterDimeLoonieToonieDollarCentsBillEstimating CostCompare |
| **Unit 5:** Patterns2 weeksJanuary 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 patternsPatterns in tables, charts and graphs. | **DC math pages****141 - 149**Connecting cubes/ snap cubespattern blockssquare color tilesMath 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 quizzesClass work (textbook/workbook)Entry slipExit slipCommon Unit Test date:Thursday January 31st | PatternsExtendRelationship |
| **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 quantitiesone-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 equationsOnline resources:<https://www.khanacademy.org/>[www.studyladder.com](http://www.studyladder.com) (free) [www.superteacherworksheets.com](http://www.superteacherworksheets.com) (subscription) - optional worksheet resourceCountersBase Ten BlocksManipulatives | Multiplication table practice every weekAssessment for Learning: **Class work (textbook/****workbook)****Entry slip****Exit slip** Assessment of Learning: **weekly cumulative quizzes****Unit Test will be on** ThursdayFebruary 21st | VariablesEquationClosed-equationOpen-equationExpressionsPlaceholdersManipulativesValue |
| **Unit 7:** Measurement 4 WeeksFebruary 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 Day24-Hour clockLength 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 clocksClock cards24-hour demonstration clockPattern blocksRulersGrid paper  | Multiplication table practice every weekAssessment for Learning: **Class work (textbook/****workbook)****Entry slip****Exit slip** Assessment of Learning: **weekly cumulative quizzes****Unit Test will be on** ThursdayMarch 14th | TimeO’clockSpaceAnalog-clockDigital-clockElapsed TimeA.MP.M24-hour ClockHalfQuarterRegularIrregularPolygonFigure |
| **Unit 8:** Polygons and line of symmetry3 WeeksMarch 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 PolygonsLines of SymmetrySymmetrical 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 cubesMiraplay dough  | Multiplication table practice every weekAssessment for Learning: **Class work (textbook/****workbook)****Entry slip****Exit slip** Assessment of Learning: **weekly cumulative quizzes****Unit Test will be on** ThursdayApril 4th | RegularIrregularPolygonFigureLine Of SymmetrySymmetryCentimetreMetreVerticalHorizontalPrism |
| **Unit 9:** Data Analysis4 WeeksApril 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 PictographsBar GraphsProbability Experiments  | Grade 4 Mathematics BC Edition Pages **227-259**Math Makes Sense Proguide and textbook: Unit 7 lessons 1-5 Data AnalysisOnline resources:<https://www.khanacademy.org/>[www.studyladder.com](http://www.studyladder.com) (free) [www.superteacherworksheets.com](http://www.superteacherworksheets.com) (subscription) - optional worksheet resourceCountersGrid PaperRulerPencil Crayons | Multiplication table practice every weekAssessment for Learning: **Class work (textbook/****workbook)****Entry slip****Exit slip** Assessment of Learning: **weekly cumulative quizzes****Unit Test will be on** ThursdayMay 9th | GraphIntervalData AnalysisPictographBar GraphTableKeyScaleTallyChartTitleLabelAxisVertical bar graphVertical axisHorizontal bar graphHorizontal axisSymbolCorrespondenceIntervalsProbability Experimental-probabilityOutcomes |
| **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.   | CommunicatingRepresentingConnectingReasoning | 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 weekAssessment 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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