COWICHAN VALLEY School District

Grade One – Suggested Math Instructional Resources

Access Digital copy here.

Number Sense

(numbers to 20 represent quantities that can be decomposed into 10s and 1s.)

Curricular Content	Curricular Competencies (The student can…)	Online Resources	Print Resources (all are available in the DLC or in schools)
Representing numbers to 20	Represent, compare, order numbers to 20. Demonstrate understanding of teen numbers as ten and ones.	Steve Wyborney: Subitizing Slides Math 4 Love: Domino Sorting Cuisenaire Rods Lessons 1st Grade Number Sense Routines Which One Doesn't Belong Number Talk Images Dot Card and Number Talks SD 38: Sense of 5 and 10, addition and subtraction facts to 20 Part 2 : number concepts to 10, 20 and 100	*Messy Maths* (Robertson, 2016) Chapters 3 and 4 • Exploring Numbers (pp. 47-67) • Number Functions and Fractions (pp. 69-83) • Making a Staircase Number Line (p. 64) *Place Value in Primary* (Fullerton, 2016) • Representing the Teens with 10-frames (pp. 87-90) • Matching Numerals to Sets (pp. 94-95) *Sums and Differences*: *Grade One and Two* (Fullerton, 2013) • Modeling Bigger Numbers in 10's and 1's (pp. 13-27) *Elementary and Middle School Mathematics* (Van deWalle) • Chapter 7 (pp. 118-144)

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Curricular Content	Curricular Competencies (The student can…)	Online Resources	Print Resources (all are available in the DLC or in schools)
		Picture Books: Lesson and Activities for Number Sense and Patterns and Geometry	*Good Questions for Building Number Sense in Kindergarten and Grade 1* (Fullerton, 2022) *Shuffling into Math* (Felling, 2022) • Quick Math Warm Ups (p. 116) • Next in Line to 100 (pp. 131-134) • Betweeners (pp. 137-139) *How Many? A Different Kind of Counting Book* (Danielson, 2018)
Counting to 20	Count to 20 in various ways (by 1s, 2s, 5s, ascending and descending, counting on from a number). Information on Counting	Counting Collections Counting Collections Feet Under the Table Pig	*How Many? A Different Kind of Counting Book* (Danielson, 2018) *Place Value in Primary* (Fullerton, 2016) • Counting Collections (pp. 113-117) *Messy Maths* (Robertson, 2016) Chapter 3 and 4 • Exploring Numbers (pp. 47-67) • Number Functions and Fractions (pp. 69-83) • Counting Backwards as well as Forwards (p. 51) • Stick Tapping (pp. 58-59)
Ways to make 10	Compose and decompose 10 in many ways using concrete, pictorial and symbolic forms (ie 5+5, 5+3+2, 6+3+1). Information on decomposing	Steve Wyborney: 20 Days of Number Sense "Splats through 10" Cuisenaire Rods Lessons Games:	*Place Value in Primary* (Fullerton, 2016) • Subitizing Game (pp. 63-64) • Cuisenaire Rods (pp. 65- 67) • Connecting the Materials (pp. 68-69) *Messy Maths* (Robertson, 2016) Chapter 3 and 4 • Exploring Numbers (pp. 47-67)

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Curricular Content	Curricular Competencies (The student can…)	Online Resources	Print Resources (all are available in the DLC or in schools)
		Math Games: 1 through 10 Pyramid Game How Many are Hiding Make Ten Game	• Number Functions and Fractions (pp. 69-83) • Petra's Dice Pattern Game (p. 58) *Good Questions for Building Number Sense in Kindergarten and Grade 1* (Fullerton, 2022) • p. 138 *Elementary and Middle School Mathematics* (Van de Walle, 2022) • Chapter 7 (pp. 118-144) *Number Talks – Whole Number Computation* (Parrish, 2014) • pp. 88-96
Compare more and less	Put numbers to 20 in sequence/order. Given a number, such as 12, say what number is 1 more and what number is 1 less, (and 2 more/less).	Cuisenaire Rods Lessons "Evergreen Subitizing Games" Online Games: Comparing Cards Double Compare Number concepts to 10, 20 and 100 (comparing and ordering)	*Place Value in Primary* (Fullerton, 2016) • More than and Less than (pp. 74-76) • Putting Sets in Order (pp. 96-99) • Using a Number line (pp. 105-108) *Messy Maths* (Robertson, 2016) Chapter 3 and 4 • Exploring Numbers (pp. 47-67) • Number Functions and Fractions (pp. 69-83) • Environmental Number Lines (p. 58) • Pocket Number Lines (p. 50) • Hopscotch (p. 60)

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Computational Fluency

(Addition and subtraction with numbers to 10 can be modelled concretely, pictorially, and symbolically to develop computational fluency.)

Curricular Content	Curricular Competencies (The student can…)	Online Resources	Print Resources (all are available in the DLC or in schools)
Addition and subtraction of number to/within 20	Demonstrate understanding of the processes of addition and subtraction using materials, pictures and numbers/symbols. Use more than one strategy to add (ie. counting all, counting on or back, making and bridging 10, decomposing, using doubles). Use more than one strategy to subtract (ie comparing, counting back, removal, finding the difference).	"Splats through 20 and Multiple Splats" Flower Petal Puzzle 3 Act Task: Peas in a Pod Humpty Dumpty Bag-o-chips Games: Sum What Math Face Off Lucky 13 SD 38: Part 1: decomposing quantities, addition and subtraction facts to 20, addition and subtraction to 20, 100 (concept, process) Part 2: decomposing quantities	*Shuffling Into Math* (Felling, 2022) • Subtraction Horse Race (pp. 48-51) • Salute (pp. 67-70) *Messy Maths* (Robertson, 2016) Chapter 3 and 4 • Exploring Numbers (pp. 47-67) • Number Functions and Fractions (pp. 69-83) • 'Show me' Games (pp. 74) • Adding on Games (pp. 75) • Using a Pair of Dice (pp. 72) *Number Talks – Whole Number Computation* (Parrish, 2014) • p. 97-118 *Elementary and Middle School Mathematics* (Van de Walle, 2022) • Chapter 8 (p. 146-156) • Chapter 10 (p. 174-189) *Mastering the Facts: Addition* (Fullerton, 2020)

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Curricular Content	Curricular Competencies (The student can…)	Online Resources	Print Resources (all are available in the DLC or in schools)

Change in quantity to 20 concretely and verbally	Use materials such as blocks to show increases and decreases in quantity of a set (two more, one more, two less, one less).
	
	Verbally explain what they need to do to change 7 to 10 or 12 to 10.
		Games:
		Addition Scale
		Missing Addend
		Missing Subtrahend
		
		Algebraic thinking
			Place Value in Primary (Fullerton, 2016)
			• Estimating Numbers to 20 (pp. 109-112)
			
			Messy Maths (Robertson, 2016) Chapter 3 and 4
			• Exploring Numbers (pp. 47-67)
			• Number Functions and Fractions (pp. 69-83)
			• Subtraction
			  ○ Partitioning (p. 75)
			  ○ Counting back (p. 76)
			  ○ Comparing quantities and finding the difference (p.76)
			• The Game of Nim (pp. 76-77)
			• Add or Subtract (p. 74)

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General Resources

General Strategies and Routines	Coast Metro Math Project Which One Doesn't Belong Dot Card and Number Talks Number Talk Images	Esti-Mysteries The Estimation Clipboard Cube Conversations Estimation Math Applications	Supporting Numeracy in Early Years Week of Inspirational Math Building Thinking Classrooms Puzzles, Problems and Tasks
Building our Understanding	What is number sense? Coast Metro Math Project Concreteness Fading	Planning Balanced Numeracy Spiraling the Curriculum Building Math Fact Fluency	Progression of Early Number Progression of Addition and Subtraction
Classroom Assessment	Coast Metro Math Project	Assessing Curricular Competencies	
Indigenous Connections	Coast Metro Math Project	When Seagull Stole the Sun	BC Numeracy Network
Planning	BC Numeracy Network Math Year Plan For K-5	Critical Concepts Map	Planning - Year, Week, Day

This document intentionally focusses on number sense and computational fluency as these are foundational skills that can be spiraled throughout the rest of the content standards while being grounded in the curricular competencies.

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