

Grade Six – Suggested Math Instructional Resources



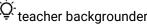
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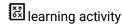
Number Sense

(Mixed <u>numbers</u> and decimal numbers represent quantities that can be decomposed into parts and wholes.)

Curricular Content	Curricular Competencies (The student can)	Online Resources	Print Resources (all are available in the DLC or in schools)
Place value understanding from thousandths to billions	Represent and decompose numbers from thousandths to billions. Count in various ways (by various multiples, starting points, increasing/decreasing) with decimal numbers and numbers to the billions. Compare and order numbers from thousandths to billions, demonstrating understanding of place value. Use greater than and less than symbols.	Place Value Jeopardy (Decimals) Place Value Jeopardy (6-digit) Math Antics - Decimal Place Value	All Hands on Deck (Felling, 2022) • "Your Place or Mine" (pp. 84-85) Elementary and Middle School Mathematics (Van de Walle, 2022) • Chapter 16 (pp. 400-414)
Fraction and decimal concepts and relationships	Compare and order fractions (greater than 1) and decimal numbers (focus on thousandths).	Math Antics - Fractions and Decimals (Focus on Fraction/decimals begins 3:50) Exploring fractions with Cuisenaire Rods Clothesline activities Clothesline Intro to Class Fraction Talks-Fraction Compare Fraction Wars Cards Converting Between Fractions and Decimals Open Middle®	 Proportional Reasoning (Fullerton, 2019) Fractions and Decimals Making Connections Between Models (pp. 187-189) Comparing and Ordering Fractions in All Forms, (pp. 136-137) Fractions, Decimals and Percent Comparing and Ordering Intro, (pp. 195-196) Three in a line (p. 196, 197, 200) Pick a Card, Any Card!" (p.198)









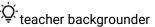


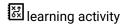




Curricular Content	Curricular Competencies (The student can)	Online Resources	Print Resources (all are available in the DLC or in schools)
			Number Talks – Fractions, Decimals, and Percentages (Parrish, 2016) • p. 69 • pp. 82-88 • pp. 99-111
Whole number percents and percentage discounts	Demonstrate understanding of what a percent represents. Solve percentage discount problems utilizing multiple strategies.	Math Antics - What Are Percentages? Create Your Own Discounts and Percentages Percent of a Quantity 1 Open Middle®	Multiplicative Thinking (Fullerton, 2015) From Fractions to Decimals to Percent (pp. 145-147) Multiplying Numbers Less Than One (pp. 148-161) Number Talks – Fractions, Decimals, and Percentages (Parrish, 2016) pp. 120-124 Elementary and Middle School Mathematics (Van de Walle, 2022) pp. 422-428 Radical Math (Felling, 2021) pp. 126-129
Introduction to ratios	Compare and record the quantities of a set of two different images or objects using part-to-part ratios.	Math Antics - Ratios And Rates Introduction to Ratios Click Battle - Ratio activity by Desmos Ratios 1 Open Middle®	Proportional Reasoning (Fullerton, 2019) Part-to-Part Ratios (pp. 168-172) Comparing Ratios and Rate Problem-Solving (pp. 173-175) Unit Ratios and Rate (pp. 176 - 181) Elementary and Middle School Mathematics (Van de Walle, 2022) Chapter 17 (pp. 429 - 443)







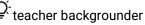


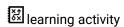






Curricular Content	Curricular Competencies (The student can)	Online Resources	Print Resources (all are available in the DLC or in schools)
Prime and composite numbers	Identify and explain why a number is prime with numbers to 100. Identify and explain why a number is composite with numbers to 100.	Math Antics - Prime Factorization Composite Numbers Open Middle® Prime Numbers Open Middle®	 Multiplicative Thinking (Fullerton, 2015) Prime and Composite Numbers (pp. 65-71)
Greatest common factor/Least common multiple	Factor a composite number to 100 into prime factors Compare two numbers (within 100) and identify the greatest common factors and the least common multiple.	Least Common Multiples vs. Greatest Common Factors (LCM vs. GCF) Smallest Possible LCM Open Middle® Largest Possible GCF Open Middle® Largest Possible GCF #2 Open Middle®	 Multiplicative Thinking (Fullerton, 2015) Lowest Common Multiples pp. 61-63 Prime Factorization and Common Factors, pp. 68-71, Prime Factor (p. 71)











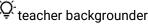


Computational Fluency

(Computational <u>fluency</u> and flexibility with numbers extend to operations with whole numbers and decimals.)

Curricular Content	Curricular Competencies (The student can)	Online Resources	Print Resources (all are available in the DLC or in schools)
Fluency with multiplication and division facts	Demonstrate fact fluency with most multiplication facts and related division facts Apply multiplication facts when multiplying larger numbers and decimal numbers.	Learn Math through sport: 'Shuttle runs' > Division & multiplication PE game	Number Talks – Whole Number Computation (Parrish, 2014), • Multiplication and Division Strategies (pp. 231-261) • Multiplication and Division Number Talks (pp. 262-299) Mastering the Multiplication Facts (Fullerton, 2020) All Hands on Deck (Felling, 2022) • Multiplication Flip Out Challenger (pp. 126-127) • Multiplication Tic-Tac-Toe"(pp. 48-50) Elementary and Middle School Mathematics (Van de Walle, 2022) • pp. 190-201
Multiplication and division of decimal numbers	Multiply and divide decimal numbers using related strategies used for whole numbers such as decomposing and compensating.	Decimal Multiplication & Division Multiplying Decimals Elementary Open Middle Multiplying Decimals Open Middle®	Elementary and Middle School Mathematics (Van de Walle, 2022) • pp. 417-427 Number Talks – Fractions, Decimals, and Percentages (Parrish, 2016) • pp. 368-398 Good Questions: 5-8 (Fullerton, 2018)







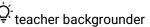


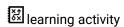






Curricular Content	Curricular Competencies (The student can)	Online Resources	Print Resources (all are available in the DLC or in schools)
Order of operations (introduction to brackets)	Solve equations including multiple operations and brackets/parentheses.	Math Antics - Order Of Operations Twin Puzzles • Activity Builder by Desmos Order of Operations Open Middle®	All Hands on Deck (Felling, 2022) • Operation Mixer (p. 158)
One-step equations with whole-number coefficients and solutions	Use reasoning to explain their process for solving one-step equations. Solve one-step equations with whole number coefficients such as 3x=12 or x+5=11.	Algebra Basics: What Is Algebra? - Math Antics (first part of video only) Algebra Basics: Solving Basic Equations Solving One-Step Equations Using a Pan-Balance Pan Balance - Shapes	Algebraic Thinking (Fullerton, 2020) • pp. 77 - 115













General Resources

General Strategies and Routines	Which One Doesn't Belong	<u>Esti-Mysteries</u>	Building Thinking Classrooms
	Dot Card and Number Talks	The Estimation Clipboard	Estimation
	Number Talk Images	Cube Conversations	Math Applications
	- Coast Metro Math Project	Week of Inspirational Math	器 <u>Puzzles, Problems and Tasks</u>
	Interactive Simulations		
Building our Understanding	- Çoast Metro Math Project	Surrey Video Series	- Şiraling the Curriculum
	- Concreteness Fading	Progression of Multiplication	Progression of Fractions
		Progression of Division	Building Math Fact Fluency
Classroom Assessment	- Ç Coast Metro Math Project	- Island Numeracy Assessment	Assessing Curricular Competencies
Indigenous Connections	- Coast Metro Math Project	When Seagull Stole the Sun	BC Numeracy Network
Planning	BC Numeracy Network	- 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.









