GRADE 7 Patterns and Relations Specific Outcomes	Key Concepts in Patterns underpinning Curriculum Outcomes from FSIM: Operations Resource Book and Data Management and Probability Book	Sample Diagnostic Tasks and Activities	Sample Learning Tasks Selected from FSIM: Operations Resource Book AND Data Management and Probability Book	Math Station Ideas:
P7.1 Demonstrate an understanding of the relationships between oral and written patterns, graphs and linear relations.	Summarize and Represent Data KU3: • We can display data visually; some graphs and plots show how two quantities are related. Summarize and Represent Data KU4: • We use tables and diagrams to organize and summarize data in a systematic way. Patterns and Algebra KU3: • To describe a number pattern means to provide a precise rule that produces the pattern. Patterns and Algebra KU4: • There are strategies that help us become better at recognizing common types of patterns.		Data Management: 186-189 • Measuring Lids 1, 2 • Ordered Measurements Data Management: 196-197 • Flight Information • Changing Headings • Totals Tables Operation Sense: 250-251 • Everyday Formulas • Hexagon Patterns • Graphs Operation Sense: 259-261 • Sticky Instructions • Classifying • Graphs	Kahn Academy: Linear Equations and Functions (online interactive) Save the Zogs (online interactive) Sink Capn'K (printable) Name That Line Interactive Bulletin Board (link to instructions)

GRADE 7 Patterns and Relations Specific Outcomes	Key Concepts in Patterns underpinning Curriculum Outcomes from FSIM: Operations Resource Book	Sample Diagnostic Tasks and Activities	Sample Learning Tasks Selected from FSIM: Operations Resource Book	Math Station Ideas:
P7.2 Demonstrate an understanding of equations and expressions by: • distinguishing between equations and expressions • evaluating expressions • verifying solutions to equations. P7.3 Demonstrate an understanding of one and two-step linear equations of the form c d b ax + = (where a, b, c, and d are whole numbers, c < d and b ≠ 0) by modeling the solution of the equations concretely, pictorially, physically, and symbolically and explaining the solution in terms of the preservation of equality.	Operations KU7: • Properties of operations and relationships between them can help us to decide whether number sentences are true. Operations KU8: • Thinking of a problem as a number sentence often helps us solve it. Sometimes we need to rewrite the number sentence in a different by equivalent way. Patterns and Algebra KU2: • Representing aspects of a situation with numbers can make it easier to see patterns in the situation. Patterns and Algebra KU3: • To describe a number pattern means to provide a precise rule that produces the pattern. Patterns and Algebra KU4: • There are strategies that help us become better at recognizing common types of patterns.		Operations, pages 91-93 • The Same As • Equivalent Statements Operations, pages 99-101 • Problem Solving • Rewriting Problems • How Much? How Many? • Matching • Checking Solutions • How Old? • Unknown Quantity • Solving Problems Operations, pages 238-239 • Picture Frames • River Crossing • Triangle Toothpick Design • Fibonacci Operations, pages 250-251 • Triangle Toothpick Design • Different Rule, Same Pattern • Hexagon Patterns • Everyday Formulas • Magic Calculating Machine	Who Wants To Be a Hundredaire? Algebraic expressions game (online interactive) Noodle: Evaluate Expressions and Solve Equations (online interactive) Algebra Meltdown (online interactive) "Algebraic Expressions" from *Math Makes Sense 7 Student Book*, p. 16-19 (Pearson Education Canada, 2007) "Reading and Writing Equations" from *Math Makes Sense 7 Student Book*, p. 35-37 (Pearson Education Canada, 2007) "Solving Equations Using Algebra Tiles" from *Math Makes Sense 7 Student Book*, p. 38-42 (Pearson Education Canada, 2007) "Solving Equations" from

				Math Makes Sense 7 Student Book, p. 220-225 (Pearson Education Canada, 2007) "Using a Model to Solve Equations" from *Math Makes Sense 7 Student Book*, p. 226-230 (Pearson Education Canada, 2007) "Solving Equations Using Algebra" from *Math Makes Sense 7 Student Book*, p. 237-240 (Pearson Education Canada, 2007) "Using Different Methods to Solve Equations" from *Math Makes Sense 7 Student Book*, p. 240-244 (Pearson Education Canada, 2007)

GRADE 7 Patterns and Relations Specific Outcomes	Key Concepts in Patterns underpinning Curriculum Outcomes from FSIM: Operations Resource Book	Sample Diagnostic Tasks and Activities	Sample Learning Tasks Selected from FSIM: Operations Resource Book	Math Station Ideas: (**See Outcome N7.6**)
P7.4 Demonstrate an understanding of linear equations of the form x + a = b (where a and b are integers) by modeling problems as a linear equation and solving the problems concretely, pictorially, and symbolically. (**See Outcome N7.6**)	Whole and Decimal Numbers KU8: • We can compare and order the numbers themselves. Patterns and Algebra KU2: • Representing aspects of a situation with numbers can make it easier to see patterns in the situation. Patterns and Algebra KU3: • To describe a number pattern means to provide a precise rule that produces the pattern. Patterns and Algebra KU4: • There are strategies that help us become better at recognizing common types of patterns.		Number Sense: Pages 88 - 93 • Negative Numbers • Number Line • Correct Order • Skip Counting Backwards • Temperatures • Changing Values Operations, pages 238-239 • Picture Frames • River Crossing • Triangle Toothpick Design • Fibonacci Operations, pages 250-251 • Triangle Toothpick Design • Different Rule, Same Pattern • Hexagon Patterns • Everyday Formulas • Magic Calculating Machine	"What Is Her Net Worth?" p. 181 TS-CM 6-8 "(American) Football Statistics" p. 183 TS-CM 6-8 Walk the Plank: Adding and Subtracting Integers (online interactive) Integer Football (online interactive) Positive and Negative Integers Card Game (link to instructions) Absolute Value War (printable)