

## Northpoint Horizons

### ***Math Elevations™ (Comprehensive Intervention System)*** **Correlated to the** **Illinois State Mathematics Content Standards**

Grade 3

This document provides a sampling of the extensive math directives offered throughout the *Math Elevations* program that meet the Illinois Mathematics Content Standards and Descriptors.

Math Content Standard	Math Elevations Level C (Grade 3) Teacher's Guide Examples/Lessons
<b>STATE GOAL 6, NUMBER SENSE: Demonstrate and apply a knowledge and sense of numbers, including numeration and operations (addition, subtraction, multiplication, division), patterns, ratios and proportions</b>	
<b>6.A.</b> Demonstrate knowledge and use of numbers and their representations in a broad range of theoretical and practical settings.	<b>Unit 1 – Numbers and Operations</b> <b>Unit 2 – Addition and Subtraction</b> <b>Unit 3 – Multiplication and Division</b> <b>Unit 4 – Money and Decimals</b>
<b>6.A.2.</b> Compare and order whole numbers, fractions and decimals using concrete materials, drawings and mathematical symbols.	Unit 1 – Lesson 2 – <i>Comparing and Ordering Numbers</i> pp. 20-21 Lesson 4 – <i>Odd and Even Numbers</i> pp. 24-25 Lesson 7 – <i>Comparing Fractions</i> pp. 30-31 Lesson 8 – <i>Reading and Writing Numbers Through 999,999</i> pp. 32-33
<b>6.B.</b> Investigate, represent and solve problems using number facts, operations (addition, subtraction, multiplication, division) and their properties, algorithms and relationships.	<b>Unit 2 – Addition and Subtraction</b> <b>Unit 3 – Multiplication and Division</b> <b>Unit 4 – Money and Decimals</b>
<b>6.B.2.</b> Solve one- and two-step problems involving whole numbers, fractions and decimals using addition, subtraction, multiplication and division.	Unit 1 – Unit 2 – Lesson 2 – <i>Adding Two-Digit Numbers</i> pp. 38-39 Lesson 4 – <i>Adding Three- and Four-Digit Numbers</i> pp. 42-43

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	<p>Lesson 5 – <i>Regrouping Two-Digit Numbers for Subtraction</i> pp. 44-45  Lesson 6 – <i>Subtraction of Three- and Four-Digit Numbers</i> pp. 46-47  Lesson 7 – <i>Subtraction with Zeros</i> p. 48-49  Lesson 8 – <i>Addition and Subtraction Word Problems</i> pp. 50-51  Unit 3 –  Lesson 1 – <i>Meaning of Multiplication</i> pp. 54-55  Lesson 2 – <i>Multiplication Facts of 2, 5, and 10</i> pp. 56-57  Lesson 3 – <i>Multiplication Facts of 3 and 6</i> pp. 58-59  Lesson 4 – <i>Multiplication Facts of 4 and 8</i> pp. 60-61  Lesson 5 – <i>Multiplication Facts of 7 and 9</i> pp. 62-63  Lesson 6 – <i>Division as Equal Grouping and Sharing Equally</i> pp. 64-65  Lesson 7 – <i>Dividing Using Inverse Operations</i> pp. 66-67  Lesson 8 – <i>Multiplication and Division Word Problems</i> pp. 68-69  Unit 4 –  Lesson 7 – <i>Addition and Subtraction of Money</i> pp. 84-85  Lesson 8 – <i>Money Word Problems</i> pp. 86-87</p>
<p><b>6.C.</b> Compute and estimate using mental mathematics, paper-and-pencil methods, calculators and computers.</p>	<p><b>Unit 1 – Numbers and Operations</b>  <b>Unit 2 – Addition and Subtraction</b>  <b>Unit 4 – Money and Decimals</b></p>
<p><b>6.C.2a.</b> Select and perform computational procedures to solve problems with whole numbers, fractions and decimals.</p>	<p>Unit 1 –  Lesson 3 – <i>Rounding</i> pp. 22-23  Unit 2 –  Lesson 3 – <i>Using Estimation in Addition</i> pp. 40-41  Unit 4 –  Lesson 7 – <i>Addition and Subtraction of Money</i> pp. 84-85  Lesson 8 – <i>Money Word Problems</i> pp. 86-87</p>
<p><b>6.C.2b.</b> Show evidence that computational</p>	<p>Unit 2 –</p>

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results using whole numbers, fractions and decimals are correct and/or that estimates are reasonable.	Lesson 2 – <i>Adding Two-Digit Numbers</i> pp. 38-39 Lesson 3 – <i>Using Estimation in Addition</i> pp. 40-41 Lesson 4 – <i>Adding Three- and Four-Digit Numbers</i> pp. 42-43 Unit 4 – Lesson 7 – <i>Addition and Subtraction of Money</i> pp. 84-85 Lesson 8 – <i>Money Word Problems</i> pp. 86-87
<b>6.D.</b> Solve problems using comparison of quantities, ratios, proportions and percents.	<b>Unit 1 – Numbers and Operations</b>
<b>6.D.2.</b> Describe the relationship between two sets of data using ratios and appropriate notations (e.g., $a/b$ , $a$ to $b$ , $a:b$ ).	Unit 1 – Lesson 2 – <i>Comparing and Ordering Numbers</i> pp. 20-21 Lesson 5 – <i>Fractions as Part of a Whole</i> pp. 26-27 Lesson 6 – <i>Fractions as Part of a Set</i> pp. 28-29 Lesson 7 – <i>Comparing Fractions</i> pp. 30-31
<b>STATE GOAL 7. Estimation and Measurement: Estimate, make and use measurements of objects, quantities and relationships and determine acceptable levels of accuracy.</b>	
<b>7.A.</b> Measure and compare quantities using appropriate units, instruments and methods.	<b>Unit 4 – Money and Decimals</b> <b>Unit 6 – Geometry</b> <b>Unit 7 - Measurement</b>
<b>7.A.2a.</b> Calculate, compare and convert length, perimeter, area, weight/mass and volume within the customary and metric systems.	Unit 6 – Lesson 8 – <i>Volume</i> pp. 122-123 Unit 7 – Lesson 2 – <i>Length (Customary Units)</i> pp. 128-129 Lesson 3 – <i>Length (Metric)</i> pp. 130-131 Lesson 4 – <i>Perimeter</i> pp. 132-133 Lesson 5 – <i>Area</i> pp. 134-135 Lesson 6 – <i>Weight</i> pp. 136-137 Lesson 7 – <i>Capacity</i> pp. 138-139 Lesson 8 – <i>Appropriate Units</i> pp. 140-141

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<p><b>7.A.2b.</b> Solve addition, subtraction, multiplication and division problems using currency.</p>	<p>Unit 4 –  Lesson 3 – <i>Dollars, Dimes and Pennies</i> pp. 76-77  Lesson 4 – <i>Nickels and Quarters</i> pp. 78-79  Lesson 5 – <i>Bills and Coins</i> pp. 80-81  Lesson 6 – <i>Making Change</i> pp. 82-83  Lesson 7 – <i>Addition and Subtraction of Money</i> pp. 84-85  Lesson 8 – <i>Money Word Problems</i> pp. 86-87</p>
<p><b>7.B.</b> Estimate measurements and determine acceptable levels of accuracy.</p>	<p><b>Unit 7 - Measurement</b></p>
<p><b>7.B.2a.</b> Determine and communicate possible methods for estimating a given measure, selecting proper units in both customary and metric systems.</p>	<p>Unit 7 –  Lesson 2 – <i>Length (Customary Units)</i> pp. 128-129  Lesson 3 – <i>Length (Metric)</i> pp. 130-131  Lesson 7 – <i>Capacity</i> pp. 138-139  Lesson 8 – <i>Appropriate Units</i> pp. 140-141</p>
<p><b>7.B.2b.</b> Estimate conversions between measures within the customary and metric systems.</p>	<p>Unit 7 –  Lesson 2 – <i>Length (Customary Units)</i> pp. 128-129  Lesson 3 – <i>Length (Metric)</i> pp. 130-131  Lesson 8 – <i>Appropriate Units</i> pp. 140-141</p>
<p><b>7.C.</b> Select and use appropriate technology, instruments and formulas to solve problems, interpret results and communicate findings.</p>	<p><b>Unit 7 – Measurement</b>  <b>Unit 8 – Probability, Data Analysis, and Graphs</b></p>
<p><b>7.C.2a.</b> Describe relationships in a simple scale drawing.</p>	<p>Unit 7 –  Lesson 5 – <i>Area</i> pp. 134-135  Unit 8 –  Lesson 5 – <i>Bar Graphs with a Scale</i> pp. 152-153</p>
<p><b>7.C.2b.</b> Construct or draw figures with given perimeters and areas.</p>	<p>Unit 7 –  Lesson 4 – <i>Perimeter</i> pp. 132-133  Lesson 5 – <i>Area</i> pp. 134-135</p>
<p><b>STATE GOAL 8. Algebra and Analytical Methods: Use algebraic and analytical methods to identify and describe patterns and relationships in data, solve problems and predict results.</b></p>	
<p><b>8.A.</b> Describe numerical relationships using variables and patterns.</p>	<p><b>Unit 5 – Algebra, Patterns, and Functions</b></p>

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<p><b>8.A.2a.</b> Identify, describe, extend and create geometric and numeric patterns.</p>	<p>Unit 5 –  Lesson 1 – <i>Missing Addends and Subtrahends</i> pp. 90-91  Lesson 2 – <i>Missing Factors</i> pp. 92-93  Lesson 3 – <i>Skip Counting</i> pp. 94-95  Lesson 4 – <i>Number Patterns</i> pp. 96-97  Lesson 5 – <i>Number Machines</i> pp. 98-99  Lesson 6 – <i>Picture Patterns</i> pp. 100-101  Lesson 7 – <i>Pattern Puzzles</i> pp. 102-103  Lesson 8 – <i>Word Problem Patterns</i> pp. 104-105</p>
<p><b>8.A.2b.</b> Construct and solve number sentences using a variable to represent an unknown quantity.</p>	<p>Unit 5 –  Lesson 1 – <i>Missing Addends and Subtrahends</i> pp. 90-91  Lesson 2 – <i>Missing Factors</i> pp. 92-93</p>
<p><b>8.B.</b> Interpret and describe numerical relationships using tables, graphs and symbols.</p>	<p><b>Unit 5 – Algebra, Patterns, and Functions</b></p>
<p><b>8.B.2.</b> Analyze a geometric pattern and express the results numerically.</p>	<p>Unit 5 –  Lesson 4 – <i>Number Patterns</i> pp. 96-97  Lesson 5 – <i>Number Machines</i> pp. 98-99  Lesson 6 – <i>Picture Patterns</i> pp. 100-101  Lesson 7 – <i>Pattern Puzzles</i> pp. 102-103</p>
<p><b>8.C.</b> Solve problems using systems of numbers and their properties</p>	<p><b>Unit 5 – Algebra, Patterns, and Functions</b></p>
<p><b>8.C.2.</b> Explain operations and number properties including commutative, associative, distributive, transitive, zero, equality and order of operations.</p>	<p>Unit 5 –  Lesson 2 – <i>Missing Factors</i> pp. 92-93  Lesson 3 – <i>Skip Counting</i> pp. 94-95  Lesson 4 – <i>Number Patterns</i> pp. 96-97  Lesson 8 – <i>Word Problem Patterns</i> pp. 104-105</p>
<p><b>8.D.</b> Use algebraic concepts and procedures to represent and solve problems.</p>	<p><b>Unit 5 – Algebra, Patterns, and Functions</b></p>
<p><b>8.D.2.</b> Solve linear equations involving whole numbers.</p>	<p>Unit 5 –  Lesson 1 – <i>Missing Addends and Subtrahends</i> pp. 90-91  Lesson 2 – <i>Missing Factors</i> pp. 92-93</p>

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<b>STATE GOAL 9, GEOMETRY: Use geometric methods to analyze, categorize and draw conclusions about points, lines, planes and space.</b>	
<b>9.A.</b> Demonstrate and apply geometric concepts involving points, lines, planes and space.	<b>Unit 6 - Geometry</b>
<b>9.A.2a.</b> Build physical models of two- and three-dimensional shapes.	Unit 6 – Lesson 3 – <i>Plane Figures</i> pp. 112-113 Lesson 4 – <i>Congruent Figures</i> pp. 114-115 Lesson 6 – <i>Solid Figures</i> pp. 118-119 Lesson 7 – <i>Solid Figures and Their Nets</i> pp. 120-121
<b>9.A.2b.</b> Identify and describe how geometric figures are used in practical settings (e.g., construction, art, advertising).	Unit 6 – Lesson 1 – <i>Lines and Angles</i> pp. 108-109 Lesson 3 – <i>Plane Figures</i> pp. 112-113 Lesson 5 – <i>Lines of Symmetry</i> pp.116-117 Lesson 7 – <i>Solid Figures and Their Nets</i> pp. 120-121
<b>9.A.2c.</b> Describe and draw representations of geometric relationships, patterns, symmetries, and designs in two- and three-dimensions with and without technology.	Unit 6 – Lesson 1 – <i>Lines and Angles</i> pp. 108-109 Lesson 3 – <i>Plane Figures</i> pp. 112-113 Lesson 5 – <i>Lines of Symmetry</i> pp.116-117 Lesson 6 – <i>Solid Figures</i> pp. 118-119 Lesson 7 – <i>Solid Figures and Their Nets</i> pp. 120-121
<b>9.B.</b> Identify, describe, classify and compare relationships using points, lines, planes and solids.	<b>Unit 6 - Geometry</b>
<b>9.B.2.</b> Compare geometric figures and determine their properties including parallel, perpendicular, similar, congruent and line symmetry.	Unit 6 – Lesson 2 – <i>Types of Lines</i> pp. 110-111 Lesson 4 – <i>Congruent Figures</i> pp. 114-115 Lesson 5 – <i>Lines of Symmetry</i> pp.116-117 Lesson 6 – <i>Solid Figures</i> pp. 118-119
<b>9.C.</b> Construct convincing arguments and proofs to solve problems.	<b>Unit 6 - Geometry</b>
<b>9.C.2.</b> Formulate logical arguments about geometric figures and patterns and	Unit 6 – Lesson 4 – <i>Congruent Figures</i> pp. 114-115

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communicate reasoning.	Lesson 6 – <i>Solid Figures</i> pp. 118-119 Lesson 7 – <i>Solid Figures and Their Nets</i> pp. 120-121
<b>STATE GOAL 10. Data Analysis and Probability: Collect, organize and analyze data using statistical methods; predict results; and interpret uncertainty using concepts of probability.</b>	
<b>10.A.</b> Organize, describe and make predictions from existing data.	<b>Unit 8 – Probability, Data Analysis, and Graphs</b>
<b>10.A.2a.</b> Organize and display data using pictures, tallies, tables, charts, bar graphs, line graphs, line plots and stem-and-leaf graphs.	Unit 8 – Lesson 1 – <i>Tally Charts</i> pp. 144-145 Lesson 2 – <i>Reading Charts and Tables</i> pp. 146-147 Lesson 3 – <i>Pictographs</i> pp. 148-149 Lesson 4 – <i>Simple Bar Graphs</i> pp. 150-151 Lesson 5 – <i>Bar Graphs with a Scale</i> pp. 152-153
<b>10.A.2b.</b> Using a data set, determine mean, median, mode and range, with and without the use of technology.	<i>This standard is met in:</i> <b>Level D (Grade 4)</b> <b>Unit 8 – Data Analysis, Statistics, and Probability</b> Lesson 2 – <i>Mode and Mean</i> pp. 146-147
<b>10.A.2c.</b> Make predictions and decisions based on data and communicate their reasoning.	Unit 8 – Lesson 6 – <i>Likelihood</i> pp. 154-155 Lesson 7 – <i>Probability</i> pp. 156-157 Lesson 8 – <i>Fair and Unfair Games</i> pp. 158-159
<b>10.B.</b> Formulate questions, design data collection methods, gather and analyze data and communicate findings.	<b>Unit 8 – Probability, Data Analysis, and Graphs</b>
<b>10.B.2a.</b> Formulate questions of interest and select methods to systematically collect data.	Unit 8 – Lesson 4 – <i>Simple Bar Graphs</i> pp. 150-151 Lesson 5 – <i>Bar Graphs with a Scale</i> pp. 152-153

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<p><b>10.B.2b.</b> Collect, organize and display data using tables, charts, bar graphs, line graphs, circle graphs, line plots and stem-and-leaf graphs.</p>	<p>Unit 8 –  Lesson 1 – <i>Tally Charts</i> pp. 144-145  Lesson 2 – <i>Reading Charts and Tables</i> pp. 146-147  Lesson 3 – <i>Pictographs</i> pp. 148-149  Lesson 4 – <i>Simple Bar Graphs</i> pp. 150-151  Lesson 5 – <i>Bar Graphs with a Scale</i> pp. 152-153</p>
<p><b>10.B.2c.</b> Analyze the data using mean, median, mode and range, as appropriate, with or without the use of technology.</p>	<p><i>This standard is met in:</i>  <b>Level D (Grade 4)</b>  <b>Unit 8 – Data Analysis, Statistics, and Probability</b>  Lesson 2 – <i>Mode and Mean</i> pp. 146-147</p>
<p><b>10.B.2d.</b> Interpret results or make relevant decisions based on the data gathered.</p>	<p>Unit 8 –  Lesson 1 – <i>Tally Charts</i> pp. 144-145  Lesson 2 – <i>Reading Charts and Tables</i> pp. 146-147  Lesson 3 – <i>Pictographs</i> pp. 148-149  Lesson 4 – <i>Simple Bar Graphs</i> pp. 150-151  Lesson 5 – <i>Bar Graphs with a Scale</i> pp. 152-153  Lesson 8 – <i>Fair and Unfair Games</i> pp. 158-159</p>
<p><b>10.C.</b> Determine, describe and apply the probabilities of events.</p>	<p><b>Unit 8 – Probability, Data Analysis, and Graphs</b></p>
<p><b>10.C.2a.</b> Calculate the probability of a simple event.</p>	<p>Unit 8 –  Lesson 7 – <i>Probability</i> pp. 156-157  Lesson 8 – <i>Fair and Unfair Games</i> pp. 158-159</p>
<p><b>10.C.2b.</b> Compare the likelihood of events in terms of certain, more likely, less likely or impossible.</p>	<p>Unit 8 –  Lesson 6 – <i>Likelihood</i> pp. 154-155</p>
<p><b>10.C.2c.</b> Determine the probability of an event involving “and”, “or” or “not”.</p>	<p>Unit 8 –  Lesson 6 – <i>Likelihood</i> pp. 154-155  Lesson 7 – <i>Probability</i> pp. 156-157  Lesson 8 – <i>Fair and Unfair Games</i> pp. 158-159</p>