

Northpoint Horizons

Math Elevations™ (Comprehensive Intervention System) Correlated to Grade 5 of The North Carolina Mathematics Standard Course of Study

This document provides a sampling of the extensive math directives offered throughout the *Math Elevations* program that meet the North Carolina Mathematics Standard Course of Study.

Grade 5

Math Content Standard	Math Elevations Level E (Grade 5) Teacher's Guide Examples/Lessons
COMPETENCY GOAL 1: The learner will build an understanding of and compute with non-negative rational numbers (.01 to at least 1,000,000).	
1.01 Develop number sense for rational numbers from 0.001 at least to 1,000,000.	
a) Demonstrate multiple ways to represent numbers using models, words and symbolic representations.	Unit 3 – Lesson 2: <i>Equivalent Fractions and Simplest Form</i> pp. 56-57 Lesson 3: <i>Mixed Numbers and Improper Fractions</i> pp. 58-59 Lesson 4: <i>Relating Decimals and Fractions</i> pp. 60-61 Lesson 5: <i>Comparing and Ordering Fractions</i> pp. 62-63
b) Identify the place and the value of a given digit in order to determine the magnitude of the number.	Unit 1 – Lesson 1: <i>Whole Number Place Value</i> pp. 18-19 Lesson 2: <i>Place Value Through Thousandths</i> pp. 20-21 Lesson 3: <i>Working with Whole Numbers</i> pp. 22-23 Lesson 4: <i>Working with Decimal Numbers</i> pp. 24-25
c) Compare and order (including the use of symbolic notation).	Unit 1 – Lesson 1: <i>Whole Number Place Value</i> pp. 18-19 Lesson 2: <i>Place Value Through Thousandths</i> pp. 20-21 Lesson 3: <i>Working with Whole Numbers</i> pp. 22-23 Lesson 4: <i>Working with Decimal Numbers</i> pp. 24-25 Unit 3 – Lesson 2: <i>Equivalent Fractions and Simplest Form</i> pp. 56-57 Lesson 3: <i>Mixed Numbers and Improper Fractions</i> pp. 58-59 Lesson 4: <i>Relating Decimals and Fractions</i> pp. 60-61 Lesson 5: <i>Comparing and Ordering Fractions</i> pp. 62-63 Lesson 6: <i>Comparing Fractions Using the LCD</i> pp. 64-65 Lesson 7: <i>Converting Fractions to Decimals</i> pp. 66-67

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	Lesson 8: <i>Comparing and Ordering Fractions and Decimals</i> pp. 68-69
d) Identify factors and multiples including square, prime, and composite whole numbers to 100.	Unit 1 – Lesson 5: <i>Primes and Composites</i> pp. 26-27 Lesson 7: <i>Greatest Common Factor</i> pp. 30-31 Lesson 8: <i>Least Common Multiple</i> pp. 32-33
1.02. Develop fluency and flexibility with all whole number operations (including, but not limited to, standard algorithms) involving:	
a) up to three-digit by two-digit multiplication (larger numbers with calculators).	Unit 2 – Lesson 3: <i>Multiplying by Multiples of 10, 100, and 1,000</i> pp. 40-41 Lesson 4: <i>Multiplying by a Two-Digit Factor</i> pp. 42-43
b) up to three-digit by two-digit division with and without remainders (larger numbers with calculators).	Unit 1 – Lesson 6: <i>Divisibility</i> pp. 28-29 Unit 2 – Lesson 7: <i>Long Division</i> pp. 48-49 Lesson 8: <i>Interpreting Remainders</i> pp. 50-51
c) estimation of products and quotients and justification of the reasonableness of solutions in meaningful contexts.	Unit 2 – Lesson 6: <i>Estimating Quotients</i> pp. 46-47
1.03 Develop fluency with addition and subtraction of decimals and fractions with unlike denominators (within fraction families).	
a) Develop and analyze strategies for adding and subtracting numbers.	Unit 2 – Lesson 2: <i>Addition and Subtraction of Decimal Numbers</i> pp. 38-39 Unit 4 – Lesson 1: <i>Addition and Subtraction of Fractions (Like Denominators)</i> pp. 72-73 Lesson 2: <i>Addition and Subtraction of Mixed Numbers (Like Denominators)</i> pp. 74-75 Lesson 3: <i>Addition and Subtraction of Fractions (Unlike Denominators)</i> pp. 76-77 Lesson 4: <i>Addition of Mixed Numbers (Unlike Denominators)</i> pp. 78-79 Lesson 5: <i>Subtraction of Mixed Numbers (Unlike Denominators)</i> pp. 80-81

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COMPETENCY GOAL 2: The learner will develop fluency with standard units as they apply measurement concepts in multiple problem solving situations.	
2.01 Use appropriate standard units and tools to develop fluency and flexibility with unit conversions within same systems of measure; solve problems using these skills.	Unit 6 – Lesson 7: <i>Converting Within the Metric System</i> pp. 120-121 Lesson 8: <i>Converting Within the Customary System</i> pp. 122-123
2.02 Identify, estimate, and measure the angles of plane shapes using appropriate tools.	Unit 7 – Lesson 3: <i>Measuring and Classifying Angles</i> pp. 130-131
COMPETENCY GOAL 3: The learner will understand and use properties and relationships of two- and three-dimensional shapes.	
3.01 Identify, describe, analyze, compare, and classify triangles and quadrilaterals by properties including sides, angles and diagonals.	Unit 7 – Lesson 4: <i>Classifying Triangles</i> pp. 132-133 Lesson 7: <i>Classifying Quadrilaterals</i> pp. 138-139
3.02 Make and test conjectures about polygons involving:	
a) parallelism and perpendicularity of sides, and	Unit 7 – Lesson 2: <i>Lines</i> pp. 128-129
3.03 Use spatial reasoning to analyze three-dimensional shapes.	
a) Describe the number of edges, faces, and vertices of polyhedra.	Unit 7 – Lesson 8: <i>Solid Figures</i> pp. 140-141
b) Relate a three-dimensional shape to its two-dimensional representation (net).	Unit 7 – Lesson 8: <i>Solid Figures</i> pp. 140-141
3.04 Explore concepts of volume and surface area for rectangular prisms.	Unit 6 – Lesson 6: <i>Volume of Rectangular Solids</i> pp. 118-119
COMPETENCY GOAL 4: The learner will analyze data representations using statistical concepts.	
4.01 Use the process of statistical investigation.	
a) Pose questions, formulate hypotheses, and design studies involve single or multiple sets of data to investigate and verify hypotheses.	Unit 8 – Lesson 6: <i>Bar Graphs</i> pp. 154-155 Lesson 7: <i>Line Graphs</i> pp. 156-157
b) Collect, organize, analyze, and display data using various representations, including stem-and-leaf plots.	Unit 8 – Lesson 6: <i>Bar Graphs</i> pp. 154-155 Lesson 7: <i>Line Graphs</i> pp. 156-157 Lesson 8: <i>Circle Graphs</i> pp. 158-159
c) Analyze data using measures of center (mode, median) and variability (minimum and maximum values, unusual data points, and range).	Unit 8 – Lesson 4: <i>Mode, Median, and Range</i> pp. 150-151
d) Explore the mean as a measure of center and its interpretation as a fair share.	Unit 8 –

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	Lesson 5: <i>The Mean</i> pp. 152-153
4.02 Compare and contrast different representations of the same data, discuss the appropriateness of each representation for the context.	Unit 8 – Lesson 6: <i>Bar Graphs</i> pp. 154-155 Lesson 7: <i>Line Graphs</i> pp. 156-157
COMPETENCY GOAL 5: The learner will demonstrate an understanding of patterns, relationships and elementary algebraic representations.	
5.01 Analyze nonnumeric and numeric growing patterns.	
a) Use rules to describe these patterns as functional relationships (arithmetic sequences only).	Unit 5 – Lesson 2: <i>Investigating Patterns</i> pp. 92-93
b) Create, extend, and find missing terms.	Unit 5 – Lesson 3: <i>Algebraic Expressions</i> pp. 94-95 Lesson 4: <i>Evaluating Expressions</i> pp. 96-97
c) Display numeric results using coordinate graphs.	Unit 5 – Lesson 8: <i>The Coordinate Plane</i> pp. 104-105
d) Write equations with symbolic rules.	Unit 5 – Lesson 5: <i>Solving One-Step Equations</i> pp. 98-99
5.02 Model, write and evaluate whole number equations and equations involving addition/subtraction of decimals and fractions.	
a) Represent a problem including using variables to represent unknown quantities.	Unit 5 – Lesson 5: <i>Solving One-Step Equations</i> pp. 98-99
b) Demonstrate an understanding of equality and inequality.	Unit 5 – Lesson 5: <i>Solving One-Step Equations</i> pp. 98-99 Lesson 6: <i>Problem Solving</i> pp. 100-101
c) Find the value of variables.	Unit 5 – Lesson 3: <i>Algebraic Expressions</i> pp. 94-95 Lesson 4: <i>Evaluating Expressions</i> pp. 96-97
COMPETENCY GOAL 6: The learner will make connections, solve problems and reason mathematically.	
6.01 Recognize and apply connections among mathematical ideas.	
b) Connect concepts and skills from multiple strands to solve problems.	Unit 5 – Lesson 8: <i>The Coordinate Plane</i> pp. 104-105
6.02 Develop fluency in solving single and multi-step problems that arise in mathematics and in other contexts, building mathematical knowledge through problem solving.	
a) Understand situations and communicate mathematical problem solving.	Unit 8 –

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	Lesson 6: <i>Bar Graphs</i> pp. 154-155 Lesson 7: <i>Line Graphs</i> pp. 156-157
6.04 Use the language and symbols of mathematics and appropriate technology to:	
a) solve problems;	Unit 7 – Lesson 1: <i>Geometric Concepts</i> pp. 126-127 Lesson 2: <i>Lines</i> pp. 128-129
b) communicate mathematical ideas;	Unit 8 – Lesson 6: <i>Bar Graphs</i> pp. 154-155 Lesson 7: <i>Line Graphs</i> pp. 156-157
c) demonstrate understanding of problems and solutions through oral, pictorial, and written explanations.	Unit 5 – Lesson 5: <i>Solving One-Step Equations</i> pp. 98-99
6.05 Create and use representations to organize, record and communicate mathematical ideas.	Unit 8 – Lesson 7: <i>Line Graphs</i> pp. 156-157 Lesson 8: <i>Circle Graphs</i> pp. 158-159