Northpoint Horizons

Math Elevations™(Comprehensive Intervention System)
Correlated to the Grade 4
Colorado Model Content Standards for Mathematics

This document provides a sampling of the extensive math directives offered throughout the *Math Elevations* program that meet the **Colorado Model Content Standards for Mathematics.**

Grade 4

Content Standards	***Math Elevations* Teacher's Guide Level D (Grade 4) Lesson Examples**
STANDARD 1: Students develop number sense and use numbers and number relationships in problem-solving situations and communicate the reasoning used in solving these problems.	
1. demonstrate meanings for whole numbers, and commonly used fractions and decimals (for example, 1/3, 3/4, 0.5, 0.75), and represent equivalent forms of the same number through the use of physical models, drawings, calculators, and computers;	Unit 1 – Lesson 1: *Large Numbers* pp. 18-19 Lesson 2: *Comparing Numbers* pp. 20-21 Lesson 4: *Fractions as Part of a Whole* pp. 24-25 Lesson 5: *Fractions of a Set* pp. 26-27 Lesson 6: *Fractions as Decimals* pp. 28-29 Lesson 7: *Comparing and Rounding Decimals* pp. 30-31 Unit 4 – Lesson 1: *Comparing and Ordering Fractions* pp. 72-73 Lesson 2: *Equivalent Fractions* pp. 74-75 Lesson 3: *Converting Between Improper Fractions and Mixed Numbers* pp. 76-77
2. read and write whole numbers and know place-value concepts and numeration through their relationships to counting, ordering, and grouping;	Unit 1 – Lesson 1: *Large Numbers* pp. 18-19 Lesson 2: *Comparing Numbers* pp. 20-21
3. use numbers to count, to measure, to label, and to indicate location;	Unit 5 – Lesson 7: *Ordered Pairs* pp. 102-103
4. develop, test, and explain conjectures about properties of whole numbers, and commonly-used fractions and decimals (for example, 1/3, 3/4, 0.5, 0.75); and	Unit 1 – Lesson 3: *Rounding* pp. 22-23
5. use number sense to estimate and justify the reasonableness of solutions to problems involving whole numbers, and commonly-used fractions and decimals	Unit 1 – Lesson 3: *Rounding* pp. 22-23

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(for example, 1/3, 3/4, 0.5, 0.75).	Lesson 7: *Comparing and Rounding Decimals* pp. 30-31
STANDARD 2: Students use algebraic methods to explore, model, and describe patterns and functions involving numbers, shapes, data, and graphs in problem-solving situations and communicate the reasoning used in solving these problems.	
1. reproduce, extend, create, and describe patterns and sequences using a variety of materials (for example, beans, toothpicks, pattern blocks, calculators, unifix cubes, colored tiles);	Unit 5 – Lesson 4: *Functional Relationships* pp. 96-97 Lesson 5: *Linear Functions* pp. 98-99
2. describe patterns and other relationships using tables, graphs, and open sentences;	Unit 5 – Lesson 4: *Functional Relationships* pp. 96-97 Lesson 5: *Linear Functions* pp. 98-99
3. recognize when a pattern exists and use that information to solve a problem; and	Unit 5 – Lesson 4: *Functional Relationships* pp. 96-97 Lesson 5: *Linear Functions* pp. 98-99
4. observe and explain how a change in one quantity can produce a change in another (for example, the relationship between the number of bicycles and the numbers of wheels).	Unit 5 – Lesson 4: *Functional Relationships* pp. 96-97 Lesson 5: *Linear Functions* pp. 98-99
STANDARD 3: Students use data collection and analysis, statistics, and probability in problem-solving situations and communicate the reasoning used in solving these problems.	
1. construct, read, and interpret displays of data including tables, charts, pictographs, and bar graphs;	Unit 8 – Lesson 1: *Data Handling* pp. 144-145 Lesson 3: *Pictographs* pp. 148-149 Lesson 4: *Bar Graphs* pp. 150-151 Lesson 5: *Line Graphs* pp. 152-153 Lesson 6: *Venn Diagrams* pp. 154-155
2. interpret data using the concepts of largest, smallest, most often, and middle;	Unit 8 – Lesson 2: *Mode and Mean* pp. 146-147
3. generate, analyze, and make predictions based on data obtained from surveys and chance devices; and	Unit 8 – Lesson 7: *Predicting Possible Outcomes* pp. 156-157 Lesson 8: *Probability* pp. 158-159
4. solve problems using various strategies for making combinations (for example, determining the number of different outfits that can be made using two blouses and three skirts).	Unit 8 – Lesson 7: *Predicting Possible Outcomes* pp. 156-157
STANDARD 4: Students use geometric concepts, properties, and relationships in problem-solving situations and communicate the reasoning used in solving these problems.	
1. recognize shapes and their relationships (for example, symmetry,	Unit 7 –

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congruence) using a variety of materials (for example, pasta, boxes, pattern blocks);	Lesson 4: *Symmetry* pp. 132-133 Lesson 5: *Flips and Slides* pp. 134-135 Lesson 6: *Turns* pp. 136-137
2. identify, describe, draw, compare classify, and build physical models of geometric figures;	Unit 7 – Lesson 7: *Solid Figures* pp. 138-139
3. relate geometric ideas to measurement and number sense;	Unit 6 – Lesson 1: *Perimeter of Squares and Rectangles* pp. 108-109 Lesson 2: *Area of Squares and Rectangles* pp. 110-111 Lesson 3: *Area and Perimeter of Irregular Polygons* pp. 112-113
4. solve problems using geometric relationships and spatial reasoning (for example, using rectangular coordinates to locate objects, constructing models of three-dimensional objects); and	Unit 5 – Lesson 7: *Ordered Pairs* pp. 102-103 Unit 7 – Lesson 7: *Solid Figures* pp. 138-139
5. recognize geometry in their world (for example, in art and in nature).	Unit 6 – Lesson 1: *Perimeter of Squares and Rectangles* pp. 108-109
STANDARD 5: Students use a variety of tools and techniques to measure, apply the results in problem-solving situations, and communicate the reasoning used in solving these problems.	
1. know, use, describe, and estimate measures of length, perimeter, capacity, weight, time, and temperature;	Unit 6 – Lesson 1: *Perimeter of Squares and Rectangles* pp. 108-109 Lesson 2: *Area of Squares and Rectangles* pp. 110-111 Lesson 3: *Area and Perimeter of Irregular Polygons* pp. 112-113 Lesson 4: *Metric Measurement* pp. 114-115 Lesson 5: *Measuring Capacity* pp. 116-117 Lesson 6: *Capacity Conversions* pp. 118-119 Lesson 7: *Weight* pp. 120-121 Lesson 8: *Appropriate Units* pp. 122-123
2. compare and order objects according to measurable attributes (for example, longest to shortest, lightest to heaviest);	Unit 6 – Lesson 4: *Metric Measurement* pp. 114-115 Lesson 5: *Measuring Capacity* pp. 116-117 Lesson 6: *Capacity Conversions* pp. 118-119 Lesson 7: *Weight* pp. 120-121 Lesson 8: *Appropriate Units* pp. 122-123
3. demonstrate the process of measuring and explain the concepts related to	Unit 6 –

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units of measurement;	Lesson 4: *Metric Measurement* pp. 114-115 Lesson 5: *Measuring Capacity* pp. 116-117 Lesson 6: *Capacity Conversions* pp. 118-119 Lesson 7: *Weight* pp. 120-121 Lesson 8: *Appropriate Units* pp. 122-123
5. select and use appropriate standard and non-standard units of measurement in problem-solving situations.	Unit 6 – Lesson 4: *Metric Measurement* pp. 114-115 Lesson 8: *Appropriate Units* pp. 122-123
STANDARD 6: Students link concepts and procedures as they develop and use computational techniques, including estimation, mental arithmetic, paper-and-pencil, calculators, and computers, in problem-solving situations and communicate the reasoning used in solving these problems.	
1. demonstrate conceptual meanings for the four basic arithmetic operations of addition, subtraction, multiplication, and division;	Unit 2 – Lesson 1: *Mental Addition and Subtraction* pp. 36-37 Unit 3 – Lesson 1: *Mental Multiplication* pp. 54-55 Lesson 5: *Division with Remainders* pp. 62-63
2. add and subtract commonly-used fractions and decimals using physical models (for example, 1/3, 3/4, 0.5, 0.75);	Unit 2 – Lesson 3: *Making Change* pp. 40-41 Unit 4 – Lesson 5: *Addition of Fractions with Like Denominators* pp. 80-81 Lesson 6: *Subtraction of Fractions with Like Denominators* pp. 82-83 Lesson 7: *Addition and Subtraction of Mixed Numbers* pp. 84-85 Lesson 8: *Addition and Subtraction of Fractions with Unlike Denominators* pp. 86-87
3. demonstrate fluency with basic addition, subtraction, multiplication, and division facts without the use of a calculator;	Unit 2 – Lesson 1: *Mental Addition and Subtraction* pp. 36-37 Lesson 2: *Column Addition* (I) pp. 38-39 Lesson 3: *Making Change* pp. 40-41 Lesson 4: *Column Subtraction* (I) pp. 42-43 Lesson 5: *Word Problems (Three- and Four-Digit Numbers)* pp. 44-45 Lesson 6: *Column Addition (II)* pp. 46-47

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	Lesson 7: *Column Subtraction (II)* pp. 48-49 Lesson 8: *Word Problems (Five-Digit Numbers) pp. 50-51* Unit 3 – Lesson 1: *Mental Multiplication* pp. 54-55 Lesson 2: *Patterns of Calculations* pp. 56-57 Lesson 3: *Multiplication by One-Digit Numbers* pp. 58-59 Lesson 4: *Multiplication by Two-Digit Numbers* pp. 60-61 Lesson 5: *Division with Remainders* pp. 62-63 Lesson 6: *Long Division (Two-Digit ÷ One-Digit Numbers)* pp. 64-65 Lesson 7: *Long Division (Three-Digit ÷ One-Digit Numbers)* pp. 66-67 Lesson 8: *Word Problems* pp. 68-69
4. construct, use, and explain procedures to compute and estimate with whole numbers; and	Unit 3 – Lesson 1: *Mental Multiplication* pp. 54-55 Lesson 4: *Multiplication by Two-Digit Numbers* pp. 60-61 Lesson 6: *Long Division (Two-Digit ÷ One-Digit Numbers)* pp. 64-65 Lesson 7: *Long Division (Three-Digit ÷ One-Digit Numbers)* pp. 66-67
5. select and use appropriate algorithms for computing with whole numbers in problem-solving situations.	Unit 2 – Lesson 1: *Mental Addition and Subtraction* pp. 36-37 Lesson 2: *Column Addition* (I) pp. 38-39 Lesson 3: *Making Change* pp. 40-41 Lesson 4: *Column Subtraction* (I) pp. 42-43 Lesson 5: *Word Problems (Three- and Four-Digit Numbers)* pp. 44-45 Lesson 6: *Column Addition (II)* pp. 46-47 Lesson 7: *Column Subtraction (II)* pp. 48-49 Lesson 8: *Word Problems (Five-Digit Numbers) pp. 50-51* Unit 3 – Lesson 1: *Mental Multiplication* pp. 54-55 Lesson 2: *Patterns of Calculations* pp. 56-57 Lesson 3: *Multiplication by One-Digit Numbers* pp. 58-59 Lesson 4: *Multiplication by Two-Digit Numbers* pp. 60-61

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	Lesson 5: *Division with Remainders* pp. 62-63 Lesson 6: *Long Division (Two-Digit ÷ One-Digit Numbers)* pp. 64-65 Lesson 7: *Long Division (Three-Digit ÷ One-Digit Numbers)* pp. 66-67 Lesson 8: *Word Problems* pp. 68-69