Northpoint Horizons

Math Elevations™(Comprehensive Intervention System)
Correlated to
Alaska Content and Performance Standards

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

Alaska Content and Performance Standards Grade 5	**Math Elevations Level E Teacher's Guide Examples/Lessons**
Numeration: Understand and use numeration	
Understanding Numbers	
• of whole numbers to millions by [5] N-1 reading, writing, ordering, or [counting L] (M1.2.1)	Unit 1 – Lesson 1: *Whole Number Place Value* pp. 18-19 Unit 1 – Lesson 3: *Working with Whole Numbers* pp. 22-23
• of whole numbers to millions by [5] N-2 identifying place value positions from tenths to millions (M1.2.2)	Unit 1 – Lesson 1: *Whole Number Place Value* pp. 18-19 Unit 1 – Lesson 2: *Place Value Through Thousandths* pp. 20-21
• of whole numbers to millions by [5] N-3 converting between whole numbers written in expanded notation and standard form (M1.2.4)	Unit 1 – Lesson 1: *Whole Number Place Value* pp. 18-19
• of positive fractions with denominators 1 through 12 and 100 with proper and mixed numbers and benchmark percents (10%, 25%, 50%, 75%, 100%) by [5] N-4 modeling, identifying, describing with explanations, or illustrating equal parts of a whole, a region, or a set (M1.2.4)	Unit 3 – Lesson 1: *Understanding Fractions* pp. 54-55
• of positive fractions with denominators 1 through 12 and 100 with proper and mixed numbers and benchmark percents (10%, 25%, 50%, 75%, 100%) by [5] N-5 modeling, identifying, describing with explanations, or illustrating equivalent fractions or mixed numbers (M1.2.4 & M3.2.5)	Unit 3 – Lesson 2: *Equivalent Fractions and Simplest Form* pp. 56-57
Understanding Meaning of Operations	
[5] N-6 [using models, explanations, number lines, or real-life situations L] describing or illustrating the process of division and its relationship to subtraction or to multiplication (M1.2.3)	Unit 2 – Lesson 6: *Estimating Quotients* pp. 46-47 Unit 2 –

	Lesson 8: *Interpreting Remainders* pp. 50-51
[5] N-7 [using models, explanations, number lines, or real-life situations L] describing or illustrating the process of adding and subtracting proper fractions or mixed numbers (like denominators) (M1.2.5)	Unit 4 – Lesson 1: *Addition and Subtraction of Fractions (Like Denominators)* pp. 72-73 Unit 4 – Lesson 2: *Addition and Subtraction of Mixed Numbers (Like Denominators)* pp. 74-75
[5] N-8 [using models, explanations, number lines, or real-life situations L] describing or illustrating the process of adding or subtracting decimals that represent money (M1.2.5)	Unit 2 – Lesson 2: *Addition and Subtraction of Decimal Numbers* pp. 38-39
[5] N-9 describing or illustrating commutative or identity properties of addition or multiplication using models or explanations (M1.2.7)	Level D Unit 3 – Lesson 1: *Mental Multiplication* pp. 54-55
Number Theory	
[5] N-10 identifying or listing factors and multiples common to a pair or set of numbers (M1.2.6)	Unit 1 – Lesson 7: *Greatest Common Factor* pp. 30-31 Unit 1 – Lesson 8: *Least Common Multiple* pp. 32-33
Measurement: Select and use systems, units, and tools of measurement	
Measurable Attributes	
[5] MEA-1 estimating length to the nearest one-fourth inch or centimeter (L) (M2.2.1)	Level C Unit 7 – Lesson 2: *Length (Customary Units)* pp. 128-129 Unit 7 – Lesson 3: *Length (Metric)* pp. 130-131
[5] MEA-2 estimating temperature (degree Celsius or Fahrenheit, plus or minus 5 degrees) or weight (half-pounds or kilograms) to the nearest unit (L) (M2.2.1)	Level D Unit 6 – Lesson 7: *Weight* pp. 120-121
[5] MEA-3 identifying or using equivalent measures for weight/mass (16 oz. = 1 pound or 1000 grams = 1 kilogram), length (1000 millimeters = 1 meter), or time (M2.2.2)	Unit 6 – Lesson 7: *Converting Within the Metric System* pp. 120-121 Unit 6 – Lesson 8: *Converting Within the Customary System* pp. 122-123
Measurement Techniques	

[5] MEA-4 measuring temperature or weight using appropriate tools (L) (M2.2.1 & M2.2.3)	Unit 6 – Lesson 7: *Converting Within the Metric System* pp. 120-121 Unit 6 – Lesson 8: *Converting Within the Customary System* pp. 122-123
[5] MEA-5 telling time using analog clocks to the nearest minute and using AM or PM (M2.2.5)	Level C Unit 7 – Lesson 1: *Time* pp. 126-127
[5] MEA-6 determining possible combinations of coins and bills to given amounts (M2.2.6)	Level C Unit 4 – Lesson 3: *Dollars, Dimes, and Pennies* pp. 76-77 Unit 4 – Lesson 4: *Nickels and Quarters* pp. 78-79 Unit 4 – Lesson 5: *Bills and Coins* pp. 80-81 Unit 4 – Lesson 6: *Making Change* pp. 82-83
[5] MEA-7 simulating multiple purchases and calculating the amount of change from given bills up to $100.00 (L) (M2.2.6)	Level C Unit 4 – Lesson 6: *Making Change* pp. 82-83 Unit 4 – Lesson 7: *Addition and Subtraction of Money* pp. 84-85
[5] MEA-8 measuring length to the nearest 1⁄4 inch or centimeter (M2.2.1)	Level C Unit 7 – Lesson 2: *Length (Customary Units)* pp. 128-129 Unit 7 – Lesson 3: *Length (Metric)* pp. 130-131
Estimation and Computation: Perform basic arithmetic functions, make reasoned estimates, and select and use appropriate methods or tools	
[5] E&C-1 identifying or using [a variety of L] strategies (e.g., rounding to appropriate place value, multiplying by powers of ten, using front-end estimation to estimate the results of addition or subtraction computations from tenths to 100,000, including money, or simple multiplication or division (M3.2.1)	Unit 2 – Lesson 1: *Addition and Subtraction of Whole Numbers* pp. 36-37 Unit 2 – Lesson 3: *Multiplying by Multiples of 10, 100, and 1,000* pp. 40-41 Unit 2 – Lesson 6: *Estimating Quotients* pp. 46-47
Computation	

[5] E&C-2 recalling basic multiplication facts, products to 144, and corresponding division facts efficiently (L) (M3.2.2)	Unit 2 – Lesson 3: *Multiplying by Multiples of 10, 100, and 1,000* pp. 40-41 Unit 2 – Lesson 4: *Multiplying by a Two-Digit Factor* pp. 42-43
[5] E&C-3 adding or subtracting four-digit whole numbers, fractions with like denominators to 12, or decimals involving money (M3.2.3)	Unit 2 – Lesson 2: *Addition and Subtraction of Decimal Numbers* pp. 38-39 Unit 4 – Lesson 1: *Addition and Subtraction of Fractions (Like Denominators)* pp. 72-73 Unit 4 – Lesson 2: *Addition and Subtraction of Mixed Numbers (Like Denominators)* pp. 74-75
[5] E&C-4 multiplying two-digit whole numbers by two-digit numbers or dividing three-digit whole numbers by single-digit numbers (M3.2.4)	Unit 2 – Lesson 4: *Multiplying by a Two-Digit Factor* pp. 42-43 Unit 2 – Lesson 7: *Long Division* pp. 48-49
Functions and Relationships: Represent, analyze, and use patterns, relations, and functions	
Describing Patterns and Functions	
[5] F&R-1 extending patterns that use addition, subtraction, multiplication, division or symbols, up to 10 terms, represented by models (function machines), tables, sequences, or in problem situations (M4.2.1)	Unit 5 – Lesson 2: *Investigating Patterns* pp. 92-93
[5] F&R-2 using rules to express the generalization of a pattern using words, lists, or tables (M4.2.4)	Unit 5 – Lesson 2: *Investigating Patterns* pp. 92-93
[5] F&R-3 identifying or applying addition or subtraction patterns to find missing values in a function (M4.1.2)	Unit 5 – Lesson 4: *Evaluating Expressions* pp. 96-97
[5] F&R-4 using manipulatives, including a calculator, as tools when describing, extending, or representing a number sequence (L) (M4.2.1 & M4.2.3)	Unit 5 – Lesson 4: *Evaluating Expressions* pp. 96-97
Modeling and Solving Equations and Inequalities	
[5] F&R-5 using an open number sentence (addition, subtraction, multiplication, or division) to solve for an unknown represented by a box or circle (e.g., 256 ÷ =8, ÷8=56, 36÷3=) (M4.2.5)	Unit 5 – Lesson 3: *Algebraic Expressions* pp. 94-95 Unit 5 – Lesson 4: *Evaluating Expressions* pp. 96-97 Unit 5 – Lesson 5: *Solving One-Step Equations* pp. 98-99
Geometry: Construct, transform, and analyze geometric figures	

[5] G-1 using the attributes and properties of angles and the number, length, and orientation of sides to identify or compare triangles (scalene, isosceles, or equilateral) or quadrilaterals (parallelograms, trapezoids, rhombi) (M5.2.1)	Unit 7 – Lesson 3: *Measuring and Classifying Angles* pp. 130-131 Unit 7 – Lesson 4: *Classifying Triangles* pp. 132-133
[5] G-2 using the attributes and properties of solid figures (edges, vertices, number of faces) to [model L], identify, compare, or describe (cubes, cylinders, cones, spheres, pyramids, or rectangular prisms) (e.g., boxes, buildings, packages) (M5.2.2)	Unit 7 – Lesson 8: *Solid Figures* pp. 140-141
Similarity, Congruence, Symmetry, and Transformation of Shapes	
[5] G-3 illustrating or identifying the results of transformation (slides, turns, or flips of polygons) (e.g., pictures of cultural art, fabric designs, architecture, logos) (M5.2.5)	Unit 7 – Lesson 5: *Translations* pp. 134-135 Unit 7 – Lesson 6: *Reflections and Rotations* pp. 136-137
[5] G-4 identifying, creating, or drawing geometric figures that are congruent, similar, or symmetrical (M5.2.3)	Unit 7 – Lesson 5: *Translations* pp. 134-135
[5] G-5 modeling designs (e.g., tessellations) that contain a series of slides, flips, and/or turns (L) (M5.2.5)	Unit 7 – Lesson 5: *Translations* pp. 134-135
Perimeter, Area, Volume, and Surface Area	
[5] G-6 estimating or determining area or perimeter of rectangles using a key, ruler, or given measures (M5.2.4)	Unit 6 – Lesson 1: *Area and Perimeter* pp. 108-109
[5] G-7 estimating or determining the area and circumference of a circle using a grid or manipulatives (L) (M5.2.4 & M5.3.4)	Level F Unit 6 – Lesson 4: *Circles* pp. 114-115
Position and Direction	
[5] G-8 locating points of given coordinates on a grid or identifying coordinates for a given point (e.g., items on a treasure map) (L) (M5.2.6)	Unit 7 – Lesson 5: *Translations* pp. 134-135 Unit 7 – Lesson 6: *Reflections and Rotations* pp. 136-137
Construction	
[5] G-9 identifying or drawing perpendicular line segments or midpoints (L) (M5.2.7)	Unit 7 – Lesson 2: *Lines* pp. 128-129
Statistics and Probability: Formulate questions, gather and interpret data, and make predictions	
[5] S&P-1 [designing an investigation and collecting L], organizing, or displaying, using appropriate scale, data in real-world problems (e.g., social studies, friends, or school), using bar graphs, tables, charts, diagrams, or	Unit 8 – Lesson 6: *Bar Graphs* pp. 154-155 Unit 8 –

line graphs with whole numbers up to 50 (M6.2.1 & M6.2.2)	Lesson 7: *Line Graphs* pp. 156-157 Unit 8 – Lesson 8: *Circle Graphs* pp. 158-159
Analysis and Central Tendency	
[5] S&P-2 using information from a variety of displays (tables, bar graphs, line graphs, or Venn diagrams) (M6.2.2)	Unit 8 – Lesson 6: *Bar Graphs* pp. 154-155 Unit 8 – Lesson 7: *Line Graphs* pp. 156-157 Unit 8 – Lesson 8: *Circle Graphs* pp. 158-159
[5] S&P-3 using mode, median, or range with up to 10 pieces of data with a value of 10 or less each (M6.2.3)	Unit 8 – Lesson 4: *Mode, Median, and Range* pp. 150-151 Unit 8 – Lesson 5: *The Mean* pp. 152-153
Probability	
[5] S&P-4 predicting or explaining the probability of all possible outcomes in an experiment using ratios or fractions to describe the probability (M6.2.4)	Unit 8 – Lesson 1: *Possible Outcomes* pp. 144-145
[5] S&P-5 solving or identifying solutions to problems involving money combinations (e.g., how many ways can you make 25 cents using nickels, dimes, or quarters?) (M6.2.5)	Level C Unit 4 – Lesson 8: *Money Word Problems* pp. 86-87
Problem Solving: Understand and be able to select and use a variety of problem-solving strategies	
[5] PS-1 selecting and applying an appropriate strategy (e.g., tables, charts, lists, or graphs; guess and check; extended patterns; making a model) to solve a variety of problems and verify the results (M7.2.2)	Unit 8 – Lesson 6: *Bar Graphs* pp. 154-155 Unit 8 – Lesson 7: *Line Graphs* pp. 156-157 Unit 8 – Lesson 8: *Circle Graphs* pp. 158-159
[5] PS-2 explaining and verifying results of an original problem and applying what was learned to new situations (M7.2.3)	Unit 5 – Lesson 6: *Problem Solving* pp. 100-101
Communication: Form and use appropriate methods to define and explain mathematical relationships	
[5] PS-3 representing problems using mathematical language including concrete, pictorial, and/or symbolic representation; or organizing and communicating mathematical problem-solving strategies and solutions using mathematical language (M8.2.1, M8.2.2, & M8.2.3)	Unit 5 – Lesson 3: *Algebraic Expressions* pp. 94-95 Unit 5 – Lesson 4: *Evaluating Expressions* pp. 96-97 Unit 5 –

	Lesson 5: *Solving One-Step Equations* pp. 98-99
Reasoning: Use logic and reason to solve mathematical problems	
[5] PS-4 drawing logical conclusions about mathematical situations (given a rule or generalization, determining whether the example fits); or justifying answers and mathematical strategies as reasonable (M9.2.1, M9.2.2, & M9.2.3)	Unit 8 – Lesson 1: *Possible Outcomes* pp. 144-145 Unit 8 – Lesson 2: *Evaluating Probability* pp. 146-147
Connections: Apply mathematical concepts and processes to situations within and outside of school	
[5] PS-5 using real-world contexts such as social studies, friends, and school (M10.2.1 & M10.2.2)	Unit 8 – Lesson 3: *Probability Experiments* pp. 148-149