

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 7	Math Elevations Level G Teacher's Guide Examples/Lessons
Numeration: Understand and use numeration	
Understanding Numbers	
<ul style="list-style-type: none"> • of rational numbers (fractions, decimals, percents, or integers) by [7] N-1 ordering rational numbers (M1.3.1) 	Unit 1 – Lesson 1: <i>Decimal Place Value</i> pp. 18- 21 Unit 1 – Lesson 8: <i>Fractions and Mixed Numbers</i> pp. 40-43 Unit 2 – Lesson 8: <i>Fraction and Decimals</i> pp. 68-71
<ul style="list-style-type: none"> • of rational numbers (fractions, decimals, percents, or integers) by [7] N-2 modeling (place value blocks) or identifying place value positions of whole numbers and decimals (L) (M1.3.2) 	Unit 1 – Lesson 1: <i>Decimal Place Value</i> pp. 18- 21
<ul style="list-style-type: none"> • of rational numbers (fractions, decimals, percents, or integers) by [7] N-3 converting between expanded notation (multiples of ten) and standard form for decimal numbers (M1.3.3) 	Unit 1 – Lesson 4: <i>Scientific Notation</i> pp. 28-30
<ul style="list-style-type: none"> • of positive fractions, decimals, or percents by [7] N-4 identifying or representing equivalents of numbers (M1.3.4 & M3.3.5) 	Unit 1 – Lesson 8: <i>Fractions and Mixed Numbers</i> pp. 40-43 Unit 2 – Lesson 8: <i>Fraction and Decimals</i> pp. 68-71
Understanding Meaning of Operations	
[7] N-5 [using models, explanations, number lines, real-life situations L] describing or illustrating the effects of arithmetic operations on rational numbers (fractions, decimals) (M1.2.3)	Unit 2 – Lesson 1: <i>Adding and Subtracting Fractions</i> pp. 46-48 Unit 2 – Lesson 2: <i>Adding and Subtracting Mixed Numbers</i> pp. 49-51 Unit 2 – Lesson 3: <i>Multiplying Fractions and Mixed Numbers</i> pp. 52-54

	Unit 2 – Lesson 4: <i>Dividing Fractions and Mixed Numbers</i> pp. 55-57 Unit 2 – Lesson 5: <i>Adding and Subtracting Decimals</i> pp. 58-60 Unit 2 – Lesson 6: <i>Multiplying by Decimals</i> pp. 61-63 Unit 2 – Lesson 7: <i>Dividing Decimals</i> pp. 64-67 Unit 3 – Lesson 2: <i>Adding Integers</i> pp. 77-79 Unit 3 – Lesson 3: <i>Subtracting Integers</i> pp. 80-82 Unit 3 – Lesson 5: <i>Multiplying Integers</i> pp. 86-88 Unit 3 – Lesson 6: <i>Dividing Integers</i> pp. 89-91
Number Theory	
[7] N-6 using commutative, [associative L], inverse, or identity properties with rational numbers (M1.3.6)	Unit 3 – Lesson 7: <i>Commutative and Associative Properties</i> pp. 92-94
[7] N-7 applying rules of divisibility to whole numbers (M1.3.5)	Unit 3 – Lesson 6: <i>Dividing Integers</i> pp. 89-91
[7] N-8 identifying prime and composite numbers (M1.3.5)	Unit 1 – Lesson 5: <i>Prime Factorization</i> pp. 31-33
[7] N-9 using distributive property with rational numbers (L) (M1.3.6)	Unit 3 – Lesson 8: <i>Distributive Property</i> pp. 95-97
Measurement: Select and use systems, units, and tools of measurement	
Measurable Attributes	
[7] MEA-1 estimating length to the nearest sixteenth of an inch or millimeter, volume to the nearest cubic centimeter or milliliter, or angle to the nearest 30 degrees (L) (M2.3.1)	Unit 7 – Lesson 8: <i>Volume of a Prism</i> pp. 206-208
[7] MEA-2 identifying or using equivalent English (square inches, square feet, square yards) or metric systems (square centimeters, square meters) (M2.3.2)	Level H: Unit 4 – Lesson 2: <i>Writing and Solving Proportions</i> pp. 108-110
Measurement Techniques	
[7] MEA-3 applying a given scale factor to find missing dimensions of similar figures (M2.3.4)	Unit 5 – Lesson 4: <i>Scale Drawings and Models</i> pp. 138-140

[7] MEA-4 measuring various dimensions to one-sixteenth of an inch or millimeter (M2.3.1)	Level H: Unit 4 – Lesson 2: <i>Writing and Solving Proportions</i> pp. 108-110
[7] MEA-5 accurately measuring a given angle using a protractor to the nearest plus or minus 2 degrees (M2.3.1)	Unit 6 – Lesson 1: <i>Angles</i> pp. 156-159
[7] MEA-6 solving real-world problems involving elapsed time between world time zones (M2.3.5)	
Estimation and Computation: Perform basic arithmetic functions, make reasoned estimates, and select and use appropriate methods or tools	
Estimation	
[7] E&C-1 identifying or using [a variety of L] strategies, including truncating, rounding, front-end estimation, compatible numbers, to check for reasonableness of solutions (M3.3.1)	Unit 2 – Lesson 5: <i>Adding and Subtracting Decimals</i> pp. 58-60 Unit 2 – Lesson 6: <i>Multiplying by Decimals</i> pp. 61-63
[7] E&C-2 comparing results of different strategies (L) (M3.3.1)	Unit 2 – Lesson 5: <i>Adding and Subtracting Decimals</i> pp. 58-60
Computation	
[7] E&C-3 adding or subtracting fractions or mixed numbers with unlike denominators, or decimals to the thousandths place (M3.3.3)	Unit 2 – Lesson 1: <i>Adding and Subtracting Fractions</i> pp. 46-48 Unit 2 – Lesson 2: <i>Adding and Subtracting Mixed Numbers</i> pp. 49-51 Unit 2 – Lesson 5: <i>Adding and Subtracting Decimals</i> pp. 58-60
[7] E&C-4 multiplying or dividing decimals to hundredths, or multiplying or dividing by powers of ten, or multiplying or dividing fractions or mixed numbers (M3.3.4)	Unit 2 – Lesson 3: <i>Multiplying Fractions and Mixed Numbers</i> pp. 52-54 Unit 2 – Lesson 4: <i>Dividing Fractions and Mixed Numbers</i> pp. 55-57 Unit 2 – Lesson 6: <i>Multiplying by Decimals</i> pp. 61-63 Unit 2 – Lesson 7: <i>Dividing Decimals</i> pp. 64-67
[7] E&C-5 converting between equivalent fractions, terminating decimals, or percents ($10\% = 1/10 = 0.1$) (M3.3.5)	Unit 1 – Lesson 8: <i>Fractions and Mixed Numbers</i> pp. 40-43 Unit 2 – Lesson 8: <i>Fraction and Decimals</i> pp. 68-71
[7] E&C-6 solving proportions using a given scale (M3.3.6)	Unit 5 – Lesson 3: <i>Writing and Solving Proportions</i> pp. 135-137

Functions and Relationships: Represent, analyze, and use patterns, relations, and functions	
Describing Patterns and Functions	
[7] F&R-1 describing or extending patterns (linear) up to ten terms, represented in tables, sequences, or in problem situations (M4.3.1)	Unit 4 – Lesson 4: <i>Graphing Functions</i> pp. 109-111
[7] F&R-2 generalizing relationships (linear) using a table of ordered pairs, a function, or an equation (M4.3.4)	Unit 4 – Lesson 4: <i>Graphing Functions</i> pp. 109-111
[7] F&R-3 describing in words how a change in one variable in a formula affects the remaining variables (how changing the length affects the area of a quadrilateral) (M4.3.2)	Unit 4 – Lesson 4: <i>Graphing Functions</i> pp. 109-111
[7] F&R-4 using a calculator as a tool when describing, extending, or representing patterns (L) (M4.3.3)	Unit 4 – Lesson 3: <i>Writing and Evaluating Expressions</i> pp. 106-108
Modeling and Solving Equations and Inequalities	
[7] F&R-5 evaluating algebraic expressions (M4.3.5)	Unit 4 – Lesson 2: <i>Evaluating Algebraic Expressions</i> pp. 103-105 Unit 4 – Lesson 3: <i>Writing and Evaluating Expressions</i> pp. 106-108
[7] F&R-6 solving or identifying solutions to one-step linear equations of the form $x \pm a=b$ or $ax=b$, where a and b are whole numbers; translating a story problem into an equation of similar form; or translating a story problem into an equation of similar form and solving it (M4.3.5)	Unit 4 – Lesson 6: <i>Solving One-Step Equations Using Addition and Subtraction</i> pp. 115-117 Unit 4 – Lesson 7: <i>Solving One-Step Equations Using Multiplication and Division</i> pp. 118-120
Geometry: Construct, transform, and analyze geometric figures	
Geometric Relationships	
[7] G-1 using the attributes and properties of polygons (diagonals, number of sides and angles) to identify and classify regular or irregular polygons (M5.3.1)	Unit 6 – Lesson 3: <i>Polygons</i> pp. 163-165
[7] G-2 using the attributes and properties of prisms (vertices, length and alignment of edges, shape and number of bases, shape of faces) to identify and describe triangular or rectangular pyramids (M5.3.2)	Unit 6 – Lesson 8: <i>Solid Figures</i> pp. 179-181
Similarity, Congruence, Symmetry, and Transformation of Shapes	
[7] G-3 using a scale factor to solve problems involving similar shapes (e.g., scale drawings, maps) (M5.3.3)	Unit 5 – Lesson 4: <i>Scale Drawings and Models</i> pp. 138-140
[7] G-4 drawing or describing the results of applying transformations such as translations, rotations, reflections, or dilations to figures (L) (M5.3.5)	Unit 6 – Lesson 6: <i>Translations in the Coordinate Plane</i> pp. 172-174 Unit 6 – Lesson 7: <i>Reflections and Rotations in the Coordinate Plane</i> pp.

	175-178
Perimeter, Area, Volume, and Surface Area	
[7] G-5 determining the volume of cubes and rectangular prisms (M5.3.4)	Unit 7 – Lesson 8: <i>Volume of a Prism</i> pp. 206-208
[7] G-6 determining the surface area of rectangular prisms (M5.3.4)	Unit 7 – Lesson 6: <i>Surface Area of a Prism</i> pp. 200-202
[7] G-7 determining the circumference of a circle (M5.3.4)	Unit 7 – Lesson 4: <i>Circumference of a Circle</i> pp. 194-196
Position and Direction	
[7] G-8 graphing or identifying values of variables on a coordinate grid (M5.3.6)	Unit 4 – Lesson 4: <i>Graphing Functions</i> pp. 109-111
Construction	
[7] G-9 drawing or measuring polygons with given dimensions and angles or circles with given dimensions (L)(M5.3.7)	Unit 6 – Lesson 3: <i>Polygons</i> pp. 163-165
Statistics and Probability: Formulate questions, gather and interpret data, and make predictions	
Data Display	
[7] S&P-1 [collecting, L] displaying, organizing, or explaining the classification of data in real-world problems (e.g., science or humanities, peers or community), using circle graphs, frequency distributions, stem and leaf, [or scatter plots L] with appropriate scale (M6.3.1)	Unit 8 – Lesson 7: <i>Bar Graphs and Line Graphs</i> pp. 233-236 Unit 8 – Lesson 8: <i>Circle Graphs</i> pp. 237-239
Analysis and Central Tendency	
[7] S&P-2 using information from a variety of displays (e.g., as found in graphical displays in newspapers and magazines)(M6.3.2)	Unit 8 – Lesson 2: <i>Permutations</i> pp. 215-217
[7] S&P-3 determining mean, median, mode, or range (M6.3.3)	Unit 8 – Lesson 6: <i>Mean, Median, and Mode</i> pp. 229-232
Probability	
[7] S&P-4 determining the [experimental and] (L) theoretical probability of a simple event (M6.3.5)	Unit 8 – Lesson 1: <i>Possible Outcomes</i> pp. 212-214 Unit 8 – Lesson 5: <i>Dependent and Independent Events</i> pp. 225-228
[7] S&P-5 using a systematic approach to finding sample spaces or to making predictions about the probability of independent events (M6.3.5)	Unit 8 – Lesson 1: <i>Possible Outcomes</i> pp. 212-214
[7] S&P-6 designing and conducting a simulation to study a problem and communicate the results (L) (M6.3.6)	Unit 8 – Lesson 4: <i>Disjoint, Overlapping, and Complementary Events</i> pp. 221-224

Problem Solving: Understand and be able to select and use a variety of problem-solving strategies	
[7] PS-1 selecting, modifying, and applying a variety of problem-solving strategies (e.g., working backwards, drawing a picture, Venn diagrams) and verifying the results (M7.3.2)	Unit 4 – Lesson 4: <i>Graphing Functions</i> pp. 109-111
[7] PS-2 evaluating, interpreting, and justifying solutions to problems (M7.3.3)	Unit 2 – Lesson 5: <i>Adding and Subtracting Decimals</i> pp. 58-60
Communication: Form and use appropriate methods to define and explain mathematical relationships	
[7] PS-3 representing mathematical problems numerically, graphically, and/or symbolically; or using appropriate vocabulary, symbols, or technology to explain, justify, and defend strategies and solutions (M8.3.1, M8.3.2, & M8.3.3)	Unit 8 – Lesson 7: <i>Bar Graphs and Line Graphs</i> pp. 233-236 Unit 8 – Lesson 8: <i>Circle Graphs</i> pp. 237-239
Reasoning: Use logic and reason to solve mathematical problems	
[7] PS-4 using informal deductive and inductive reasoning in concrete contexts or stating counterexamples to disprove statements; or justifying and defending the validity of mathematical strategies and solutions using examples (M9.3.1, M9.3.2, & M9.3.3)	Unit 8 – Lesson 1: <i>Possible Outcomes</i> pp. 212-214
Connections: Apply mathematical concepts and processes to situations within and outside of school	
[7] PS-5 using real-world contexts such as science, humanities, peers, and community (M10.3.1 & M10.3.2)	Unit 8 – Lesson 5: <i>Dependent and Independent Events</i> pp. 225-228 Unit 8 – Lesson 6: <i>Mean, Median, and Mode</i> pp. 229-232