

Northpoint Horizons

Math Elevations™ Correlated to the Nevada State Mathematics Content Standards

Grade 8

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

Nevada Essential Knowledge and Skills (Grade 8)	Math Elevations Level H (Grade 8) Teacher's Guide Examples/Lessons
1.8.1 Represent numbers using scientific notation in mathematical and practical situations.	1.7 Exponents (pp. 37–39) 2.6 Rules of Exponents (pp. 62–64) 2.7 Negative and Zero Exponents (pp. 65–67) 2.8 Scientific Notation (pp. 68–70)
1.8.2 Translate among fractions, decimals, and percents, including percents greater than 100 and percents less than 1. Explain and use the relationship among equivalent representations of rational numbers in mathematical and practical situations.	2.2 Greatest Common Factor (pp. 49–51) 2.3 Least Common Multiple (pp. 52–54) 4.4 Fractions, Decimals, and Percents (pp. 114–116) 4.5 Solving Percent Problems Using Proportions (pp. 117–119) 4.6 Using Proportions to Solve Other Percent Problems (pp. 120–123) 4.7 Percent of Change (pp. 124–126) 4.8 Percent Application (pp. 127–129)
1.8.3 Compare and order real numbers, including powers of whole numbers in mathematical and practical situations.	1.1 Integers and Absolute Value (pp. 18–20) 1.7 Exponents (pp. 37–39)
1.8.5 Identify perfect squares to 225 and their corresponding square roots.	1.8 Square Roots (pp. 40–42)
1.8.6 Use estimation strategies to determine the reasonableness of an answer in mathematical and practical situations.	7.2, 7.3, 7.4 Embedded “About what is the . . .” “About how much wrapping paper. . .” (pp. 193–201)

Nevada Essential Knowledge and Skills (Grade 8)	Math Elevations Level H (Grade 8) Teacher's Guide Examples/Lessons
<p>1.8.7 Calculate with real numbers to solve mathematical and practical situations.</p> <p>Use order of operations to solve equations in the real number system.</p>	<p>1.1 Integers and Absolute Value (pp. 18–20) 1.2 Adding Integers on Number Line (pp. 21–23) 1.3 Adding Integers Using Absolute Value (pp. 24–27) 1.4 Subtracting Integers (pp. 28–30) 1.5 Multiplying Integers (pp. 31–33) 1.6 Dividing Integers (pp. 34–36) 2.4 Adding and Subtracting Fractions (pp. 55–57) 2.5 Multiplying and Dividing Fractions (pp. 58–61) 2.6 Subtracting and Adding Exponents (pp. 62–64) 2.7 Negative and Zero Exponents (pp. 65–67) 3.2 Order of Operations (pp. 78–80)</p>
<p>1.8.8 Identify and apply the identity property, inverse property, and the absolute value of real numbers to solve problems.</p>	<p>1.1 Integers and Absolute Value (pp. 18–20) 1.3 Adding Integers using Absolute Value (pp. 24–27)</p>
<p>2.8.1 Find the missing term in a numerical sequence or a pictorial representation of a sequence.</p>	<p>5.4 Relations and Functions (pp. 141–143)</p>
<p>2.8.2 Evaluate formulas and algebraic expressions using rational numbers (with and without technology).</p> <p>Solve and graphically represent equations and inequalities in one variable, including absolute value.</p>	<p>1.1 Integers and Absolute Value (pp. 18–20) 3.4 Solving Equations Using Multiplication and Division (pp. 84–86) 3.5 Solving Equations Using Addition or Subtraction (pp. 87–89) 3.6 Solving Inequalities by Addition and Subtraction (pp. 90–93) 3.7 Solving Inequalities Using Multiplication and Division (pp. 94–97) 5.1 Solving Two-Step Equations (pp. 132–134) 5.2 Solving Multi-Step Equations (pp. 135–137)</p>
<p>2.8.3 Add and subtract binomials.</p>	<p>4.5 Simplifying Expressions (pp. 112–114)</p>
<p>2.8.4 Identify, model, describe, and evaluate functions (with and without technology).</p> <p>Translate among verbal descriptions, graphic, tabular, and</p>	<p>5.3 Translating and Solving Word Problems (pp. 138–140) 5.4 Relations and Functions (pp. 141–143) 5.5 Two-Variable Equations (pp. 144–146) 5.6 Graphing Linear Equations (pp. 147–150)</p>

Nevada Essential Knowledge and Skills (Grade 8)	Math Elevations Level H (Grade 8) Teacher's Guide Examples/Lessons
algebraic representations of mathematical situations (with and without technology).	5.7 Interpreting Linear Equations (pp. 151–153)
2.8.5 Solve linear equations and represent the solution graphically. Solve inequalities and represent the solution on a number line.	5.6 Graphing Linear Equations (pp. 147–150) 5.7 Interpreting Linear Equations (pp. 151–153)
2.8.6 Describe how changes in the value of one variable affect the values of the remaining variables in a relation.	5.6 Graphing Linear Equations (pp. 147–150) 5.7 Interpreting Linear Equations (pp. 151–153)
3.8.4 Calculate percents in monetary problems.	4.5 Solving Percents Problems Using a Proportion (pp. 117–119) 4.6 Using Proportions to Solve Other Percent Problems (pp. 120–123) 4.7 Percent of Change (pp. 124–126) 4.8 Percent Applications (pp. 127–129)
3.8.5 Apply ratios and proportions to calculate rates and solve mathematical and practical problems using indirect measure.	4.3 Scale Drawing and Models (pp. 111–113)
4.8.1 Find and use the sum of the measures of interior angles of polygons.	6.1 Angles (pp. 160–163) 6.2 Angles in Parallel Lines (pp. 164–166)
4.8.2 Apply the properties of equality and proportionality to congruent or similar shapes.	6.3 Polygons (pp. 167–170) 6.5 Congruent Triangles (pp. 174–176) 6.6 Similarity and Dilations (pp. 177–179)
4.8.3 Demonstrate dilation using coordinate geometry and models. Describe the relationship between an original figure and its transformation or dilation.	6.6 Similarity and Dilations (pp. 177–179) 6.7 Reflections and Translations (pp. 180–183) 6.8 Rotations in the Coordinate Plane (pp. 184–186)
4.8.5 Calculate slope, midpoint, and distance using equations and formulas (with and without technology). Determine the x- and y- intercepts of a line.	5.7 Interpreting Linear Equations (pp. 151–153) 5.8 Slope (pp. 154–157)

Nevada Essential Knowledge and Skills (Grade 8)	Math Elevations Level H (Grade 8) Teacher's Guide Examples/Lessons
4.8.6 Form generalizations and validate conclusions about geometric figures and their properties.	6.1 Angles (pp. 160–163) 6.2 Angles in Parallel Lines (pp. 164–166) 6.3 Polygons (pp. 167–170) 6.4 Sum of Angles in Polygons (pp. 171–173)
4.8.7 Verify and explain the Pythagorean Theorem using a variety of methods. Determine the measure of the missing side of a right triangle.	3.8 Pythagorean Theorem (pp. 98–101) 6.4 Sum of Angles in Polygons (pp. 171–173)
4.8.8 Construct geometric figures using a variety of tools.	6.1 Angles (pp. 160–163) 6.3 Polygons (pp. 167–170) 6.4 Sum of Angles in Polygons (pp. 171–173)
4.8.9 Represent logical relationships using conditional statements.	Embedded in Unit 6 “Based on your answer, find. . .” “Explain why or why not” (pp. 160–186). See Lesson 6.3, pp. 167–170 for one example.
5.8.1 Formulate questions and design a study that guides the collection of data. Organize, display, and read data including box and whisker plots (with and without technology).	8.4 Scatter Plots (pp. 227–229) 8.5 Box-and-Whisker Plots (pp. 230–233) 8.6 Line Graphs (pp. 234–237) 8.7 Circle Graphs (pp. 238–240) 8.8 Appropriate Graphs (pp. 241–243)
5.8.2 Select and apply appropriate measures of data distribution, using interquartile range and central tendency.	8.3 Mean, Median, Mode (pp. 224–226)
5.8.3 Evaluate statistical arguments that are based on data analysis for accuracy and validity.	8.3 Mean, Median, Mode (pp. 224–226) 8.8 Appropriate Graphs (pp. 241–243)
5.8.4 Find the number of combinations possible in mathematical and practical situations. Distinguish between permutations and combinations.	8.1 Counting Methods (pp. 216–219)
5.8.5 Differentiate between the probability of an event and the odds of an event.	8.2 Making Predictions (pp. 220–223)
5.8.6 Formulate reasonable inferences and predictions	8.4 Scatter Plots (pp. 227–229)

Nevada Essential Knowledge and Skills (Grade 8)	Math Elevations Level H (Grade 8) Teacher's Guide Examples/Lessons
through interpolation and extrapolation of data to solve practical problems.	8.5 Box-and-Whisker Plots (pp. 230–233) 8.6 Line Graphs (pp. 234–237) 8.7 Circle Graphs (pp. 238–240)