

Northpoint Horizons

Math Elevations Correlated to the Oregon State Standards Grade 8

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

Grade Level Standards	<i>Math Elevations Level H</i> Elementary Teacher's Guide Examples/Lessons
8.1 Algebra	Unit 5 – Advanced Algebra and Functions
8.1.1 Translate among contextual, verbal, tabular, graphical, and algebraic representations of linear functions.	5.6 – Graphing Linear Functions, pp. 147 – 150 5.7 – Interpreting Linear Functions, pp. 151 – 153
8.1.2 Determine the slope of a line and understand that it is a constant rate of change.	5.8 – Slope, pp. 154 – 157
8.1.3 Identify and interpret the properties (i.e. slope, intercepts, continuity, and discreteness) of linear relationships as they are shown in the different representations and recognize proportional relationships ($y/x = k$ or $y = kx$) as a special case.	5.4 – Relations and Functions, pp. 141 – 143 5.5 – Two-Variable Equations, pp. 144 - 146 5.6 – Graphing Linear Functions, pp. 147 – 150 5.7 – Interpreting Linear Functions, pp. 151 – 153 5.8 – Slope, pp. 154 – 157
8.1.4 Use linear functions and equations to represent, analyze and solve problems, and to make predictions and inferences.	5.6 – Graphing Linear Functions, pp. 147 – 150 5.7 – Interpreting Linear Functions, pp. 151 – 153 5.8 – Slope, pp. 154 – 157
8.1.5 Relate systems of two linear equations in two variables and their solutions to pairs of lines that are intersecting, parallel, or the same line.	5.5 – Two-Variable Equations, pp. 144-146 <i>Two-variable equations are solved, but systems of two-linear equations are not related to pairs of lines.</i>
8.1.6 Use informal strategies (e.g., graphs or tables) to solve problems involving systems of linear equations in two variables.	<i>Systems of linear equations are not explored and thus not graphed or solved.</i>
8.2 Number and Operations, Algebra and Geometry	Unit 8 – Probability, Statistics, and Data Analysis
8.2.1 Organize and display data (e.g., histograms, box-and-whisker plots, scatter plots) to pose and answer questions; and justify the reasonableness of the choice of display.	8.4 – Scatter Plots, pp. 225 – 228 8.5 – Box-and-Whisker Plots, pp. 229 – 232 8.6 – Line Graphs, pp. 233 – 236
8.2.2 Use measures of center and spread to summarize and compare data sets.	8.5 – Box-and-Whiskers Plots, pp. 230 – 233
8.2.3 Interpret and analyze displays of data and descriptive	8.8 – Appropriate Graphs, pp. 241 - 243

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statistics.	
8.2.4 Compare descriptive statistics and evaluate how changes in data affect those statistics.	8.8 – Appropriate Graphs, pp. 241 - 243
8.2.5 Describe the strengths and limitations of a particular statistical measure, and justify or critique its use in a given situation.	8.8 – Appropriate Graphs, pp. 241 - 243
8.2.6 Use sample data to make predictions regarding a population.	8.2 – Making Predictions, pp. 220 – 223
8.2.7 Identify claims based on statistical data and evaluate the reasonableness of those claims.	8.2 – Making Predictions, pp. 220 – 223 8.3 – Mean, Median, and Mode, pp. 224 - 226 8.4 – Scatter Plots, pp. 227 – 229
8.2.8 Use data to estimate the likelihood of future events and evaluate the reasonableness of predictions.	8.2 – Making Predictions, pp. 220 – 223 8.4 – Scatter Plots, pp. 227 – 229 8.5 – Box-and-Whisker Plots, pp. 230 - 233 8.6 – Line Graphs, pp. 234 – 237
8.3 Geometry and Measurement	Unit 1 – Number Sense/Integers Unit 3 – Algebra Unit 6 – Geometry
8.3.1 Use properties of parallel lines, transversals, and angles to find missing sides and angles, and to solve problems including determining similarity or congruence of triangles.	6.1 – Angles, pp. 160 – 163 6.2 – Angles in Parallel Lines Cut by a Transversal, pp. 164 - 166
8.3.2 Use models to show that the sum of the angles of any triangle is 180 degrees and apply this fact to find unknown angles.	Level G: 6.2 – Triangles, pp. 160 - 162
8.3.3 Use models and logical arguments to show that the sum of the angles of any quadrilateral is 360 degrees, and apply this fact to find unknown angles.	6.4 – Sum of Angles in Polygons, pp. 171 - 173
8.3.4 Use models to explore the validity of the Pythagorean Theorem, and use it to find missing lengths.	3.8 – Pythagorean Theorem, pp. 98 - 101
8.3.5 Apply the Pythagorean Theorem to find distances in a variety of 2- and 3-dimensional contexts, including distances on coordinate graphs.	3.8 – Pythagorean Theorem, pp. 98 - 101 6.6 – Similarity and Dilations, pp. 177 – 179 6.7 – Reflections and Translations in the Coordinate Plane, pp. 180 - 183 6.8 – Rotations in the Coordinate Plane, pp. 184 – 187
8.3.6 Use models and referents to explore and estimate square roots.	1.8 – Square Roots, pp. 40 - 42