

NPSD Middle & High School Curriculum

Department: Mathematics

Course: Math 8/Pre-Algebra

Domain	Promise Standards & Essential Learning Targets
Simplify Expressions	Students will be able to simplify and evaluate expressions involving exponents, radicals, and scientific notation. 8PS1.A I can simplify expressions 8PS1.B I can evaluate expressions" Elt 1: I can simplify expressions involving exponents Elt 2: I can simplify expressions involving radicals Elt 3: I can simplify expressions involving scientific notation Elt 4: I can evaluate expressions involving exponents Elt 5: I can evaluate expressions involving radicals Elt 6: I can evaluate expressions involving scientific notation"
Model Linear Equations	Students will be able to model linear functions with different representations (patterns, tables, rules, and graphs) Elt 1: I can model linear functions with patterns. Elt 2: I can model linear functions with tables. Elt 3: I can model linear functions with rules. Elt 4: I can model linear functions with graphs.
Solving Equations	Students will be able to solve Linear Equations (including fraction busting, decimal equations, proportions, checking solutions). Elt 1: I can solve Linear Equations with fraction busting. Elt 2: I can solve Linear Equations with decimals. Elt 3: I can solve proportions. Elt 4: I can write equivalent equations.
Solving Systems of Equations	Students will be able to solve Systems of Equations and understand the meaning of the solution (tables, graphs, equal values method) Elt 1: I can explain the meaning of the solution of a system of two equations Elt 2: I can solve a system of equation using tables Elt 3: I can solve a system of equation using graphs Elt 4: I can solve a system of equation using equal values methods Elt 5: I can demonstrate that a solution to a system is correct
Volume	Students will be able to find the volume of various geometric shapes. Elt 1: I can find the volume of cones Elt 2: I can find the volume of cylinders Elt 3: I can find the volume of spheres
Transformations	Students will be able to understand the properties of congruent and similar figures by performing basic transformations (Reflections, Rotations, Translations, and Dilations). Elt 1: I can name the properties of congruent figures Elt 2: I can name the properties of similar figures. Elt 3: I can reflect a figure Elt 4: I can rotate a figure Elt 5: I can translate a figure Elt 6: I can dilate a figure

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Angular Relationships	Students will be able use informal arguments to develop angular relationships (AA~). 8PS7.A I can identify and apply various angle relationships Elt 1: I can recognize and apply angle relationships (triangles, and parallel lines cut by a transversal) Elt 2: I can use informal arguments to develop angle relationships and prove triangles similar using AA~
Pythagorean Theorem	Students will be able to use and apply the Pythagorean Theorem to determine lengths. Elt 1: I can recognize when to use the Pythagorean Theorem. Elt 2: I can find the missing length of a right triangle using the Pythagorean Theorem. Elt 3: I can apply the Pythagorean Theorem to find the missing lengths in a diagram.
Interpreting Data w/Statistics	Students will be able to build, represent, analyze and interpret associations in bivariate data (scatterplot, to make predictions, two-way table). Elt 1: I can describe a bivariate association (Context, outliers, directions, form, and strength) Elt 2: I can organize data using a scatterplot Elt 3: I can interpret slope Elt 4: I can interpret the y-intercept Elt 5: I can use a linear model from a scatterplot to make predictions. Elt 6: I can construct a two-way table. Elt 7: I can use a two-way table to construct a relative frequency table Elt 8: I can interpret relative frequency tables to determine associations