Table 3.7: Sample Algebra Unit on Equations and Inequalities

CCSS Standard	CCSS Standard Description	Student-Friendly Learning Target (Derived From Unwrapping the Standards)	Technology Expectations
N-Q.1	Use units as a way to understand problems and to guide the solution of multistep problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.	I can use units (centimeters, seconds, grams, and so on) appropriately through the problem-solving process. I can understand units that are used in graphical displays.	• Use a graphing calculator to solve a single variable equation by setting each side equal to *y*. • Use a graphing calculator to explore algebraic structure and equivalence. • Manipulate the settings of the calculator to show answers to the appropriate level of accuracy, including scientific notation. • Graph a linear equation and analyze for solutions to real-world problems.
N-Q.2	Define appropriate quantities for the purpose of descriptive modeling.	I can identify the correct type of measurement to represent a real-life situation.	
N-Q.3	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.	I can estimate to an appropriate level of accuracy and communicate the process of estimation accurately to others.	
A-SSE.1	Interpret expressions that represent a quantity in terms of its context. a. Interpret parts of an expression, such as terms, factors, and coefficients. b. Interpret complicated expressions by viewing one or more of their parts as a single entity. For example, interpret $P(1 + r)^n$ as the product of *P* and a factor not depending on *P*.	I can understand the vocabulary of the parts of an algebraic expression. I can understand the meaning of the algebraic structure within those expressions.	

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A-CED.1	Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions and simple rational and exponential functions. (Limit functions to linear, quadratic, and exponential with integer inputs only.)	I can set up an equation to solve a real-world problem with one unknown variable. I can solve the equation to find the answer to the real-world problem context.	

Sample Algebra Unit on Statistics and Matrices

CCSS Standard	CCSS Standard Description	Student-Friendly Learning Target (Derived From Unwrapping the Standards)	Technology Expectations
S-ID.1	Represent data with plots on the real number line (dot plots, histograms, and box plots).	I can plot data on the real number line.	• Use spreadsheets, graphing calculators, and statistical software to represent data in multiple forms. • Use the graphing calculator to graph residuals and analyze them. • Use a graphing calculator to analyze scatter plots for best-fit functions and residuals. • Use a calculator to represent and manipulate matrices. • Use a calculator to explore properties of matrix operations.
S-ID.2	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.	I can compare the center and spread of two or more data sets.	
S-ID.3	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).	I can use shape, center, and the spread to describe characteristics of the data set. I can understand the effects of outliers on a data set.	
S-ID.6	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models. b. Informally assess the fit of a function by plotting and analyzing residuals.	I can create and use a scatter plot. I can use best-fit functions to solve problems related to the data. I can create best-fit lines and use the residual to analyze the best-fit line.	

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	c. Fit a linear function for a scatter plot that suggests a linear association.		
S-ID.7	Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.	Write a linear function of a best-fit line.	
S-ID.9	Distinguish between correlation and causation.	I can recognize the difference between correlation and causation.	
S-IC.2	Decide if a specified model is consistent with results from a given data-generating process (such as by using simulation). For example, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model?	I can determine whether statistical model matches with data.	
S-IC.6	Evaluate reports based on data.	I can evaluate reports.	
N-VM.6	(+) Use matrices to represent and manipulate data (for example, to represent payoffs or incidence relationships in a network).	I can organize data using matrices.	
N-VM.7	(+) Multiply matrices by scalars to produce new matrices (for example, as when all of the payoffs in a game are doubled).	I can perform scalar multiplication.	

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N-VM.8	(+) Add, subtract, and multiply matrices of appropriate dimensions. (limit to two-by-two matrices)	I can add, subtract, and multiply matrices.	
N-VM.9	(+) Understand that, unlike multiplication of numbers, matrix multiplication for square matrices is not a commutative operation, but still satisfies the associative and distributive properties.	I can justify the commutative property is not true for matrix multiplication by giving a counterexample. I can give examples that show the associative and distributive properties of matrices.	