New York State Next Generation Mathematics Learning Standards

New York State Next Generation Mathematics Learning Standards, Grade 6

The following shows the alignment of Amplify Desmos Math to the New York State Next Generation Mathematics Learning Standards for Grade 6 Mathematics.

Cluster	Standard	Description	Amplify Desmos Math Lesson(s)
Ratios and Proportional Relationships (NY-6.RP)			
Understand ratio concepts and use ratio reasoning to solve problems.	**NY-6.RP.1** *CCSS: 6.RP.A.1*	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.	6.2.02, 6.2.03, 6.2.04, 6.2 Practice Day 1, 6.6.06, 6.6.15, 6.6.16
	NY-6.RP.2 *CCSS: 6.RP.A.2*	Understand the concept of a unit rate a/b associated with a ratio $a:b$ with $b \neq 0$ (b not equal to zero), and use rate language in the context of a ratio relationship.	6.2.06, 6.2.08, 6.3.04, 6.3.05, 6.3.06, 6.3.07, 6.3 Practice Day 1, 6.3 Practice Day 2, 6.6.06, 6.6.15, 6.6.16
	NY-6.RP.3 *CCSS: 6.RP.A.3*	Use ratio and rate reasoning to solve real-world and mathematical problems.	6.2.06, 6.2 Practice Day 1, 6.2.07, 6.2.08, 6.2.09, 6.2.10, 6.2.11, 6.2.12, 6.2.13, 6.2.14, 6.2 Practice Day 2, 6.3.05, 6.3.06, 6.3.07, 6.3 Practice Day 1, 6.3.08, 6.3.09, 6.3.10, 6.3.11, 6.3.12, 6.3.13, 6.3 Practice Day 2, 6.6.06, 6.6.15, 6.6.16, 6.6 Practice Day 2
	NY-6.RP.3a *CCSS: 6.RP.A.3.A*	Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.	6.2.05, 6.2 Practice Day 1, 6.2.07, 6.2.08, 6.2.09, 6.2.10, 6.2.11, 6.2 Practice Day 2, 6.6.06, 6.6.15, 6.6.16, 6.6 Practice Day 2
	NY-6.RP.3b *CCSS: 6.RP.A.3.B*	Solve unit rate problems.	6.2.06, 6.2 Practice Day 1, 6.2.08, 6.2 Practice Day 2, 6.3.04, 6.3.05, 6.3.06, 6.3.07, 6.3 Practice Day 1, 6.3 Practice Day 2, 6.5.12
	NY-6.RP.3c *CCSS: 6.RP.A.3.C*	Find a percent of a quantity as a rate per 100. Solve problems that involve finding the whole given a part and the percent, and finding a part of a whole given the percent.	6.3.08, 6.3.09, 6.3.10, 6.3.11, 6.3.12, 6.3.13, 6.3 Practice Day 2, 6.5.13 **Alignment note:** NYS added finding a part of a whole given the percent. This concept is addressed in the indicated lessons.

Cluster	Standard	Description	Amplify Desmos Math Lesson(s)
	NY-6.RP.3d *CCSS: 6.RP.A.3.D*	Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.	6.3.02, 6.3.03, 6.3.04, 6.3 Practice Day 1, 6.3 Practice Day 2
The Number System (NY-6.NS)			
Apply and extend previous understandings of multiplication and division to divide fractions by fractions.	**NY-6.NS.1** *CCSS: 6.NS.A.1*	Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions.	6.4.03, 6.4.04, 6.4.05, 6.4.06, 6.4.07, 6.4.08, 6.4.09, 6.4.10, 6.4 Practice Day 1, 6.4.11, 6.4.12, 6.4.14, 6.4 Practice Day 2
Compute fluently with multi-digit numbers and find common factors and multiples.	**NY-6.NS.2** *CCSS: 6.NS.B.2*	Fluently divide multi-digit numbers using a standard algorithm.	6.5.09, 6.5.10, 6.5.11, 6.5 Practice Day 1, 6.5 Practice Day 2
	NY-6.NS.3 *CCSS: 6.NS.B.3*	Fluently add, subtract, multiply, and divide multi-digit decimals using a standard algorithm for each operation.	6.5.02, 6.5.03, 6.5.04, 6.5.05, 6.5.06, 6.5.07, 6.5.08, 6.5.10, 6.5.11, 6.5 Practice Day 1, 6.5.12, 6.5.13, 6.5 Practice Day 2, 6.6.04
	NY-6.NS.4 *CCSS: 6.NS.B.4*	Find the greatest common factor of two whole numbers less than or equal to 100. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor other than 1. Find the least common multiple of two whole numbers less than or equal to 12.	6.5.14, 6.5.15, 6.5 Practice Day 2
Apply and extend previous understandings of numbers to the system of rational numbers.	**NY-6.NS.5** *CCSS: 6.NS.C.5*	Understand that positive and negative numbers are used together to describe quantities having opposite directions or values. Use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.	6.7.01, 6.7.04, 6.7 Practice Day 1, 6.7 Practice Day 2
	NY-6.NS.6 *CCSS: 6.NS.C.6*	Understand a rational number as a point on the number line. Use number lines and coordinate axes to represent points on a number line and in the coordinate plane with negative number coordinates.	6.7.02, 6.7 Practice Day 1, 6.7 Practice Day 2
	NY-6.NS.6a *CCSS: 6.NS.C.6.A*	Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line. Recognize that the opposite of the opposite of a number is the number itself, and that 0 is its own opposite.	6.7.02, 6.7.03, 6.7 Practice Day 1, 6.7 Practice Day 2
	NY-6.NS.6b *CCSS: 6.NS.C.6.B*	Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane. Recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.	6.7.09, 6.7.10, 6.7 Practice Day 2

Cluster	Standard	Description	Amplify Desmos Math Lesson(s)
	NY-6.NS.6c *CCSS: 6.NS.C.6.C*	Find and position integers and other rational numbers on a horizontal or vertical number line. Find and position pairs of integers and other rational numbers on a coordinate plane.	6.7.02, 6.7.03, 6.7 Practice Day 1, 6.7.09, 6.7.10, 6.7.12, 6.7 Practice Day 2
	NY-6.NS.7 *CCSS: 6.NS.C.7*	Understand ordering and absolute value of rational numbers.	6.7.03, 6.7.05, 6.7 Practice Day 1
	NY-6.NS.7a *CCSS: 6.NS.C.7.A*	Interpret statements of inequality as statements about the relative position of two numbers on a number line.	6.7.03, 6.7.05, 6.7 Practice Day 1
	NY-6.NS.7b *CCSS: 6.NS.C.7.B*	Write, interpret, and explain statements of order for rational numbers in real-world contexts.	6.7.04, 6.7 Practice Day 1, 6.7.06, 6.7 Practice Day 2
	NY-6.NS.7c *CCSS: 6.NS.C.7.C*	Understand the absolute value of a rational number as its distance from 0 on the number line. Interpret absolute value as magnitude for a positive or negative quantity in a real-world situation.	6.7.05, 6.7 Practice Day 1
	NY-6.NS.7d *CCSS: 6.NS.C.7.D*	Distinguish comparisons of absolute value from statements about order.	6.7.05, 6.7 Practice Day 1
	NY-6.NS.8 *CCSS: 6.NS.C.8*	Solve real-world and mathematical problems by graphing points on a coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.	6.7.10, 6.7.11, 6.7.12, 6.7 Practice Day 2
Expressions, Equations, and Inequalities (NY-6.EE)			
Apply and extend previous understandings of arithmetic to algebraic expressions.	**NY-6.EE.1** *CCSS: 6.EE.A.1*	Write and evaluate numerical expressions involving whole-number exponents.	6.6.10, 6.6.11, 6.6 Practice Day 2
	NY-6.EE.2 *CCSS: 6.EE.A.2*	Write, read, and evaluate expressions in which letters stand for numbers.	6.6.06, 6.6.12
	NY-6.EE.2a *CCSS: 6.EE.A.2.A*	Write expressions that record operations with numbers and with letters standing for numbers.	6.1.03, 6.1.06, 6.1 Practice Day 1, 6.1 Practice Day 2, 6.4.13, 6.6.06, 6.6.08, 6.6.09, 6.6 Practice Day 1, 6.6 Practice Day 2
	NY-6.EE.2b *CCSS: 6.EE.A.2.B*	Identify parts of an expression using mathematical terms (term, coefficient, sum, difference, product, factor, and quotient); view one or more parts of an expression as a single entity.	6.6.08, 6.6.09, 6.6 Practice Day 1 **Alignment note:** NYS added "difference," which is addressed in 6.6.09.

Cluster	Standard	Description	Amplify Desmos Math Lesson(s)
	NY-6.EE.2c *CCSS: 6.EE.A.2.C*	Evaluate expressions given specific values for their variables. Include expressions that arise from formulas in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order (Order of Operations).	6.1.04, 6.1.07, 6.1 Practice Day 1, 6.1 Practice Day 2, 6.6.11, 6.6.12, 6.6 Practice Day 2
	NY-6.EE.3 *CCSS: 6.EE.A.3*	Apply the properties of operations to generate equivalent expressions.	6.6.07, 6.6.08, 6.6.09, 6.6 Practice Day 1
	NY-6.EE.4 *CCSS: 6.EE.A.4*	Identify when two expressions are equivalent.	6.6.07, 6.6.08, 6.6.09 6.6 Practice Day 1, 6.6 Practice Day 2
Reason about and solve one-variable equations and inequalities.	**NY-6.EE.5** *CCSS: 6.EE.B.5*	Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.	6.6.02, 6.6.03, 6.6.04, 6.6.05, 6.6 Practice Day 1, 6.6 Practice Day 2, 6.7.08
	NY-6.EE.6 *CCSS: 6.EE.B.6*	Use variables to represent numbers and write expressions when solving a real-world or mathematical problem. Understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.	6.6.01, 6.6.03, 6.6.04, 6.6.05, 6.6.06, 6.6.16, 6.6 Practice Day 1, 6.6 Practice Day 2, 6.7.07, 6.7.08, 6.7 Practice Day 2
	NY-6.EE.7 *CCSS: 6.EE.B.7*	Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$; $x - p = q$; $px = q$; and for cases in which p, q, and x are all nonnegative rational numbers.	6.6.01, 6.6.02, 6.6.03, 6.6.04, 6.6.05, 6.6 Practice Day 1, 6.6 Practice Day 2 **Alignment note:** NYS added subtraction and division equations, which are present in 6.6.03, 6.6.05, and 6.6 Practice Day 2.
	NY-6.EE.8 *CCSS: 6.EE.B.8*	Write an inequality of the form $x > c$, $x \geq c$, $x \leq c$, or $x < c$ to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of these forms have infinitely many solutions; represent solutions of such inequalities on a number line.	6.7.06, 6.7.07, 6.7.08, 6.7 Practice Day 2, 7.6.13 **Alignment note:** NYS added non-strict inequalities, which are addressed in 7.6.13.
Represent and analyze quantitative relationships between dependent and independent variables.	**NY-6.EE.9** *CCSS: 6.EE.C.9*	Use variables to represent two quantities in a real-world problem that change in relationship to one another. Given a verbal context and an equation, identify the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation.	6.6.13, 6.6.14, 6.6.15, 6.6.16, 6.6 Practice Day 2
Geometry (NY-6.G)			

Cluster	Standard	Description	Amplify Desmos Math Lesson(s)
Solve real-world and mathematical problems involving area, surface area, and volume.	**NY-6.G.1** *CCSS: 6.G.A.1*	Find area of triangles, trapezoids, and other polygons by composing into rectangles or decomposing into triangles and quadrilaterals. Apply these techniques in the context of solving real-world and mathematical problems.	6.1.01, 6.1.02, 6.1.03, 6.1.04, 6.1.05, 6.1.06, 6.1.07, 6.1.08, 6.1 Practice Day 1, 6.1 Practice Day 2, 6.6.11, 6.6.12, 6.6 Practice Day 2 **Alignment note:** NYS adds specific mention of trapezoids, which are addressed in 6.1.01, 6.1.02, and 6.1.08.
	NY-6.G.2 *CCSS: 6.G.A.2*	Find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.	6.4.13, 6.4.14, 6.4 Practice Day 2, 6.6.12
	NY-6.G.3 *CCSS: 6.G.A.3*	Draw polygons in the coordinate plane given coordinates for the vertices. Use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.	6.7.11
	NY-6.G.4 *CCSS: 6.G.A.4*	Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.	6.1.11, 6.1.12, 6.1.13, 6.1 Practice Day 2
	NY-6.G.5 *CCSS: part of 8.EE.A.2*	Use area and volume models to explain perfect squares and perfect cubes.	6.6.12, 8.8.01, 8.8.02, 8.8.03, 8.8.04, 8.8.05, 8.8 Practice Day 1, 8.8.10, 8.8 Practice Day 2, 8.8.14 **Alignment note:** NY adds area and volume models to the part of CCSS 8.EE.A.2 that mentions perfect squares and perfect cubes. Area and volume models are addressed in the indicated lessons.
Statistics and Probability (NY-6.SP)			
Develop understanding of statistical variability.	**NY-6.SP.1a** *CCSS: 6.SP.A.1*	Recognize that a statistical question is one that anticipates variability in the data related to the question and accounts for it in the answers.	6.8.02, 6.8.06, 6.8.10, 6.8.16
	NY-6.SP.1b *CCSS: 7.SP.A.1*	Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population.	7.8.10, 7.8.11, 7.8.12, 7.8.15, 7.8 Practice Day 2

Cluster	Standard	Description	Amplify Desmos Math Lesson(s)
	NY-6.SP.1c *CCSS: 7.SP.A.2*	Understand that the method and sample size used to collect data for a particular question is intended to reduce the difference between a population and a sample taken from the population so valid inferences can be drawn about the population. Generate multiple samples (or simulated samples) of the same size to recognize the variation in estimates or predictions.	7.8.12, 7.8.13, 7.8.15, 7.8 Practice Day 2
	NY-6.SP.2 *CCSS: 6.SP.A.2*	Understand that a set of quantitative data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.	6.8.04, 6.8.06, 6.8.09, 6.8 Practice Day 1, 6.8.11, 6.8.14, 6.8.15, 6.8 Practice Day 2
	NY-6.SP.3 *CCSS: 6.SP.A.3*	Recognize that a measure of center for a quantitative data set summarizes all of its values with a single number while a measure of variation describes how its values vary with a single number.	6.8.07, 6.8.08, 6.8.09, 6.8.10, 6.8 Practice Day 1, 6.8.13, 6.8.14, 6.8.15, 6.8.16, 6.8 Practice Day 2
Summarize and describe distributions.	**NY-6.SP.4** *CCSS: 6.SP.B.4*	Display quantitative data in plots on a number line, including dot plots, and histograms.	6.8.02, 6.8.03, 6.8.04, 6.8.05, 6.8.06, 6.8 Practice Day 1, 6.8.11, 6.8.12, 6.8 Practice Day 2
	NY-6.SP.5 *CCSS: 6.SP.B.5*	Summarize quantitative data sets in relation to their context.	6.8.10, 6.8 Practice Day 1, 6.8.12, 6.8.16, 6.8 Practice Day 2
	NY-6.SP.5a *CCSS: 6.SP.B.5.A*	Report the number of observations.	6.8.02, 6.8.05, 6.8 Practice Day 1, 6.8.16
	NY-6.SP.5b *CCSS: 6.SP.B.5.B*	Describe the nature of the attribute under investigation, including how it was measured and its units of measurement.	6.8.01, 6.8.02, 6.8 Practice Day 1, 6.8.15, 6.8.16, 6.8 Practice Day 2
	NY-6.SP.5c *CCSS: 6.SP.B.5.C*	Calculate range and measures of center, as well as describe any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.	6.8.07, 6.8 Practice Day 1, 6.8.11, 6.8.12, 6.8.13, 6.8.14, 6.8.16, 6.8 Practice Day 2
	NY-6.SP.5d *CCSS: 6.SP.B.5.D*	Relate the range and the choice of measures of center to the shape of the data distribution and the context in which the data were gathered.	6.8.12, 6.8.16
Investigate chance processes and develop, use, and evaluate probability models.	**NY-6.SP.6** *CCSS: 7.SP.C.5*	Understand that the probability of a chance event is a number between 0 and 1 inclusive, that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around ½ indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.	7.8.02, 7.8.03, 7.8 Practice Day 1, 7.8 Practice Day 2

Cluster	Standard	Description	Amplify Desmos Math Lesson(s)
	NY-6.SP.7 *CCSS: 7.SP.C.6*	Approximate the probability of a simple event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability.	7.8.02, 7.8.03, 7.8.04, 7.8.05, 7.8 Practice Day 1, 7.8 Practice Day 2 **Alignment note:** NYS changes "chance event" to "simple event." Simple events are addressed in the indicated lessons.
	NY-6.SP.8 *CCSS: 7.SP.C.7*	Develop a probability model and use it to find probabilities of simple events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.	7.8.05, 7.8 Practice Day 1, 7.8 Practice Day 2
	NY-6.SP.8a *CCSS: 7.SP.C.7.A*	Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of simple events.	7.8.02, 7.8 Practice Day 1, 7.8 Practice Day 2
	NY-6.SP.8b *CCSS: 7.SP.C.7.B*	Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process.	7.8.04, 7.8.05, 7.8 Practice Day 1

The Standards for Mathematical Practice, New York State Next Generation Mathematics Learning Standards, Grade 6

The following shows the alignment of Amplify Desmos Math, Grade 6, to the Standards for Mathematical Practice for the New York State Next Generation Mathematics Learning Standards.

Mathematical Practices	Description	Amplify Desmos Math Lesson(s)
MP1 | Make sense of problems and persevere in solving them. *CCSS: MP1*	Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.	6.2.08, 6.2.11, 6.2.12, 6.3.08, 6.4.04, 6.4.10, 6.4.12, 6.6.02, 6.6.05, 6.7.05, 6.7.07, 6.7.11, 6.8.14
MP2 | Reason abstractly and quantitatively. *CCSS: MP2*	Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.	6.2.07, 6.2.09, 6.3.04, 6.3.05, 6.3.09, 6.4.02, 6.4.08, 6.4.10, 6.6.02, 6.6.05, 6.6.06, 6.6.09, 6.6.11, 6.6.15, 6.6.16, 6.7.03, 6.7.04, 6.7.06, 6.7.07, 6.7.08, 6.7.12, 6.8.04, 6.8.08, 6.8.09, 6.8.11, 6.8.12

Mathematical Practices	Description	Amplify Desmos Math Lesson(s)
MP3 | Construct viable arguments and critique the reasoning of others. *CCSS: MP3*	Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.	6.1.08, 6.1.10, 6.1.11, 6.2.01, 6.2.04, 6.2.07, 6.2.10, 6.2.11, 6.3.02, 6.3.05, 6.4.01, 6.4.06, 6.4.07, 6.5.01, 6.5.04, 6.5.06, 6.5.10, 6.5.14, 6.6.06, 6.6.07, 6.6.08, 6.6.10, 6.6.12, 6.6.13, 6.6.14, 6.6.15, 6.7.01, 6.7.04, 6.7.05, 6.7.08, 6.7.09, 6.7.10, 6.8.01, 6.8.02, 6.8.04, 6.8.05, 6.8.06, 6.8.07, 6.8.08, 6.8.10, 6.8.11, 6.8.12, 6.8.13, 6.8.15, 6.8.16
MP4 | Model with mathematics. *CCSS: MP4*	Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.	6.1.13, 6.2.09, 6.2.14, 6.4.14, 6.5.12, 6.6.16, 6.8.10, 6.8.14, 6.8.15, 6.8.16
MP5 | Use appropriate tools strategically. *CCSS: MP5*	Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.	6.1.03, 6.1.05, 6.2.10, 6.2.11, 6.3.03, 6.3.10, 6.4.10, 6.5.10, 6.6.04

Mathematical Practices	Description	Amplify Desmos Math Lesson(s)
MP6 | Attend to precision. *CCSS: MP6*	Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.	6.1.02, 6.1.08, 6.1.10, 6.1.11, 6.1.12, 6.2.02, 6.2.05, 6.2.08, 6.2.12, 6.3.01, 6.3.02, 6.3.03, 6.3.04, 6.3.09, 6.3.13, 6.4.05, 6.4.11, 6.5.03, 6.5.07, 6.5.15, 6.6.03, 6.6.12, 6.6.14, 6.7.01, 6.7.05, 6.7.08, 6.8.03, 6.8.06, 6.8.07, 6.8.08, 6.8.09, 6.8.13
MP7 | Look for and make use of structure. *CCSS: MP7*	Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well-remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.	6.1.01, 6.1.02, 6.1.09, 6.2.01, 6.2.03, 6.3.05, 6.3.06, 6.3.10, 6.4.01, 6.4.02, 6.4.06,6.4.07, 6.5.02, 6.5.03, 6.5.05, 6.5.08, 6.6.03, 6.6.07, 6.6.08, 6.6.10, 6.6.11, 6.6.12, 6.7.02, 6.7.06, 6.7.09, 6.7.10, 6.7.11
MP8 | Look for and express regularity in repeated reasoning. *CCSS: MP8*	Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.	6.1.03, 6.1.06, 6.1.07, 6.2.03, 6.2.04, 6.3.07, 6.3.08, 6.3.11, 6.4.08, 6.5.04, 6.5.05, 6.5.11, 6.6.09, 6.6.10, 6.8.07, 6.8.13