# Grade 6|New York State Next Generation Mathematics Learning Standards Correlation to Eureka Math ${ }^{2 ®}$ New York Next Gen 

When the original Eureka Math ${ }^{\circledR}$ curriculum was released, it quickly became the most widely used K-5 mathematics curriculum in the country. Now, the Great Minds ${ }^{\circledR}$ teacher-writers have created Eureka Math ${ }^{2 ®}$ New York Next Gen, a groundbreaking new curriculum that helps teachers deliver exponentially better math instruction while still providing students with the same deep understanding of and fluency in math. Eureka Math ${ }^{2}$ New York Next Gen carefully sequences mathematical content to maximize vertical alignment-a principle tested and proven to be essential in students' mastery of math-from kindergarten through high school.

While this innovative new curriculum includes all the trademark Eureka Math aha moments that have been delighting students and teachers for years, it also boasts these exciting new features:

## Teachability

Eureka Math ${ }^{2}$ New York Next Gen employs streamlined materials that allow teachers to plan more efficiently and focus their energy on delivering high-quality instruction that meets the individual needs of their students. Differentiation suggestions, slide decks, digital interactives, and multiple forms of assessment are just a few of the resources built right into the teacher materials.

## Accessibility

Eureka Math ${ }^{2}$ New York Next Gen incorporates Universal Design for Learning principles so all learners can access the mathematics and take on challenging math concepts. Student supports are built into the instructional design and are clearly identified in the Teach book. Further, the curriculum carries a focus on readability. By eliminating unnecessary words and using simple, clear sentences, the Eureka Math² New York Next Gen teacher-writers have created one of the most readable mathematics curricula on the market. The curriculum's readability and accessibility help all students see themselves as mathematical thinkers and doers who are fully capable of owning their mathematics learning.

## Digital Engagement

The digital elements of Eureka Math ${ }^{2}$ New York Next Gen add to students' engagement with the math. The curriculum provides teachers with digital slides for each lesson. In addition, each grade level includes wordless videos that spark students' interest and curiosity. Students at all levels work through mathematical explorations that help lead to their own mathematical discoveries. Digital lessons and videos provide opportunities for students to wonder, explore, and make sense of mathematics, which contributes to the development of a strong, positive mathematical identity.

## Standards for Mathematical Practice

## Aligned Components

| MP. 1 <br> Make sense of problems and persevere in solving them. | Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson. |
| :---: | :---: |
| MP. 2 <br> Reason abstractly and quantitatively. | Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson. |
| MP. 3 <br> Construct viable arguments and critique the reasoning of others. | Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson. |
| MP. 4 <br> Model with mathematics. | Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson. |
| MP. 5 <br> Use appropriate tools strategically. | Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson. |
| MP. 6 <br> Attend to precision. | Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson. |
| MP. 7 <br> Look for and make use of structure. | Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson. |
| MP. 8 <br> Look for and express regularity in repeated reasoning. | Lessons in every module engage students in mathematical practices. These are indicated in margin notes included with every lesson. |

## Ratios and Proportional Relationships

## Understand ratio concepts and use ratio reasoning to solve problems.

New York Next Generation
Mathematics Learning Standards

## Aligned Components

| NY-6.RP.1 | 6 M1 Lesson 2: Introduction to Ratios |
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| Understand the concept of a ratio and <br> use ratio language to describe a ratio <br> relationship between two quantities. | 6 M1 Lesson 3: Ratios and Tape Diagrams |
|  | 6 M1 Lesson 4: Exploring Ratios by Making Batches |
|  | 6 M1 Lesson 5: Equivalent Ratios |
|  | 6 M1 Lesson 8: Addition Patterns in Ratio Relationships |
|  | 6 M1 Lesson 10: Multiplicative Reasoning in Ratio Relationships |
| NY-6.RP.2 | 6 M1 Lesson 11: Applications of Ratio Reasoning |
| Understand the concept of a <br> unit rate $\frac{a}{b}$ associated with a ratio $a: b$ <br> with $b \neq 0$ ( $b$ not equal to zero), and <br> use rate language in the context of a <br> ratio relationship. | 6 M1 Lesson 16: Speed |

## New York Next Generation Mathematics Learning Standards

## Aligned Components

## NY-6.RP. 3

Use ratio and rate reasoning to solve real-world and mathematical problems.

6 M1 Lesson 1: Jars of Jelly Beans
6 M1 Lesson 3: Ratios and Tape Diagrams
6 M1 Lesson 4: Exploring Ratios by Making Batches
6 M1 Lesson 5: Equivalent Ratios
6 M1 Lesson 6: Ratio Tables and Double Number Lines
6 M1 Lesson 8: Addition Patterns in Ratio Relationships
6 M1 Lesson 9: Multiplication Patterns in Ratio Relationships
6 M1 Lesson 10: Multiplicative Reasoning in Ratio Relationships
6 M1 Lesson 11: Applications of Ratio Reasoning
6 M4 Lesson 23: Relationship Between Two Variables
6 M4 Lesson 24: Graphs of Ratio Relationships

6 M1 Topic B: Collections of Equivalent Ratios
6 M1 Topic C: Comparing Ratio Relationships
6 M1 Lesson 16: Speed
6 M1 Lesson 18: Comparing Rates

## 6 M1 Topic D: Rates

6 M5 Lesson 8: Areas of Composite Figures in Real-World Situations
6 M5 Lesson 13: Surface Area in Real-World Situations

## New York Next Generation Mathematics Learning Standards

NY-6.RP.3c
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.

## NY-6.RP.3d

Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.

6 M1 Topic E: Percents

6 M1 Lesson 19: Using Rates to Convert Units
6 M1 Lesson 20: Solving Rate Problems
6 M1 Lesson 21: Solving Multi-Step Rate Problems

## The Number System

Apply and extend previous understandings of multiplication and division to divide fractions by fractions.

New York Next Generation Mathematics Learning Standards

Aligned Components

6 M2 Topic B: Dividing Fractions
6 M2 Topic C: Dividing Fractions Fluently

## The Number System

Compute fluently with multi-digit numbers and find common factors and multiples.
New York Next Generation
Mathematics Learning Standards

## Aligned Components

| NY-6.NS. 2 | 6 M2 Lesson 17: Partial Quotients |
| :---: | :---: |
| Fluently divide multi-digit numbers using | 6 M2 Lesson 18: The Standard Division Algorithm |
| a standard algorithm. | 6 M2 Lesson 19: Expressing Quotients as Decimals |
| NY-6.NS. 3 | 6 M2 Lesson 13: Decimal Addition and Subtraction |
| Fluently add, subtract, multiply, and divide multi-digit decimals using a standard algorithm for each operation. | 6 M2 Lesson 14: Patterns in Multiplying Decimals |
|  | 6 M2 Lesson 15: Decimal Multiplication |
|  | 6 M2 Topic F: Decimal Division |
| NY-6.NS. 4 | 6 M2 Topic A: Factors, Multiples, and Divisibility |
| 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 M4 Lesson 13: The Distributive Property |
|  | 6 M4 Lesson 14: Using the Distributive Property to Factor Expressions |
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## The Number System

## Apply and extend previous understandings of numbers to the system of rational numbers.

New York Next Generation
Mathematics Learning Standards

## Aligned Components

## NY-6.NS. 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 M3 Lesson 1: Positive and Negative Numbers
6 M3 Lesson 4: Rational Numbers in Real-World Situations

Supplemental material is necessary to address this standard.

## 6 M3 Lesson 2: Integers

6 M3 Lesson 3: Rational Numbers
6 M3 Lesson 4: Rational Numbers in Real-World Situations

## New York Next Generation Mathematics Learning Standards

## Aligned Components

## NY-6.NS.6b

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 M3 Lesson 10: The Four Quadrants of the Coordinate Plane
6 M3 Lesson 11: Plotting Points in the Coordinate Plane
6 M3 Lesson 12: Reflections in the Coordinate Plane
6 M3 Lesson 13: Constructing the Coordinate Plane

## 6 M3 Lesson 3: Rational Numbers

6 M3 Lesson 11: Plotting Points in the Coordinate Plane
6 M3 Lesson 12: Reflections in the Coordinate Plane
6 M3 Lesson 13: Constructing the Coordinate Plane
6 M3 Topic D: Solving Problems in the Coordinate Plane
6 M3 Lesson 5: Comparing Rational Numbers
6 M3 Lesson 6: Ordering Rational Numbers
6 M3 Lesson 8: Absolute Value and Order

6 M3 Lesson 5: Comparing Rational Numbers
6 M3 Lesson 6: Ordering Rational Numbers

6 M3 Lesson 5: Comparing Rational Numbers
6 M3 Lesson 6: Ordering Rational Numbers
of order for rational numbers
in real-world contexts.

| New York Next Generation <br> Mathematics Learning Standards |  |
| :--- | :--- |
| NY-6.NS.7c | 6 M 3 Lesson 7: Absolute Value |
| Understand the absolute value <br> of a rational number as its distance <br> from 0 on the number line. Interpret <br> absolute value as magnitude for <br> a positive or negative quantity in a <br> real-world situation. |  |
| NY-6.NS.7d | 6 M3 Lesson 8: Absolute Value and Order |
| Distinguish comparisons of absolute value |  |
| from statements about order. | 6 M3 Lesson 9: Interpreting Order and Distance in Real-World Situations |
| NY-6.NS.8 <br> Solve real-world and mathematical <br> problems by graphing points <br> on a coordinate plane. Include use <br> of coordinates and absolute value <br> to find distances between points with <br> the same first coordinate or the same <br> second coordinate. | 6 M3 Lesson 14: Modeling with the Coordinate Plane |

## Expressions, Equations, and Inequalities

## Apply and extend previous understandings of arithmetic to algebraic expressions.

New York Next Generation Mathematics Learning Standards

## Aligned Components

## NY-6.EE. 1

Write and evaluate numerical expressions involving whole-number exponents.

## NY-6.EE. 2

Write, read, and evaluate expressions in which letters stand for numbers.

## NY-6.EE.2a

Write expressions that record operations with numbers and with letters standing for numbers.

## 6 M4 Topic A: Numerical Expressions

Supplemental material is necessary to address this standard.

6 M4 Lesson 7: Algebraic Expressions with Addition and Subtraction
6 M4 Lesson 8: Algebraic Expressions with Addition, Subtraction, Multiplication, and Division
6 M4 Lesson 9: Addition and Subtraction Expressions from Real-World Situations

6 M4 Lesson 7: Algebraic Expressions with Addition and Subtraction
6 M4 Lesson 8: Algebraic Expressions with Addition, Subtraction, Multiplication, and Division
6 M4 Lesson 9: Addition and Subtraction Expressions from Real-World Situations
6 M4 Lesson 11: Modeling Real-World Situations with Expressions

| New York Next Generation Mathematics Learning Standards | Aligned Components |
| :---: | :---: |
| NY-6.EE.2c <br> 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 M4 Lesson 8: Algebraic Expressions with Addition, Subtraction, Multiplication, and Division <br> 6 M4 Lesson 11: Modeling Real-World Situations with Expressions <br> 6 M4 Lesson 12: Applying Properties to Multiplication and Division Expressions <br> 6 M4 Lesson 17: Equations and Solutions <br> 6 M5 Lesson 1: The Area of a Parallelogram <br> 6 M5 Lesson 3: The Area of a Triangle <br> 6 M5 Lesson 12: From Nets to Surface Area <br> 6 M5 Lesson 13: Surface Area in Real-World Situations <br> 6 M5 Lesson 14: Designing a Box <br> 6 M5 Lesson 16: Applying Volume Formulas |
| NY-6.EE. 3 <br> Apply the properties of operations to generate equivalent expressions. | 6 M4 Topic C: Equivalent Expressions Using the Properties of Operations <br> 6 M5 Lesson 4: Areas of Triangles in Real-World Situations <br> 6 M5 Lesson 6: Problem Solving with Area in the Coordinate Plane <br> 6 M5 Lesson 7: Areas of Trapezoids and Other Polygons |
| NY-6.EE. 4 <br> Identify when two expressions are equivalent. | 6 M4 Topic C: Equivalent Expressions Using the Properties of Operations <br> 6 M5 Lesson 7: Areas of Trapezoids and Other Polygons <br> 6 M5 Lesson 12: From Nets to Surface Area <br> 6 M5 Lesson 17: Problem Solving with Volume |

## Expressions, Equations, and Inequalities

## Reason about and solve one-variable equations and inequalities.

New York Next Generation
Mathematics Learning Standards

## Aligned Components

## NY-6.EE. 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.

## NY-6.EE. 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.

## NY-6.EE. 7

Solve real-world and mathematical problems by writing and solving equations of the form $x+p=q$; $x-p=q ; p x=q$; and $\frac{x}{p}=q$ for cases in which $p, q$, and $x$ are all nonnegative rational numbers.

6 M4 Lesson 17: Equations and Solutions
6 M4 Lesson 18: Inequalities and Solutions
6 M4 Lesson 19: Two More Inequality Symbols
6 M4 Lesson 20: Solving Equations with Addition and Subtraction
6 M4 Lesson 21: Solving Equations with Multiplication and Division

6 M4 Lesson 9: Addition and Subtraction Expressions from Real-World Situations
6 M4 Lesson 10: Multiplication and Division Expressions from Real-World Situations
6 M4 Lesson 11: Modeling Real-World Situations with Expressions
6 M4 Lesson 16: Equivalent Algebraic Expressions

## 6 M4 Lesson 17: Equations and Solutions

6 M4 Lesson 20: Solving Equations with Addition and Subtraction
6 M4 Lesson 21: Solving Equations with Multiplication and Division
6 M4 Lesson 22: Solving Problems with Equations
6 M5 Lesson 2: The Area of a Right Triangle

## New York Next Generation Mathematics Learning Standards

## Aligned Components

## NY-6.EE. 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.

[^0]
## Expressions, Equations, and Inequalities

Represent and analyze quantitative relationships between dependent and independent variables.

## New York Next Generation Mathematics Learning Standards

## Aligned Components

## NY-6.EE. 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 M4 Topic E: Relating Variables by Using Tables, Graphs, and Equations

## Geometry

## Solve real-world and mathematical problems involving area, surface area, and volume.

New York Next Generation
Mathematics Learning Standards

## Aligned Components

## NY-6.G. 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.

## NY-6.G. 2

Find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.

## NY-6.G. 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 M5 Topic A: Areas of Polygons
6 M5 Topic B: Problem Solving with Area

6 M5 Topic D: Volumes of Right Rectangular Prisms

6 M5 Lesson 5: Perimeter and Area in the Coordinate Plane
6 M5 Lesson 6: Problem Solving with Area in the Coordinate Plane

## New York Next Generation Mathematics Learning Standards

## Aligned Components

## NY-6.G. 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 M5 Topic C: Nets and Surface Area
6 M5 Lesson 19: Volume and Surface Area in Real-World Situations

## NY-6.G. 5

Use area and volume models to explain perfect squares and perfect cubes.

## Statistics and Probability

## Develop understanding of statistical variability.

New York Next Generation Mathematics Learning Standards

## Aligned Components

## NY-6.SP.1a

Recognize that a statistical question is one that anticipates variability in the data related to the question and accounts for it in the answers.

## NY-6.SP.1b

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.

6 M6 Lesson 1: Posing Statistical Questions
6 M6 Lesson 6: Selecting a Data Display
6 M6 Lesson 25: Developing a Statistical Project

6 M6 Lesson 20: Populations and Samples
6 M6 Lesson 21: Selecting a Sample
6 M6 Lesson 22: Variability Between Samples
6 M6 Lesson 23: Sampling Variability When Estimating a Population Mean

## New York Next Generation Mathematics Learning Standards

## Aligned Components

## NY-6.SP.1c

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.

6 M6 Lesson 22: Variability Between Samples
6 M6 Lesson 23: Sampling Variability When Estimating a Population Mean
6 M6 Lesson 24: Sampling Variability When Estimating a Population Proportion

## 6 M6 Lesson 2: Describing a Data Distribution

6 M6 Lesson 3: Creating a Dot Plot
6 M6 Lesson 4: Creating a Histogram
6 M6 Lesson 9: Variability of a Data Distribution
6 M6 Lesson 26: Analyzing Graphical Representations

6 M6 Topic B: Describing Center and Variability
6 M6 Lesson 28: Presenting Statistical Projects

NY-6.SP. 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.

## Statistics and Probability

## Summarize and describe distributions.

New York Next Generation
Mathematics Learning Standards

## Aligned Components

| NY-6.SP.4 | 6 M 6 Lesson 3: Creating a Dot Plot |
| :--- | :--- |
| Display quantitative data in plots <br> on a number line, including dot plots <br> and histograms. | 6 M 6 Lesson 4: Creating a Histogram |
|  | 6 M 6 Lesson 5: Comparing Data Displays |
|  | 6 M 6 Lesson 6: Selecting a Data Display |
| NY-6.SP.5 | 6 Lesson 28: Presenting Statistical Projects |
| Summarize quantitative data sets <br> in relation to their context. | 6 M 6 Lesson 1: Posing Statistical Questions |

## New York Next Generation Mathematics Learning Standards

Aligned Components
NY-6.SP.5c
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.

## NY-6.SP.5d

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.

[^1][^2]
## Statistics and Probability

Investigate chance processes and develop, use, and evaluate probability models.

New York Next Generation Mathematics Learning Standards

Aligned Components

## NY-6.SP. 6

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 $\frac{1}{2}$ indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.

6 M6 Lesson 13: What is Probability?

## New York Next Generation Mathematics Learning Standards

## Aligned Components

## NY-6.SP. 7

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.

## NY-6.SP. 8

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.

## NY-6.SP.8a

Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of simple events.

## NY-6.SP.8b

Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process.

6 M6 Lesson 14: Empirical Probability
6 M6 Lesson 15: Outcomes of Chance Experiments
6 M6 Lesson 17: Outcomes That Are Not Equally Likely
6 M6 Lesson 19: Picking Blue

6 M6 Lesson 18: The Law of Large Numbers

6 M6 Lesson 16: Theoretical Probability
6 M6 Lesson 18: The Law of Large Numbers

## 6 M6 Lesson 18: The Law of Large Numbers

6 M6 Lesson 19: Picking Blue


[^0]:    6 M4 Lesson 18: Inequalities and Solutions
    6 M4 Lesson 19: Two More Inequality Symbols

[^1]:    6 M6 Topic B: Describing Center and Variability
    6 M6 Lesson 26: Analyzing Graphical Representations

[^2]:    6 M6 Lesson 27: Choosing a Measure of Center

