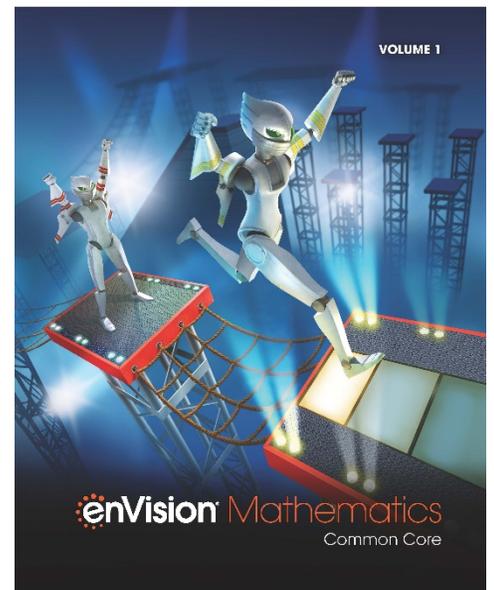
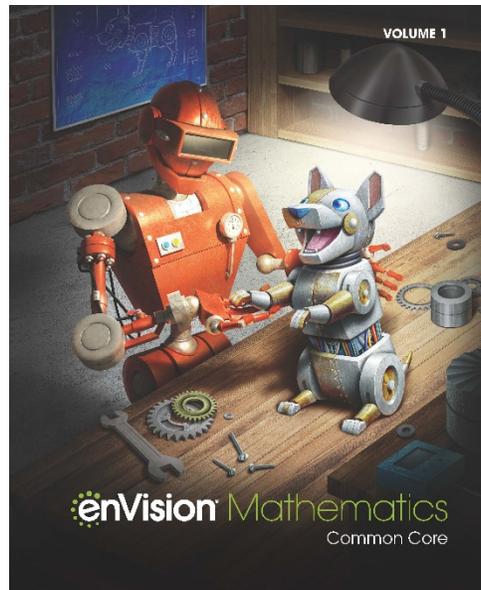
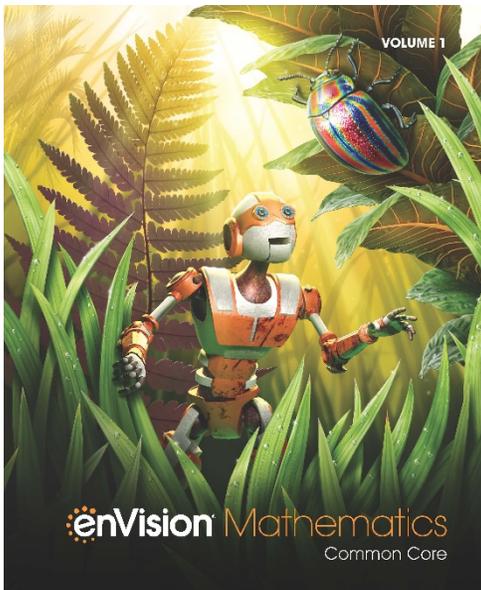


A Correlation of

enVision[®] Mathematics

©2021



to the

Arizona Mathematics Standards Grades 6 - 8

A Correlation of enVision Mathematics, ©2021 to the Arizona Mathematics Standards 2016

Introduction

The new enVision® Mathematics ©2021 is the latest offering of the nationally recognized Grades K-12 series, created for print, digital, and blended instruction. Problem-Based Learning connects with Visual Learning to deep conceptual understanding. Interactive multimedia experiences engage learners in student choice and solving rich problems. Extensive customization and differentiation options empower every teacher and student.

UNDERSTANDING

A simple lesson design provides a clear, intentional pathway. Starting on a firm foundation of conceptual understanding, students can connect and apply math ideas in amazing ways. High-interest math projects invite all students to be active participants.

A simple lesson design provides a clear, intentional pathway.

STEP 1 Problem-Based Learning
STEP 2 Visual Learning
STEP 3 Assess and Differentiate

ASSESSMENT

The enVision Assessment Suite offers options to move students toward mastery of state standards while driving instructional differentiation.

DIAGNOSTIC Assessment

Reading Test, Diagnostic Test (Math Diagnosis and Intervention System), Review What You Know
FORMATIVE Assessment

SCOUT Observational Assessment used during Solve & Share, Do You Understand? And Convince Me! Guide Practice, Quick Check

SUMMATIVE Assessment

Topic Assessments, Topic Performance Assessments, Examview Test Generator, Fluency Assessments, Cumulative/Benchmarks Assessments, Progress Monitoring Assessments

INSTRUCTIONAL SUPPORT

Gain a new perspective on your teaching with embedded strategies, methods, and a wide range of Professional Development opportunities in print and digital formats.

Ideas, Inspiration, and Teaching Methods

Math background for every Topic and Lesson serves as an easy-to-access math methods course.

Make every lesson perfect for you. Access all digital content, assessments, and management tools at [SavvasRealize.com](https://www.savvasrealize.com).

Kids See the Math. Teachers See Results.

**A Correlation of enVision Mathematics, ©2021
to the Arizona Mathematics Standards 2016**

Table of Contents

Grade 6	1
Grade 7	12
Grade 8	22

<p style="text-align: center;">Arizona Mathematics Standards Grade 6</p>	<p style="text-align: center;">enVision Mathematics, ©2021 Grade 6</p>
<p>Ratios and Proportional Relationships (RP)</p>	
<p>6.RP.A Understand ratio concepts and use ratio reasoning to solve problems.</p>	
<p>6.RP.A.1 Understand the concept of a ratio as comparing two quantities multiplicatively or joining/composing the two quantities in a way that preserves a multiplicative relationship. Use ratio language to describe a ratio relationship between two quantities. For example, "There were $\frac{2}{3}$ as many men as women at the concert."</p>	<p>SE: 267-272, 333-338</p> <p>TE: 267A-272B, 333-338</p>
<p>6.RP.A.2 Understand the concept of a unit rate $\frac{a}{b}$ associated with a ratio $a : b$ with $b \neq 0$, and use rate language (e.g., for every, for each, for each 1, per) in the context of a ratio relationship. (Complex fraction notation is not an expectation for unit rates in this grade level.)</p>	<p>SE: 293-298, 333-338</p> <p>TE: 293A-298B, 333-338</p>
<p>6.RP.A.3 Use ratio and rate reasoning to solve mathematical problems and problems in real-world context (e.g., by reasoning about data collected from measurements, tables of equivalent ratios, tape diagrams, double number line diagrams, or equations).</p>	<p>SE: 267-272, 273-278, 279-284, 285-290, 293-298, 299-304, 305-310, 315-320, 321-326, 327-332, 333-338</p> <p>TE: 267A-272B, 273A-278B, 279A-284B, 285A-290B, 293A-298B, 299A-304B, 305A-310B, 315A-320B, 321A-326B, 327A-332B, 333-338</p>
<p>6.RP.A.3a. 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.</p>	<p>SE: 267-272, 273-278, 279-284, 285-290, 293-298, 299-304, 333-338</p> <p>TE: 267A-272B, 273A-278B, 279A-284B, 285A-290B, 293A-298B, 299A-304B, 333-338</p>
<p>6.RP.A.3b. Solve unit rate problems including those involving unit pricing and constant speed.</p>	<p>SE: 293-298, 299-304, 305-310, 333-338</p> <p>TE: 293A-298B, 299A-304B, 305A-310B, 333-338</p>
<p>6.RP.A.3c. Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means $\frac{30}{100}$ times the quantity). Solve percent problems with the unknown in all positions of the equation.</p>	<p>SE: 347-352, 353-358, 359-364, 367-372, 373-378, 379-384, 389-392</p> <p>TE: 347A-352B, 353A-358B, 359A-364B, 367A-372B, 373A-378B, 379A-384B, 389-392</p>

**A Correlation of enVision Mathematics, ©2021
to the Arizona Mathematics Standards 2016**

Arizona Mathematics Standards Grade 6	enVision Mathematics, ©2021 Grade 6
6.RP.A.3d. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.	SE: 315-320, 321-326, 327-332, 333-338 TE: 315A-320B, 321A-326B, 327A-332B, 333-338
The Number System (NS)	
6.NS.A Apply and extend previous understanding of multiplication and division to divide fractions by fractions.	
6.NS.A.1 Interpret and compute quotients of fractions to solve mathematical problems and problems in real-world context involving division of fractions by fractions using visual fraction models and equations to represent the problem. For example, create a story context for $2/3 \div 3/4$ and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that $2/3 \div 3/4 = 8/9$ because $3/4$ of $8/9$ is $2/3$. In general, $a/b \div c/d = ad/bc$.	SE: 33-38, 39-44, 45-50, 51-56, 57-60 TE: 33A-38B, 39A-44B, 45A-50B, 51A-56B, 57-60
6.NS.B Compute fluently with multi-digit numbers and find common factors and multiples.	
6.NS.B.2 Fluently divide multi-digit numbers using a standard algorithm.	SE: 15-20, 57-60 TE: 15A-20B, 57-60
6.NS.B.3 Fluently add, subtract, multiply, and divide multi-digit decimals using a standard algorithm for each operation.	SE: 9 -14, 15-20, 57-60 TE: 9A-14B, 15A-20B, 57-60
6.NS.B.4 Use previous understanding of factors to find the greatest common factor and the least common multiple.	SE/TE: 129-131, 133 TE: 129A, 136A-136B
6.NS.B.4a. Find the greatest common factor of two whole numbers less than or equal to 100.	SE/TE: 129-131, 133 TE: 129A, 136A-136B
6.NS.B.4b. Find the least common multiple of two whole numbers less than or equal to 12.	SE/TE: 129-131, 133 TE: 129A, 136A-136B

**A Correlation of enVision Mathematics, ©2021
to the Arizona Mathematics Standards 2016**

Arizona Mathematics Standards Grade 6	enVision Mathematics, ©2021 Grade 6
6.NS.B.4c. Use the distributive property to express a sum of two whole numbers 1 to 100 with a common factor as a multiple of a sum of two whole numbers with no common factor. For example, express $36 + 8$ as $4(9+2)$.	SE/TE: 129-131, 133 TE: 129A, 136A-136B
6.NS.C Apply and extend previous understandings of numbers to the system of rational numbers. <i>Note: Limit negative rational numbers to integers and fractions with denominators of 2, 3, 4, 5, 10.</i>	
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 context, explaining the meaning of 0 in each situation.	SE: 69-74, 111-114 TE: 69A-74B, 111-114
6.NS.C.6 Understand a rational number can be represented as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.	SE: 69-74, 89-94, 111-114, 419-424, 455-460 TE: 69A-74B, 89A-94B, 111-114, 419A-424B, 455-460
6.NS.C.6a. 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.	SE: 69-74, 111-114 TE: 69A-74B, 111-114
6.NS.C.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.	SE: 89-94, 111-114 TE: 89A-94B, 111-114
6.NS.C.6c. Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.	SE: 69-74, 75-80, 89-94, 111-114, 419-424, 455-460 TE: 69A-74B, 75A-80B, 89A-94B, 111-114, 419A-424B, 455-460
6.NS.C.7 Understand ordering and absolute value of rational numbers.	SE: 75-80, 81-86, 111-114 TE: 75A-80B, 81A-86B, 111-114

**A Correlation of enVision Mathematics, ©2021
to the Arizona Mathematics Standards 2016**

Arizona Mathematics Standards Grade 6	enVision Mathematics, ©2021 Grade 6
6.NS.C.7a. Interpret statements of inequality as statements about the relative position of two numbers on a number line.	SE: 75-80, 111-114 TE: 75A-80B, 111-114
6.NS.C.7b. Write, interpret, and explain statements of order for rational numbers in real-world context.	SE: 75-80, 111-114 TE: 75A-80B, 111-114
6.NS.C.7c. 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 real-world context.	SE: 81-86, 111-114 TE: 81A-86B, 111-114
6.NS.C.7d. Distinguish comparisons of absolute value from statements about order in mathematical problems and problems in real-world context.	SE: 81-86, 111-114 TE: 81A-86B, 111-114
6.NS.C.8 Solve mathematical problems and problems in real-world context by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.	SE: 99-104, 105-110, 111-114, 419-424, 455-460 TE: 99A-104B, 105A-110B, 111-114, 419A-424B, 455-460
Expressions and Equations (EE)	
6.EE.A Apply and extend previous understandings of arithmetic to algebraic expressions.	
6.EE.A.1 Write and evaluate numerical expressions involving whole-number exponents.	SE: 123-128, 137-142, 173-176 TE: 123A-128B, 137A-142B, 173-176
6.EE.A.2 Write, read, and evaluate algebraic expressions.	SE: 145-150, 173-176, 401-406, 407-412, 413-418, 419-424, 437-442, 443-448, 449-454, 455-460 TE: 145A-150B, 173-176, 401A-406B, 407A-412B, 413A-413B, 419A-424B, 437A-442B, 443A-448B, 449A-454B, 455-460

**A Correlation of enVision Mathematics, ©2021
to the Arizona Mathematics Standards 2016**

Arizona Mathematics Standards Grade 6	enVision Mathematics, ©2021 Grade 6
6.EE.A.2a. Write expressions that record operations with numbers and variables.	SE: 145-150, 173-176, 437-442, 443-448, 449-454, 455-460 TE: 145A-150B, 173-176, 437A-442B, 443A-448B, 449A-454B, 455-460
6.EE.A.2b. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, and coefficient); view one or more parts of an expression as a single entity.	SE: 145-150, 173-176 TE: 145A-150B, 173-176
6.EE.A.2c. Evaluate expressions given specific values of their variables. Include expressions that arise from formulas used to solve mathematical problems and problems in real-world context. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations).	SE: 151-156, 173-176, 401-406, 407-412, 413-418, 419-424, 437-442, 443-448, 449-454, 455-460 TE: 151A-156B, 173-176, 401A-406B, 407A-412B, 413A-413B, 419A-424B, 437A-442B, 443A-448B, 449A-454B, 455-460
6.EE.A.3 Apply the properties of operations to generate equivalent expressions. For example, apply the distributive property to the expression $3(2 + x)$ to produce the equivalent expression $6 + 3x$.	SE: 137-142, 161-166, 167-172, 173-176 TE: 137A-142B, 161A-166B, 167A-172B, 173-176
6.EE.A.4 Identify when two expressions are equivalent. For example, the expressions $y + y + y$ and $3y$ are equivalent because they name the same number regardless of which number y stands for.	SE: 137-142, 161-166, 173-176, 191-196, 253-258 TE: 137A-142B, 161A-166B, 173-176, 191A-196B, 253-258
6.EE.B Reason about and solve one-variable equations and inequalities.	
6.EE.B.5 Understand solving an equation or inequality as a process of reasoning to find the value(s) of the variables that make that equation or inequality true. Use substitution to determine whether a given number in a specified set makes an equation or inequality true.	SE: 185-190, 219-224, 225-230, 253-258 TE: 185A-190B, 219A-224B, 225A-230B, 253-258
6.EE.B.6 Use variables to represent numbers and write expressions when solving mathematical problems and problems in real-world context; understand that a variable can represent an unknown number or any number in a specified set.	SE: 145-150, 151-156, 173-176, 197-202, 203-208, 209-216, 253-258, 437-442, 443-448, 449-454, 455-460 TE: 145A-150B, 151A-156B, 173-176, 197A-202B, 203A-208B, 209A-216B, 253-258, 437A-442B, 443A-448B, 449A-454B, 455-460

**A Correlation of enVision Mathematics, ©2021
to the Arizona Mathematics Standards 2016**

Arizona Mathematics Standards Grade 6	enVision Mathematics, ©2021 Grade 6
6.EE.B.7 Solve mathematical problems and problems in real-world context by writing and solving equations of the form $x + p = q$, $x - p = q$, $px = q$, and $x/p = q$ for cases in which p , q and x are all non-negative rational numbers.	SE: 191-196, 197-202, 203-208, 209-216, 253-258 TE: 191A-196B, 197A-202B, 203A-208B, 209A-216B, 253-258
6.EE.B.8 Write an inequality of the form $x > c$, $x < c$, $x \geq c$, or $x \leq c$ to represent a constraint or condition to solve mathematical problems and problems in real-world context. Recognize that inequalities have infinitely many solutions; represent solutions of such inequalities on number lines.	SE: 219-224, 225-230, 253-258 TE: 219A-224B, 225A-230B, 253-258
6.EE.C Represent and analyze quantitative relationships between dependent and independent variables.	
6.EE.C.9 Use variables to represent two quantities that change in relationship to one another to solve mathematical problems and problems in real-world context. Write an equation to express one quantity (the dependent variable) in terms of the other quantity (the independent variable). Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation.	SE: 235-240, 241-246, 247-252, 253-258 TE: 235A-240B, 241A-246B, 247A-252B, 253-258
Geometry (G)	
6.G.A Solve mathematical problems and problems in real-world context involving area, surface area, and volume.	
6.G.A.1 Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques to solve mathematical problems and problems in real-world context.	SE: 401-406, 407-412, 413-418, 419-424, 455-460 TE: 401A-406B, 407A-412B, 413A-413B, 419A-424B, 455-460
6.G.A.2 Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Understand and use the formula $V = B \cdot h$, where in this case, B is the area of the base ($B = l \times w$) to find volumes of right rectangular prisms with fractional edge lengths in mathematical problems and problems in real-world context.	SE: 449-454, 455-460 TE: 449A-454B, 455-460

**A Correlation of enVision Mathematics, ©2021
to the Arizona Mathematics Standards 2016**

Arizona Mathematics Standards Grade 6	enVision Mathematics, ©2021 Grade 6
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 to solve mathematical problems and problems in a real-world context.	SE: 105-110, 111-114, 419-424, 455-460 TE: 105A-110B, 111-114, 419A-424B, 455-460
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 to solve mathematical problems and problems in real-world context.	SE: 427-432, 437-442, 443-448, 455-460 TE: 427A-432B, 437A-442B, 443A-448B, 455-460
Statistics and Probability (SP)	
6.SP.A Develop understanding of statistical variability.	
6.SP.A.1 Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for variability in the answers. For example, "How old am I?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages.	SE: 469-474, 519-522 TE: 469A-474B, 519-522
6.SP.A.2 Understand that a set of data collected to answer a statistical question has a distribution whose general characteristics can be described by its center, spread, and overall shape.	SE: 509-514, 519-522 TE: 509A-514B, 519-522
6.SP.A.3 Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation uses a single number to describe the spread of the data set.	SE: 475-482, 519-522 TE: 475A-482B, 519-522
6.SP.B Summarize and describe distributions.	
6.SP.B.4 Display and interpret numerical data by creating plots on a number line including histograms, dot plots, and box plots.	SE: 469-474, 483-488, 489-494, 497-502, 509-514, 519-522 TE: 469A-474B, 483A-488B, 489A-494B, 497A-502B, 509A-514B, 519-522
6.SP.B.5 Summarize numerical data sets in relation to their context by:	SE: 475-482, 489-494, 497-502, 503-508, 509-514, 519-522 TE: 475A-482B, 489A-494B, 497A-502B, 503A-508B, 509A-514B, 519-522

**A Correlation of enVision Mathematics, ©2021
to the Arizona Mathematics Standards 2016**

Arizona Mathematics Standards Grade 6	enVision Mathematics, ©2021 Grade 6
6.SP.B.5a. Reporting the number of observations.	SE: 489-494, 519-522 TE: 489A-494B, 519-522
6.SP.B.5b. Describing the nature of the attribute under investigation including how it was measured and its units of measurement.	SE: 509-514, 519-522 TE: 509A-514B, 519-522
6.SP.B.5c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.	SE: 475-482, 497-502, 503-508, 509-514, 519-522 TE: 475A-482B, 497A-502B, 503A-508B, 509A-514B, 519-522
6.SP.B.5d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.	SE: 503-508, 519-522 TE: 503A-508B, 519-522
Math Practices	
MP.1 Make sense of problems and persevere in solving them.	enVision Mathematics provides numerous instructional opportunities to help students develop proficiency in the math practices. To get students off to a good start on all eight practices, use the Math Practices and Problem Solving Handbook pages online. Each lesson begins with Problem-Based Learning, an activity in which students interact with their peers and teachers to make sense of and decide on a workable solution for a situation. Another feature of each lesson is the set of problem-solving exercises in which students persevere by applying different skills and strategies to solve problems. Each Problem-Solving Lesson provides instruction and practice focused on a specific math practice. SE/TE: 38, 43, 50, 54, 55, 56, 79, 80, 140, 149, 165, 214, 215, 272, 320, 371, 378, 384, 418, 431, 442, 446, 454, 473

**A Correlation of enVision Mathematics, ©2021
to the Arizona Mathematics Standards 2016**

Arizona Mathematics Standards Grade 6	enVision Mathematics, ©2021 Grade 6
MP.2 Reason abstractly and quantitatively.	<p>enVision Mathematics provides scaffolded instruction to help students develop both quantitative and abstract reasoning. In the Visual Learning Bridge, students can see how to represent a given situation numerically or algebraically. They will have opportunities later in the lesson to reason abstractly as they endeavor to represent situations symbolically. Reasonableness exercises remind students to compare their work to the original situation. Reasoning problems throughout the exercise sets focus students' attention on the structure or meaning of an operation, for example, rather than merely the solution.</p> <p>SE/TE: 20, 26, 37, 38, 43, 44, 73, 78, 106, 109, 133, 154, 172, 190, 196, 222, 272, 283, 302, 304, 318, 331, 350, 351, 363, 372, 410, 441, 500</p>
MP.3 Construct viable arguments and critique the reasoning of others.	<p>Consistent with a focus on reasoning and sense-making is a focus on critical reasoning—argumentation and critique of arguments. In enVision Mathematics, the Problem-Based Learning affords students opportunities to share with classmates their thinking about problems, their solution methods, and their reasoning about the solutions. Many exercises found throughout the program explicitly call for students to justify or explain their solutions. The ability to articulate a clear explanation for a process is a stepping stone to critical analysis and reasoning of both the student's own process and those of others.</p> <p>SE/TE: 54, 55, 72, 80, 85, 92, 108, 111, 126, 128, 140, 142, 156, 165, 166, 188, 238, 239, 250, 272, 302, 308, 318, 324, 332, 364, 441, 448, 502</p>

**A Correlation of enVision Mathematics, ©2021
to the Arizona Mathematics Standards 2016**

Arizona Mathematics Standards Grade 6	enVision Mathematics, ©2021 Grade 6
MP.4 Model with mathematics.	<p>Students using enVision Mathematics explicitly use mathematical modeling in each Topic during the 3-Act Math lesson. The Visual Learning Bridge also often presents real-world situations, demonstrating how these problems can be modeled mathematically.</p> <p>SE/TE: 44, 135, 142, 149, 155, 156, 164, 195, 201, 203, 204, 223, 230, 252, 288, 289, 290, 298, 304, 326, 378, 422, 448, 473, 486, 487, 488, 493, 505, 508, 514</p>
MP.5 Use appropriate tools strategically.	<p>Students become fluent in the use of a wide assortment of tools ranging from physical objects, including manipulatives, integer chips, algebra tiles, and even pencil and paper, to digital tools, such as graphing calculators, Online Math Tools, and computers. As students become more familiar with the tools available to them, they are able to begin making decisions about which tools are most helpful in a particular situation.</p> <p>SE/TE: 104, 109, 110, 229, 230, 250, 251, 278, 288, 289, 290, 376, 416, 432, 446, 448, 486, 487, 488, 492, 493, 494, 513, 514</p>
MP.6 Attend to precision.	<p>Students are expected to use mathematical terms and symbols with precision. Key terms are highlighted in each lesson and important concepts presented in the Concept Summary. The Problem-Based Learning activity provides repeated opportunities for students to use precise language to explain their solution paths while solving problems. In the Convince Me! feature, students revisit these key terms or concepts and provide explicit definitions or explanations.</p> <p>SE/TE: 25, 37, 43, 49, 50, 56, 109, 141, 202, 213, 215, 296, 297, 298, 303, 309, 319, 325, 331, 363, 371, 378, 382, 405, 406, 411, 412, 417, 423, 430, 447, 448, 452, 453, 454, 508, 513</p>

**A Correlation of enVision Mathematics, ©2021
to the Arizona Mathematics Standards 2016**

Arizona Mathematics Standards Grade 6	enVision Mathematics, ©2021 Grade 6
MP.7 Look for and make use of structure.	<p>Students are encouraged to look for structure as they develop solution plans. For example, as students mature in their mathematical thinking, they see structure when working with problems that can be represented with the Distributive Property. This focus on looking for and recognizing structure enables students to draw from patterns as they formalize their thinking about the structure of operations.</p> <p>SE/TE: 44, 50, 86, 103, 104, 110, 156, 164, 166, 171, 172, 244, 245, 246, 330, 351, 364, 370, 384, 424, 430, 453, 479</p>
MP.8 Look for and express regularity in repeated reasoning.	<p>Students are reminded to think about problems they have encountered previously that may share features or processes. They are encouraged to draw on the solution plan developed for such problems, and, as their mathematical thinking matures, to look for and apply generalizations to similar situations.</p> <p>SE/TE: 19, 50, 127, 128, 166, 270, 271, 276, 277, 282, 283, 284, 310, 432</p>

Arizona Mathematics Standards Grade 7	enVision Mathematics, ©2021 Grade 7
Ratios and Proportional Relationships (RP)	
7.RP.A Analyze proportional relationships and use them to solve mathematical problems and problems in real-world context.	
7.RP.A.1 Compute unit rates associated with ratios involving both simple and complex fractions, including ratios of quantities measured in like or different units.	SE: 89-94, 95-100, 131-134 TE: 89A-94B, 95A-100B, 131-134
7.RP.A.2 Recognize and represent proportional relationships between quantities.	SE: 101-106, 107-112, 119-124, 131-134, 143-148, 149-154, 155-160, 185-188, 331-338, 357-360, 375-380, 417-422 TE: 101A-106B, 107A-112B, 119A-124B, 131-134, 143A-143B, 149A-149B, 155A-160B, 185-188, 331A-338B, 375A-380B, 417-422
7.RP.A.2a. Decide whether two quantities are in a proportional relationship (e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin).	SE: 101-106, 119-124, 131-134, 143-148, 185-188 TE: 101A-106B, 119A-124B, 131-134, 143A-143B, 185-188
7.RP.A.2b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.	SE: 107-112, 119-124, 131-134, 143-148, 185-188 TE: 107A-112B, 119A-124B, 143-148, 143A-143B, 185-188
7.RP.A.2c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p , the relationship between the total cost and the number of items can be expressed as $t = pn$.	SE: 107-112, 131-134, 149-154, 155-160, 185-188, 331-338, 357-360, 375-380, 417-422 TE: 107A-112B, 131-134, 149A-149B, 155A-160B, 185-188, 331A-338B, 375A-380B, 417-422
7.RP.A.2d. Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points $(0, 0)$ and $(1, r)$ where r is the unit rate.	SE: 119-124, 131-134 TE: 119A-124B, 131-134
7.RP.A.3 Use proportional relationships to solve multi-step ratio and percent problems (e.g., simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error).	SE: 89-94 95-100, 125-130, 131-134, 143-148, 149-154, 155-160, 163-168, 173-178, 179-184, 185-188 TE: 89A-94B, 95A-100B, 125A-130B, 131-134, 143A-143B, 149A-149B, 155A-160B, 163A-168B, 173A-178B, 179A-184B, 185-188

**A Correlation of enVision Mathematics, ©2021
to the Arizona Mathematics Standards 2016**

Arizona Mathematics Standards Grade 7	enVision Mathematics, ©2021 Grade 7
The Number System (NS)	
7.NS.A Apply and extend previous understanding of operations with fractions to add, subtract, multiply, and divide rational numbers except division by zero.	
7.NS.A.1 Add and subtract integers and other rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.	SE: 9-14, 21-26, 27-32, 33-38, 75-80 TE: 9A-14B, 21A-26B, 27A-32B, 33A-38B, 75-80
7.NS.A.1a. Describe situations in which opposite quantities combine to make 0.	SE: 9-14, 75-80 TE: 9A-14B, 75-80
7.NS.A.1b. Understand $p + q$ as the number located a distance $ q $ from p , in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world context.	SE: 21-26, 33-38, 75-80 TE: 21A-26B, 33A-38B, 75-80
7.NS.A.1c. Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world context.	SE: 27-32, 33-38, 75-80 TE: 27A-32B, 33A-38B, 75-80
7.NS.A.1d. Apply properties of operations as strategies to add and subtract rational numbers.	SE: 21-26, 27-32, 33-38, 75-80 TE: 21A-26B, 27A-32B, 33A-38B, 75-80
7.NS.A.2 Multiply and divide integers and other rational numbers.	SE: 15-20, 41-46, 47-52, 53-58, 59-64, 75-80 TE: 15A-20B, 41A-46B, 47A-52B, 53A-58B, 59A-64B, 75-80
7.NS.A.2a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world context.	SE: 41-46, 47-52, 75-80 TE: 41A-46B, 47A-52B, 75-80

**A Correlation of enVision Mathematics, ©2021
to the Arizona Mathematics Standards 2016**

Arizona Mathematics Standards Grade 7	enVision Mathematics, ©2021 Grade 7
7.NS.A.2b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then $-(p/q) = (-p)/q = p/(-q)$. Interpret quotients of rational numbers by describing real-world context.	SE: 53-58, 59-64, 75-80 TE: 53A-58B, 59A-64B, 75-80
7.NS.A.2c. Apply properties of operations as strategies to multiply and divide rational numbers.	SE: 41-46, 47-52, 53-58, 59-64, 75-80 TE: 41A-46B, 47A-52B, 53A-58B, 59A-64B, 75-80
7.NS.A.2d. Convert a rational number to decimal form using long division; know that the decimal form of a rational number terminates in 0's or eventually repeats.	SE: 15-20, 75-80 TE: 15A-20B, 75-80
7.NS.A.3 Solve mathematical problems and problems in real-world context involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions where $a/b \div c/d$ when a , b , c , and d are all integers and b , c , and $d \neq 0$.	SE: 65-70, 75-80, 481-486, 487-492, 493-498 TE: 65A-70B, 75-80, 481A-486B, 487A-492B, 493-498
Expressions and Equations (EE)	
7.EE.A Use properties of operations to generate equivalent expressions.	
7.EE.A.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	SE: 203-208, 209-214, 215-220, 221-226, 233-238, 239-244, 251-254 TE: 203A-208B, 209A-214B, 215A-220B, 221A-226B, 233A-238B, 239A-244B, 251-254
7.EE.A.2 Rewrite an expression in different forms, and understand the relationship between the different forms and their meanings in a problem context. For example, $a + 0.05a = 1.05a$ means that "increase by 5%" is the same as "multiply by 1.05."	SE: 215-220, 221-226, 233-238, 239-244, 245-250, 251-254 TE: 215A-220B, 221A-226B, 233A-238B, 239A-244B, 245A-250B, 251-254

**A Correlation of enVision Mathematics, ©2021
to the Arizona Mathematics Standards 2016**

Arizona Mathematics Standards Grade 7	enVision Mathematics, ©2021 Grade 7
7.EE.B Solve mathematical problems and problems in real-world context using numerical and algebraic expressions and equations.	
7.EE.B.3 Solve multi-step mathematical problems and problems in real-world context posed with positive and negative rational numbers in any form. Convert between forms as appropriate and assess the reasonableness of answers. For example, If a woman making \$25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or \$2.50, for a new salary of \$27.50 per hour.	SE: 65-70, 75-80, 197-202, 251-254, 269-274, 275-280, 311-314, 331-338, 357-360, 369-374, 387-392, 417-422, 465-470, 481-486, 487-492, 493-498 TE: 65A-70B, 75-80, 197A-202B, 251-254, 269A-274B, 275A-280B, 311-314, 331A-338B, 357-360, 369A-374B, 387A-392B, 417-422, 465A-470B, 481A-486B, 487A-492B, 493-498
7.EE.B.4 Use variables to represent quantities in mathematical problems and problems in real-world context, and construct simple equations and inequalities to solve problems.	SE: 197-202, 251-254, 263-268, 269-274, 275-280, 283-288, 289-294, 299-304, 305-310, 311-314, 457-462, 465-470, 481-486, 487-492, 493-498 TE: 197A-202B, 251-254, 263A-263B, 269A-274B, 275A-280B, 283A-288B, 289A-294B, 299A-304B, 305A-310B, 311-314, 457A-462B, 465A-470B, 481A-486B, 487A-492B, 493-498
7.EE.B.4a. Solve word problems leading to equations of the form $px+q = r$ and $p(x+q) = r$, where p , q , and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach.	SE: 197-202, 251-254, 263-268, 269-274, 275-280, 311-314, 457-462, 465-470, 481-486, 487-492, 493-498 TE: 197A-202B, 251-254, 263A-263B, 269A-274B, 275A-280B, 311-314, 457A-462B, 465A-470B, 481A-486B, 487A-492B, 493-498
7.EE.B.4b. Solve word problems leading to inequalities of the form $px+q > r$ or $px+q < r$, where p , q , and r are rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem.	SE: 283-288, 289-294, 299-304, 305-310, 311-314 TE: 283A-288B, 289A-294B, 299A-304B, 305A-310B, 311-314

**A Correlation of enVision Mathematics, ©2021
to the Arizona Mathematics Standards 2016**

Arizona Mathematics Standards Grade 7	enVision Mathematics, ©2021 Grade 7
Geometry (G)	
7.G.A Draw, construct, and describe geometrical figures, and describe the relationships between them.	
7.G.A.1 Solve problems involving scale drawings of geometric figures, such as computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.	SE: 431-436, 493-498 TE: 431A-436B, 493-498
7.G.A.2 Draw geometric shapes with given conditions using a variety of methods. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.	SE: 437-442, 443-450, 493-498 TE: 437A-424B, 443A-450B, 493-498
7.G.A.3 Describe the two-dimensional figures that result from slicing three-dimensional figures.	SE: 475-480, 493-498 TE: 475A-480B, 493-498
7.G.B Solve mathematical problems and problems in real-world context involving angle measure, area, surface area, and volume.	
7.G.B.4 Understand and use the formulas for the area and circumference of a circle to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.	SE: 457-462, 465-470, 493-498 TE: 457A-462B, 465A-470B, 493-498
7.G.B.5 Use facts about supplementary, complementary, vertical, and adjacent angles in multi-step problems to write and solve simple equations for an unknown angle in a figure.	SE: 451-456, 493-498 TE: 451A-456B, 493-498
7.G.B.6 Solve mathematical problems and problems in a real-world context involving area of two-dimensional objects composed of triangles, quadrilaterals, and other polygons. Solve mathematical problems and problems in real-world context involving volume and surface area of three-dimensional objects composed of cubes and right prisms.	SE: 481-486, 487-492, 493-498 TE: 481A-486B, 487A-492B, 493-498

**A Correlation of enVision Mathematics, ©2021
to the Arizona Mathematics Standards 2016**

Arizona Mathematics Standards Grade 7	enVision Mathematics, ©2021 Grade 7
Statistics and Probability (SP)	
7.SP.A Use random sampling to draw inferences about a population.	
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. Understand that random sampling tends to produce representative samples and support valid inferences.	SE: 323-330, 331-338, 357-360 TE: 323A-330B, 331A-338B, 357-360
7.SP.A.2 Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.	SE: 331-338, 357-360 TE: 331A-338B, 357-360
7.SP.B Draw informal comparative inferences about two populations.	
7.SP.B.3 Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on a dot plot, the separation between the two distributions of heights is noticeable.	SE: 341-346, 347-352, 357-360 TE: 341A-346B, 347A-352B, 357-360
7.SP.B.4 Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.	SE: 341-346, 347-352, 357-360 TE: 341A-346B, 347A-352B, 357-360

**A Correlation of enVision Mathematics, ©2021
to the Arizona Mathematics Standards 2016**

Arizona Mathematics Standards Grade 7	enVision Mathematics, ©2021 Grade 7
7.SP.C Investigate chance processes and develop, use and evaluate probability models.	
7.SP.C.5 Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.	SE: 369-374, 417-422 TE: 369A-374B, 417-422
7.SP.C.6 Approximate the probability of a chance 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. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.	SE: 375-380, 381-386, 417-422 TE: 375A-380B, 381A-386B, 417-422
7.SP.C.7 Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies. If the agreement is not good, explain possible sources of the discrepancy.	SE: 381-386, 387-392, 417-422 TE: 381A-386B, 387A-392B, 417-422
7.SP.C.7a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected.	SE: 381-386, 387-392, 417-422 TE: 381A-386B, 387A-392B, 417-422
7.SP.C.7b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?	SE: 387-392, 417-422 TE: 387A-392B, 417-422

**A Correlation of enVision Mathematics, ©2021
to the Arizona Mathematics Standards 2016**

Arizona Mathematics Standards Grade 7	enVision Mathematics, ©2021 Grade 7
Math Practices	
MP.1 Make sense of problems and persevere in solving them.	<p>enVision Mathematics provides numerous instructional opportunities to help students develop proficiency in the math practices. To get students off to a good start on all eight practices, use the Math Practices and Problem Solving Handbook pages online. Each lesson begins with Problem-Based Learning, an activity in which students interact with their peers and teachers to make sense of and decide on a workable solution for a situation. Another feature of each lesson is the set of problem-solving exercises in which students persevere by applying different skills and strategies to solve problems. Each Problem-Solving Lesson provides instruction and practice focused on a specific math practice.</p> <p>SE/TE: 14, 32, 46, 69, 93, 130, 148, 153, 159, 160, 168, 178, 212, 218, 220, 225, 243, 274, 278, 279, 328, 330, 344, 373, 377, 378, 379, 388, 461</p>
MP.2 Reason abstractly and quantitatively.	<p>enVision Mathematics provides scaffolded instruction to help students develop both quantitative and abstract reasoning. In the Visual Learning Bridge, students can see how to represent a given situation numerically or algebraically. They will have opportunities later in the lesson to reason abstractly as they endeavor to represent situations symbolically. Reasonableness exercises remind students to compare their work to the original situation. Reasoning problems throughout the exercise sets focus students' attention on the structure or meaning of an operation, for example, rather than merely the solution.</p> <p>SE/TE: 12, 13, 30, 31, 37, 56, 68, 105, 106, 128, 129, 152, 166, 184, 212, 329, 335, 378, 384, 454, 456</p>

**A Correlation of enVision Mathematics, ©2021
to the Arizona Mathematics Standards 2016**

Arizona Mathematics Standards Grade 7	enVision Mathematics, ©2021 Grade 7
MP.3 Construct viable arguments and critique the reasoning of others.	<p>Consistent with a focus on reasoning and sense-making is a focus on critical reasoning—argumentation and critique of arguments. In enVision Mathematics, the Problem-Based Learning affords students opportunities to share with classmates their thinking about problems, their solution methods, and their reasoning about the solutions. Many exercises found throughout the program explicitly call for students to justify or explain their solutions. The ability to articulate a clear explanation for a process is a stepping stone to critical analysis and reasoning of both the student’s own process and those of others.</p> <p>SE/TE: 26, 31, 36, 45, 64, 68, 98, 105, 112, 146, 148, 152, 154, 158, 166, 183, 214, 244, 292, 309, 327, 335, 336, 337, 350, 372, 378, 384, 440, 460, 480</p>
MP.4 Model with mathematics.	<p>Students using enVision Mathematics explicitly use mathematical modeling in each Topic during the 3-Act Math lesson. The Visual Learning Bridge also often presents real-world situations, demonstrating how these problems can be modeled mathematically.</p> <p>SE/TE: 12, 25, 26, 30, 38, 50, 63, 70, 93, 111, 122, 160, 201, 225, 272, 273, 274, 286, 287, 288, 292, 293, 294, 308, 374, 402, 410, 440, 441, 442, 447, 480</p>
MP.5 Use appropriate tools strategically.	<p>Students become fluent in the use of a wide assortment of tools ranging from physical objects, including manipulatives, integer chips, algebra tiles, and even pencil and paper, to digital tools, such as graphing calculators, Online Math Tools, and computers. As students become more familiar with the tools available to them, they are able to begin making decisions about which tools are most helpful in a particular situation.</p> <p>SE/TE: 12, 13, 25, 122, 128, 286, 287, 288, 292, 293, 294, 308, 402, 410, 440, 441, 442, 447, 480</p>

**A Correlation of enVision Mathematics, ©2021
to the Arizona Mathematics Standards 2016**

Arizona Mathematics Standards Grade 7	enVision Mathematics, ©2021 Grade 7
MP.6 Attend to precision.	<p>Students are expected to use mathematical terms and symbols with precision. Key terms are highlighted in each lesson and important concepts presented in the Concept Summary. The Problem-Based Learning activity provides repeated opportunities for students to use precise language to explain their solution paths while solving problems. In the Convince Me! feature, students revisit these key terms or concepts and provide explicit definitions or explanations.</p> <p>SE/TE: 18, 20, 45, 51, 106, 146, 147, 168, 182, 201, 236, 308, 327, 391, 392, 435, 455, 456, 461, 468, 469, 470, 478, 479, 480, 484, 485, 486, 490, 491, 492</p>
MP.7 Look for and make use of structure.	<p>Students are encouraged to look for structure as they develop solution plans. For example, as students mature in their mathematical thinking, they see structure when working with problems that can be represented with the Distributive Property. This focus on looking for and recognizing structure enables students to draw from patterns as they formalize their thinking about the structure of operations.</p> <p>SE/TE: 19, 38, 44, 57, 58, 62, 90, 123, 177, 200, 218, 242, 248, 250, 266, 272, 274, 454</p>
MP.8 Look for and express regularity in repeated reasoning.	<p>Students are reminded to think about problems they have encountered previously that may share features or processes. They are encouraged to draw on the solution plan developed for such problems, and, as their mathematical thinking matures, to look for and apply generalizations to similar situations.</p> <p>SE/TE: 99, 182, 200, 206, 207, 218, 219, 220, 225, 403, 404, 470, 475</p>

Arizona Mathematics Standards Grade 8	enVision Mathematics, ©2021 Grade 8
The Number System (NS)	
8.NS.A Understand that there are irrational numbers, and approximate them using rational numbers.	
8.NS.A.1 Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion. Know that numbers whose decimal expansions do not terminate in zeros or in a repeating sequence of fixed digits are called irrational.	SE: 9-14, 15-20, 75-80 TE: 9A-14B, 15A-20B, 75-80
8.NS.A.2 Use rational approximations of irrational numbers to compare the size of irrational numbers. Locate them approximately on a number line diagram, and estimate their values.	SE: 21-26, 75-80 TE: 21A-26B, 75-80
8.NS.A.3 Understand that given any two distinct rational numbers, $a < b$, there exist a rational number c and an irrational number d such that $a < c < b$ and $a < d < b$. Given any two distinct irrational numbers, $a < b$, there exist a rational number c and an irrational number d such that $a < c < b$ and $a < d < b$.	SE: 21-26, 75-80 TE: 21A-26B, 75-80
Expressions and Equations (EE)	
8.EE.A Work with radicals and integer exponents.	
8.EE.A.1 Understand and apply the properties of integer exponents to generate equivalent numerical expressions.	SE: 41-46, 47-52, 75-80 TE: 41A-46B, 47A-52B, 75-80
8.EE.A.2 Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Know that $\sqrt{2}$ is irrational.	SE: 27-32, 33-38, 75-80 TE: 27A-32B, 33A-38B, 75-80
8.EE.A.2a. Evaluate square roots of perfect squares less than or equal to 225.	SE: 27-32, 33-38, 75-80 TE: 27A-32B, 33A-38B, 75-80

**A Correlation of enVision Mathematics, ©2021
to the Arizona Mathematics Standards 2016**

Arizona Mathematics Standards Grade 8	enVision Mathematics, ©2021 Grade 8
8.EE.A.2b. Evaluate cube roots of perfect cubes less than or equal to 1000.	SE: 27-32, 33-38, 75-80 TE: 27A-32B, 33A-38B, 75-80
8.EE.A.3 Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and express how many times larger or smaller one is than the other.	SE: 53-58, 75-80 TE: 53A-58B, 75-80
8.EE.A.4 Perform operations with numbers expressed in scientific notation including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities.	SE: 59-64, 69-74, 75-80 TE: 59A-64B, 69A-74B, 75-80
8.EE.B Understand the connections between proportional relationships, lines, and linear equations.	
8.EE.B.5 Graph proportional relationships interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.	SE: 121-126, 151-156 TE: 121A-126B, 151-156
8.EE.B.6 Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane. Derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at $(0, b)$.	SE: 127-132, 133-138, 139-144, 145-150, 151-156 TE: 127A-132B, 133A-138B, 139A-144B, 145A-150B, 151-156
8.EE.C Analyze and solve linear equations, inequalities, and pairs of simultaneous linear equations.	
8.EE.C.7 Fluently solve linear equations and inequalities in one variable.	SE: 89-94, 95-100, 101-106, 107-114, 151-156 TE: 89A-94B, 95A-100B, 101A-106B, 107A-114B, 151-156

**A Correlation of enVision Mathematics, ©2021
to the Arizona Mathematics Standards 2016**

Arizona Mathematics Standards Grade 8	enVision Mathematics, ©2021 Grade 8
8.EE.C.7a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solution. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers).	SE: 107-114, 151-156 TE: 107A-114B, 151-156
8.EE.C.7b. Solve linear equations and inequalities with rational number coefficients, including solutions that require expanding expressions using the distributive property and collecting like terms.	SE: 89-94, 95-100, 101-106, 151-156 TE: 89A-94B, 95A-100B, 101A-106B, 151-156
8.EE.C.8 Analyze and solve pairs of simultaneous linear equations.	SE: 267-272, 273-278, 281-286, 287-292, 297-300 TE: 267A-272B, 273A-273B, 281A-286B, 287A-292B, 297-300
8.EE.C.8a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.	SE: 273-278, 297-300 TE: 273A-273B, 297-300
8.EE.C.8b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations including cases of no solution and infinite number of solutions. Solve simple cases by inspection.	SE: 267-272, 281-286, 287-292, 297-300 TE: 267A-272B, 281A-286B, 287A-292B, 297-300
8.EE.C.8c. Solve mathematical problems and problems in real-world context leading to two linear equations in two variables.	SE: 267-272, 273-278, 281-286, 287-292, 297-300 TE: 267A-272B, 273A-273B, 281A-286B, 287A-292B, 297-300

**A Correlation of enVision Mathematics, ©2021
to the Arizona Mathematics Standards 2016**

Arizona Mathematics Standards Grade 8	enVision Mathematics, ©2021 Grade 8
Functions (F)	
8.F.A Define, evaluate, and compare functions.	
8.F.A.1 Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. (Function notation is not required in Grade 8.)	SE: 165-170, 171-176, 207-210 TE: 165A-170B, 171A-176B, 207-210
8.F.A.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.	SE: 177-182, 189-194, 207-210 TE: 177A-182B, 189A-194B, 207-210
8.F.A.3 Interpret the equation $y = mx + b$ as defining a linear function whose graph is a straight line; give examples of functions that are not linear. For example, the function $A = s^2$ giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4), and (3,9) which are not on a straight line.	SE: 177-182, 207-210, 225-230, 231-236, 255-258 TE: 177A-182B, 207-210, 225A-230B, 231A-236B, 255-258
8.F.B Use functions to model relationships between quantities.	
8.F.B.4 Given a description of a situation, generate a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or a graph. Track how the values of the two quantities change together. Interpret the rate of change and initial value of a linear function in terms of the situation it models, its graph, or its table of values.	SE: 189-194, 207-210, 225-230, 231-236, 255-258 TE: 189A-194B, 207-210, 225A-230B, 231A-236B, 255-258
8.F.B.5 Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.	SE: 195-200, 201-206, 207-210 TE: 195A-200B, 201A-206B, 207-210

**A Correlation of enVision Mathematics, ©2021
to the Arizona Mathematics Standards 2016**

Arizona Mathematics Standards Grade 8	enVision Mathematics, ©2021 Grade 8
Geometry (G)	
8.G.A Understand congruence and similarity.	
8.G.A.1 Verify experimentally the properties of rotations, reflections, and translations. Properties include: lines are taken to lines, line segments are taken to line segments of the same length, angles are taken to angles of the same measure, parallel lines are taken to parallel lines.	SE: 309-314, 315-320, 321-326, 327-332, 377-382 TE: 309A-314B, 315A-320B, 321A-326B, 327A-332B, 377-382
8.G.A.2 Understand that a two-dimensional figure is congruent to another if one can be obtained from the other by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that demonstrates congruence.	SE: 337-342, 377-382 TE: 337A-342B, 377-382
8.G.A.3 Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	SE: 309-314, 315-320, 321-326, 327-332, 337-342, 345-350, 351-356, 377-382 TE: 309A-314B, 315A-320B, 321A-326B, 327A-332B, 337A-342B, 345A-350B, 351A-356B, 377-382
8.G.A.4 Understand that a two-dimensional figure is similar to another if, and only if, one can be obtained from the other by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that demonstrates similarity.	SE: 345-350, 351-356, 377-382 TE: 345A-350B, 351A-356B, 377-382
8.G.A.5 Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.	SE: 357-364, 365-370, 371-376, 377-382 TE: 357A-364B, 365A-370B, 371A-376B, 377-382

**A Correlation of enVision Mathematics, ©2021
to the Arizona Mathematics Standards 2016**

Arizona Mathematics Standards Grade 8	enVision Mathematics, ©2021 Grade 8
8.G.B Understand and apply the Pythagorean Theorem.	
8.G.B.6 Understand the Pythagorean Theorem and its converse.	SE: 395-400, 401-406, 421-424 TE: 395A-400B, 401A-406B, 421-424
8.G.B.7 Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world context and mathematical problems in two and three dimensions.	SE: 395-400, 401-406, 409-414, 421-424 TE: 395A-400B, 401A-406B, 409A-414B, 421-424
8.G.B.8 Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.	SE: 415-420, 421-424 TE: 415A-420B, 421-424
8.G.C Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.	
8.G.C.9 Understand and use formulas for volumes of cones, cylinders and spheres and use them to solve real-world context and mathematical problems.	SE: 433-438, 439-444, 447-452, 453-458, 463-466 TE: 433A-438B, 439A-444B, 447A-452B, 453A-458B, 463-466
Statistics and Probability (SP)	
8.SP.A Investigate patterns of association in bivariate data.	
8.SP.A.1 Construct and interpret scatter plots for bivariate measurement data to investigate and describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.	SE: 219-224, 255-258 TE: 219A-224B, 255-258
8.SP.A.2 Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.	SE: 225-230, 255-258 TE: 225A-230B, 255-258
8.SP.A.3 Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept.	SE: 231-236, 255-258 TE: 231A-236B, 255-258

**A Correlation of enVision Mathematics, ©2021
to the Arizona Mathematics Standards 2016**

Arizona Mathematics Standards Grade 8	enVision Mathematics, ©2021 Grade 8
8.SP.A.4 Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables.	SE: 239-244, 245-250, 255-258 TE: 239A-244B, 245A-250B, 255-258
8.SP.B Investigate chance processes and develop, use, and evaluate probability models.	
8.SP.B.5 Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.	This standard is addressed in enVision, ©2021 Grade 7. Please see: SE: 399-402, 405-408, 411-414 TE: 361B-361C, 361G-361H, 399A, 405A-405B, 406A, 411A-411B, 412A, 417A-417B
8.SP.B.5a. Understand that the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.	This standard is addressed in enVision, ©2021 Grade 7. Please see: SE: 399-402, 405-408 TE: 361B-361C, 361G-361H, 399A, 405A-405B, 406A, 411A-411B
8.SP.B.5b. Represent sample spaces for compound events using organized lists, tables, tree diagrams and other methods. Identify the outcomes in the sample space which compose the event.	This standard is addressed in enVision, ©2021 Grade 7. Please see: SE: 399-402, 405-408 TE: 361B-361C, 361G-361H, 399A, 405A-405B, 406A, 411A-411B
8.SP.B.5c. Design and use a simulation to generate frequencies for compound events.	This standard is addressed in enVision, ©2021 Grade 7. Please see: SE: 411-414 TE: 361H, 411A, 417A-417B

**A Correlation of enVision Mathematics, ©2021
to the Arizona Mathematics Standards 2016**

Arizona Mathematics Standards Grade 8	enVision Mathematics, ©2021 Grade 8
Math Practices	
MP.1 Make sense of problems and persevere in solving them.	<p>enVision Mathematics provides numerous instructional opportunities to help students develop proficiency in the math practices. To get students off to a good start on all eight practices, use the Math Practices and Problem Solving Handbook pages online. Each lesson begins with Problem-Based Learning, an activity in which students interact with their peers and teachers to make sense of and decide on a workable solution for a situation. Another feature of each lesson is the set of problem-solving exercises in which students persevere by applying different skills and strategies to solve problems. Each Problem-Solving Lesson provides instruction and practice focused on a specific math practice.</p> <p>SE/TE: 92, 93, 126, 150, 192, 204, 235, 243, 320, 330, 413, 438, 443, 444, 457</p>
MP.2 Reason abstractly and quantitatively.	<p>enVision Mathematics provides scaffolded instruction to help students develop both quantitative and abstract reasoning. In the Visual Learning Bridge, students can see how to represent a given situation numerically or algebraically. They will have opportunities later in the lesson to reason abstractly as they endeavor to represent situations symbolically. Reasonableness exercises remind students to compare their work to the original situation. Reasoning problems throughout the exercise sets focus students' attention on the structure or meaning of an operation, for example, rather than merely the solution.</p> <p>SE/TE: 14, 18, 20, 24, 50, 74, 98, 104, 112, 113, 130, 137, 180, 194, 224, 248, 276, 286, 319, 324, 326, 340, 348, 355, 374, 419, 438, 442</p>

**A Correlation of enVision Mathematics, ©2021
to the Arizona Mathematics Standards 2016**

Arizona Mathematics Standards Grade 8	enVision Mathematics, ©2021 Grade 8
<p>MP.3 Construct viable arguments and critique the reasoning of others.</p>	<p>Consistent with a focus on reasoning and sense-making is a focus on critical reasoning—argumentation and critique of arguments. In enVision Mathematics, the Problem-Based Learning affords students opportunities to share with classmates their thinking about problems, their solution methods, and their reasoning about the solutions. Many exercises found throughout the program explicitly call for students to justify or explain their solutions. The ability to articulate a clear explanation for a process is a stepping stone to critical analysis and reasoning of both the student’s own process and those of others.</p> <p>SE/TE: 18, 19, 24, 30, 32, 36, 38, 46, 51, 56, 58, 62, 73, 111, 113, 132, 150, 169, 174, 193, 200, 228, 248, 271, 276, 284, 286, 290, 340, 349, 374, 375, 398, 437</p>
<p>MP.4 Model with mathematics.</p>	<p>Students using enVision Mathematics explicitly use mathematical modeling in each Topic during the 3-Act Math lesson. The Visual Learning Bridge also often presents real-world situations, demonstrating how these problems can be modeled mathematically.</p> <p>SE/TE: 26, 46, 94, 98, 99, 125, 137, 138, 143, 148, 149, 168, 174, 175, 176, 193, 204, 205, 206, 222, 223, 242, 276, 277, 278, 292, 312, 313, 318, 319, 320, 331, 341, 342, 349, 354, 355, 356, 406, 418</p>

**A Correlation of enVision Mathematics, ©2021
to the Arizona Mathematics Standards 2016**

Arizona Mathematics Standards Grade 8	enVision Mathematics, ©2021 Grade 8
MP.5 Use appropriate tools strategically.	<p>Students become fluent in the use of a wide assortment of tools ranging from physical objects, including manipulatives, integer chips, algebra tiles, and even pencil and paper, to digital tools, such as graphing calculators, Online Math Tools, and computers. As students become more familiar with the tools available to them, they are able to begin making decisions about which tools are most helpful in a particular situation.</p> <p>SE/TE: 94, 144, 148, 149, 174, 175, 176, 204, 205, 206, 223, 276, 277, 278, 312, 313, 318, 319, 320, 341, 342, 354, 355, 356</p>
MP.6 Attend to precision.	<p>Students are expected to use mathematical terms and symbols with precision. Key terms are highlighted in each lesson and important concepts presented in the Concept Summary. The Problem-Based Learning activity provides repeated opportunities for students to use precise language to explain their solution paths while solving problems. In the Convince Me! feature, students revisit these key terms or concepts and provide explicit definitions or explanations.</p> <p>SE/TE: 12, 25, 31, 36, 56, 57, 286, 354, 361, 362, 363, 364, 368, 369, 370, 375, 376, 399, 400, 404, 405, 406, 419, 436, 437, 438, 442, 443, 444, 450, 451, 452, 456, 457, 458</p>
MP.7 Look for and make use of structure.	<p>Students are encouraged to look for structure as they develop solution plans. For example, as students mature in their mathematical thinking, they see structure when working with problems that can be represented with the Distributive Property. This focus on looking for and recognizing structure enables students to draw from patterns as they formalize their thinking about the structure of operations.</p> <p>SE/TE: 12, 52, 72, 93, 99, 104, 105, 111, 136, 148, 169, 170, 198, 242, 270, 285, 361, 398, 404, 412, 450</p>

**A Correlation of enVision Mathematics, ©2021
to the Arizona Mathematics Standards 2016**

Arizona Mathematics Standards Grade 8	enVision Mathematics, ©2021 Grade 8
MP.8 Look for and express regularity in repeated reasoning.	<p>Students are reminded to think about problems they have encountered previously that may share features or processes. They are encouraged to draw on the solution plan developed for such problems, and, as their mathematical thinking matures, to look for and apply generalizations to similar situations.</p> <p>SE/TE: 31, 45, 51, 63, 131, 250, 291, 330, 399, 405, 413, 457</p>