

A Correlation of

 **enVision**[®] Mathematics

**South Carolina, ©2021
Grade 6**

To the

**South Carolina
College- and Career-Ready Standards
for Mathematics
Grade 6**

SAVVAS

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South Carolina College- and Career-Ready Standards for Mathematics Grade 6	enVision Mathematics South Carolina, ©2021 Grade 6
1. Make sense of problems and persevere in solving them.	enVision Mathematics provides students with opportunities to make sense of problems and persevere in solving them throughout the series in Practice and Problem Solving exercises for each lesson. Students relate problems to prior lessons and prior knowledge as indicated in the TE by suggesting connections to previously learned content and strategies and previously encountered problems and examples. The SE portrays different strategies for solving the same problem, and the TE presents opportunities for teachers to ask students about alternative approaches. Mathematical Modeling lessons ask students to evaluate their solution models and suggest changes, if necessary. Problem-based learning, including strategy choices, is the focus of Solve and Discuss It! activities and includes all phases of the problem-solving process.
a. Relate a problem to prior knowledge.	SE/TE: 5, 115, 161, 175, 255, 317, 333, 385, 425, 481-482
b. Recognize there may be multiple entry points to a problem and more than one path to a solution.	SE/TE: 13, 28, 92, 103, 145, 179, 297, 406, 435, 501-502
c. Analyze what is given, what is not given, what is being asked, and what strategies are needed, and make an initial attempt to solve a problem.	SE/TE: 31, 65, 123, 161, 233, 275, 347, 393, 467, 493
d. Evaluate the success of an approach to solve a problem and refine it if necessary.	SE/TE: 8, 29, 43, 52, 197, 314, 361, 375, 437, 460

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2. Reason both contextually and abstractly.	enVision Mathematics provides students with opportunities to practice and apply reasoning in both real-world contexts and also pure mathematical problems through Fluency activities as well as problems featured in Solve and Discuss It, Explore It, Do You Understand, and Practice and Problem Solving. The TE provides guiding questions to help teachers direct students to Use and Connect Mathematical Representations.
a. Make sense of quantities and their relationships in mathematical and real-world situations.	SE/TE: 59, 65, 139, 183, 211, 217, 251, 263, 295, 305
b. Describe a given situation using multiple mathematical representations.	SE/TE: 13, 19, 29-30, 34, 42, 122, 124, 140, 240, 260
c. Translate among multiple mathematical representations and compare the meanings each representation conveys about the situation.	SE/TE: 19, 21, 34, 40, 189, 243-244, 257, 341, 350, 413
d. Connect the meaning of mathematical operations to the context of a given situation.	SE/TE: 12, 18, 24, 36, 48, 50-51, 53-54, 77, 188, 241
3. Use critical thinking skills to justify mathematical reasoning and critique the reasoning of others.	enVision Mathematics develops higher order thinking skills in students through thoughtfully constructed multi-level problems as openers, examples, and problems accompanying each lesson. Additionally, problems which explicitly or implicitly require students to construct an argument and/or evaluate the reasoning of others are interspersed throughout the textbook. Features like Explain It, Explore It, Solve and Discuss It, and Convince Me require students to make conjectures and explain their reasoning.

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a. Construct and justify a solution to a problem.	SE/TE: 65, 101, 104, 110, 120, 181, 274, 317, 456, 489
b. Compare and discuss the validity of various reasoning strategies.	SE/TE: 7, 36, 76, 154, 239, 314, 392, 397, 492, 493
c. Make conjectures and explore their validity.	SE/TE: 52, 76, 110, 188, 208, 227, 242, 317, 493, 499
d. Reflect on and provide thoughtful responses to the reasoning of others.	SE/TE: 10, 40, 76, 122, 127, 134, 159-160, 166, 317, 422
4. Connect mathematical ideas and real-world situations through modeling.	enVision Mathematics encourages students to devise and employ mathematical models throughout the course. Every topic includes a 3-Act Mathematical Modeling lesson that requires students to reflect on a problem, construct a model, and propose and refine a solution. Each topic opens with a STEM project that requires students to construct a model employing Science, Technology, Engineering, and Mathematics to solve a problem.
a. Identify relevant quantities and develop a model to describe their relationships.	SE/TE: 27, 31, 38, 91, 151, 223, 301, 373, 419, 499
b. Interpret mathematical models in the context of the situation.	SE/TE: 4, 43, 62, 114, 174, 254, 322, 384, 450, 469
c. Make assumptions and estimates to simplify complicated situations.	SE/TE: 28, 92, 152, 224, 295, 302, 355, 374, 420, 500
d. Evaluate the reasonableness of a model and refine if necessary.	SE/TE: 29-30, 62, 93-94, 153-154, 178, 225-226, 303-304, 375-376, 421-422, 501-502

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5. Use a variety of mathematical tools effectively and strategically.	Students use a variety of tools in conjunction with enVision Mathematics, including pan balances for solving equations and determining whether expressions are equivalent; measuring instruments (e.g., thermometer, ruler, protractor); drawings (e.g., area models and number lines); and technology in the form of computers or calculators and software relevant to math (including statistics).
a. Select and use appropriate tools when solving a mathematical problem.	SE/TE: 7, 19, 189, 217, 268, 275, 415, 424, 429, 469
b. Use technological tools and other external mathematical resources to explore and deepen understanding of concepts.	SE/TE: 28, 92, 132, 152, 224, 302, 364, 374, 420, 500
6. Communicate mathematically and approach mathematical situations with precision.	enVision Mathematics models precision in computational accuracy and technical vocabulary and encourages students to communicate precisely and to represent quantities with appropriate precision and labels.
a. Express numerical answers with the degree of precision appropriate for the context of a situation.	SE/TE: 8, 43, 46, 51, 291, 318-320, 362, 438, 460, 477
b. Represent numbers in an appropriate form according to the context of the situation.	SE/TE: 24, 41, 51, 90, 92, 289, 299, 370, 376, 436
c. Use appropriate and precise mathematical language.	SE/TE: 87, 120, 133, 142, 161, 213, 218, 364, 400, 416
d. Use appropriate units, scales, and labels.	SE/TE: 52, 211, 286, 311, 314, 389, 397-398, 409, 425, 436

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7. Identify and utilize structure and patterns.	Within the TE margin and the SE text, enVision Mathematics highlights activities and problems that demonstrate the use of structure to solve problems efficiently and effectively and the identification of patterns to recognize and utilize relationships to develop solution strategies. Structure is also related to repetitive algorithms for computational fluency and the application of measurement formulas for area, surface area, and volume.
a. Recognize complex mathematical objects as being composed of more than one simple object.	SE/TE: 95, 101, 131, 145, 183, 239, 341, 387, 393, 399
b. Recognize mathematical repetition in order to make generalizations.	SE/TE: 13-16, 22, 37, 59, 111, 117, 165, 251, 429, 435
c. Look for structures to interpret meaning and develop solution strategies.	SE/TE: 7, 95, 101, 123, 131, 139, 177, 233, 263, 269
The Number System	
6.NS.1 Compute and represent quotients of positive fractions using a variety of procedures (e.g., visual models, equations, and real-world situations).	SE/TE: 31-36, 37-42, 43-48, 49-54, 55-58
6.NS.2 Fluently divide multi-digit whole numbers using a standard algorithmic approach.	SE/TE: 13-18, 55-58
6.NS.3 Fluently add, subtract, multiply and divide multi-digit decimal numbers using a standard algorithmic approach.	SE/TE: 7-12, 13-18, 55-58
6.NS.4 Find common factors and multiples using two whole numbers.	SE/TE: 123-130, 167-170
a. Compute the greatest common factor (GCF) of two numbers both less than or equal to 100.	SE/TE: 123-130, 167-170
b. Compute the least common multiple (LCM) of two numbers both less than or equal to 12.	SE/TE: 123-130, 167-170

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c. Express sums of two whole numbers, each less than or equal to 100, using the distributive property to factor out a common factor of the original addends.	SE/TE: 123-130, 167-170
6.NS.5 Understand that the positive and negative representations of a number are opposites in direction and value. Use integers to represent quantities in real-world situations and explain the meaning of zero in each situation.	SE/TE: 65-70, 107-110
6.NS.6 Extend the understanding of the number line to include all rational numbers and apply this concept to the coordinate plane.	SE/TE: 65-70, 71-76, 85-90, 107-110, 405-410, 441-446
a. Understand the concept of opposite numbers, including zero, and their relative locations on the number line.	SE/TE: 65-70, 107-110
b. Understand that the signs of the coordinates in ordered pairs indicate their location on an axis or in a quadrant on the coordinate plane.	SE/TE: 85-90, 107-110
c. Recognize when ordered pairs are reflections of each other on the coordinate plane across one axis, both axes, or the origin.	SE/TE: 65-70, 71-76, 85-90, 107-110
d. Plot rational numbers on number lines and ordered pairs on coordinate planes.	SE/TE: 405-410, 441-446
6.NS.7 Understand and apply the concepts of comparing, ordering, and finding absolute value to rational numbers.	SE/TE: 71-76, 77-82, 107-110
a. Interpret statements using equal to (=) and not equal to (\neq).	SE/TE: 71-76, 107-110
b. Interpret statements using less than (<), greater than (>), and equal to (=) as relative locations on the number line.	SE/TE: 71-76, 107-110

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c. Use concepts of equality and inequality to write and to explain real-world and mathematical situations.	SE/TE: 77-82, 107-110
d. Understand that absolute value represents a number's distance from zero on the number line and use the absolute value of a rational number to represent real-world situations.	SE/TE: 77-82, 107-110
e. Recognize the difference between comparing absolute values and ordering rational numbers. For negative rational numbers, understand that as the absolute value increases, the value of the negative number decreases.	SE/TE: 77-82, 107-110
6.NS.8 Extend knowledge of the coordinate plane to solve real-world and mathematical problems involving rational numbers.	SE/TE: 95-100, 101-106, 107-110, 405-410, 441-446
a. Plot points in all four quadrants to represent the problem.	SE/TE: 95-100, 101-106, 107-110, 405-410, 441-446
b. Find the distance between two points when ordered pairs have the same x-coordinates or same y-coordinates.	SE/TE: 95-100, 101-106, 107-110, 405-410, 441-446
c. Relate finding the distance between two points in a coordinate plane to absolute value using a number line.	SE/TE: 95-100, 101-106, 107-110, 405-410, 441-446
6.NS.9 Investigate and translate among multiple representations of rational numbers (fractions, decimal numbers, percentages). Fractions should be limited to those with denominators of 2, 3, 4, 5, 8, 10, and 100.	SE/TE: 341-346, 377-380
Ratios and Proportional Relationships	
6.RP.1 Interpret the concept of a ratio as the relationship between two quantities, including part to part and part to whole.	SE/TE: 257-262, 323-328

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6.RP.2 Investigate relationships between ratios and rates.	SE/TE: 283-288, 323-328
a. Translate between multiple representations of ratios (i.e., $ab':b,a$ to b , visual models).	SE/TE: 283-288, 323-328
b. Recognize that a rate is a type of ratio involving two different units.	SE/TE: 283-288, 323-328
c. Convert from rates to unit rates.	SE/TE: 283-288, 323-328
6.RP.3 Apply the concepts of ratios and rates to solve real-world and mathematical problems.	SE/TE: 263-268, 269-274, 275-280, 283-288, 289-294, 295-300, 305-310, 311-316, 317-322, 323-328, 335-340, 341-346, 347-352, 355-360, 361-366, 367-372, 377-380
a. Create a table consisting of equivalent ratios and plot the results on the coordinate plane.	SE/TE: 263-268, 269-274, 275-280, 283-288, 289-294, 323-328
b. Use multiple representations, including tape diagrams, tables, double number lines, and equations, to find missing values of equivalent ratios.	SE/TE: 263-268, 269-274, 275-280, 283-288, 289-294, 323-328
c. Use two tables to compare related ratios.	SE/TE: 263-268, 269-274, 275-280, 283-288, 289-294, 323-328
d. Apply concepts of unit rate to solve problems, including unit pricing and constant speed.	SE/TE: 289-294, 295-300, 323-328
e. Understand that a percentage is a rate per 100 and use this to solve problems involving wholes, parts, and percentages.	SE/TE: 335-340, 341-346, 347-352, 355-360, 361-366, 367-372, 377-380
f. Solve one-step problems involving ratios and unit rates (e.g., dimensional analysis).	SE/TE: 305-310, 311-316, 317-322, 323-328

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Expressions, Equations, and Inequalities	
6.EE.1 Write and evaluate numerical expressions involving whole-number exponents and positive rational number bases using the Order of Operations.	SE/TE: 117-122, 131-136, 167-170
6.EE.2 Extend the concepts of numerical expressions to algebraic expressions involving positive rational numbers.	SE/TE: 145-150, 167-170, 387-392, 393-398, 399-404, 405-410, 423-428, 429-434, 435-440, 441-446
a. Translate between algebraic expressions and verbal phrases that include variables.	SE/TE: 139-144, 167-170, 423-428, 429-434, 435-440, 441-446
b. Investigate and identify parts of algebraic expressions using mathematical terminology, including term, coefficient, constant, and factor.	SE/TE: 139-144, 167-170
c. Evaluate real-world and algebraic expressions for specific values using the Order of Operations. Grouping symbols should be limited to parentheses, braces, and brackets. Exponents should be limited to whole-numbers.	SE/TE: 145-150, 167-170, 387-392, 393-398, 399-404, 405-410, 423-428, 429-434, 435-440, 441-446
6.EE.3 Apply mathematical properties (e.g., commutative, associative, distributive) to generate equivalent expressions.	SE/TE: 131-136, 155-160, 161-166, 167-170
6.EE.4 Apply mathematical properties (e.g., commutative, associative, distributive) to justify that two expressions are equivalent.	SE/TE: 155-160, 161-166, 167-170, 183-188, 245-250
6.EE.5 Understand that if any solutions exist, the solution set for an equation or inequality consists of values that make the equation or inequality true.	SE/TE: 177-182, 211-216, 217-222, 245-250
6.EE.6 Write expressions using variables to represent quantities in real-world and mathematical situations. Understand the meaning of the variable in the context of the situation.	SE/TE: 139-144, 155-160, 167-170, 189-194, 195-200, 201-208, 245-250, 423-428, 429-434, 435-440, 441-446

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6.EE1.7 Write and solve one-step linear equations in one variable involving nonnegative rational numbers for real-world and mathematical situations.	SE/TE: 183-188, 189-194, 195-200, 201-208, 245-250
6.EE1.8 Extend knowledge of inequalities used to compare numerical expressions to include algebraic expressions in real-world and mathematical situations.	SE/TE: 211-216, 217-222, 245-250
a. Write an inequality of the form $x > c$ or $x < c$ and graph the solution set on a number line.	SE/TE: 211-216, 217-222, 245-250
b. Recognize that inequalities have infinitely many solutions.	SE/TE: 211-216, 217-222, 245-250
6.EE1.9 Investigate multiple representations of relationships in real-world and mathematical situations.	SE/TE: 227-232, 233-238, 239-244, 245-250
a. Write an equation that models a relationship between independent and dependent variables.	SE/TE: 227-232, 233-238, 239-244, 245-250
b. Analyze the relationship between independent and dependent variables using graphs and tables.	SE/TE: 227-232, 233-238, 239-244, 245-250
c. Translate among graphs, tables, and equations.	SE/TE: 227-232, 233-238, 239-244, 245-250
Geometry and Measurement	
6.GM.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 in the context of solving real-world and mathematical problems.	SE/TE: 387-392, 393-398, 399-404, 405-410, 441-446

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6.GM.2 Use visual models (e.g., model by packing) to discover that the formulas for the volume of a right rectangular prism ($V=lwh, V=Bh$) are the same for whole or fractional edge lengths. Apply these formulas to solve real-world and mathematical problems.	SE/TE: 435-440, 441-446
6.GM.3 Apply the concepts of polygons and the coordinate plane to real-world and mathematical situations.	SE/TE: 101-106, 107-110, 405-410, 441-446
a. Given coordinates of the vertices, draw a polygon in the coordinate plane.	SE/TE: 101-106, 107-110, 405-410, 441-446
b. Find the length of an edge if the vertices have the same x-coordinates or same y-coordinates.	SE/TE: 101-106, 107-110, 405-410, 441-446
6.GM.4 Unfold three-dimensional figures into two-dimensional rectangles and triangles (nets) to find the surface area and to solve real-world and mathematical problems.	SE/TE: 413-418, 423-428, 429-434, 441-446
Data Analysis and Statistics	
6.DS.1 Differentiate between statistical and non-statistical questions.	SE/TE: 453-458, 503-506
6.DS.2 Use center (mean, median, mode), spread (range, interquartile range, mean absolute value), and shape (symmetrical, skewed left, skewed right) to describe the distribution of a set of data collected to answer a statistical question.	SE/TE: 493-498, 503-506

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6.DS.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 describes how its values vary with a single number.	SE/TE: 459-466, 503-506
6.DS.4 Select and create an appropriate display for numerical data, including dot plots, histograms, and box plots.	SE/TE: 453-458, 467-472, 473-478, 481-486, 493-498, 503-506
6.DS.5 Describe numerical data sets in relation to their real-world context.	SE/TE: 481-486, 459-466, 473-478, 487-492, 493-498, 503-506, South Carolina Lesson 1
a. State the sample size.	SE/TE: 473-478, 503-506
b. Describe the qualitative aspects of the data (e.g., how it was measured, units of measurement).	SE/TE: 493-498, 503-506
c. Give measures of center (median, mean).	SE/TE: 459-466, 487-492, 493-498, 503-506
d. Find measures of variability (interquartile range, mean absolute deviation) using a number line.	SE/TE: 481-486, 503-506
e. Describe the overall pattern (shape) of the distribution.	SE/TE: 487-492, 493-498, 503-506
f. Justify the choices for measure of center and measure of variability based on the shape of the distribution.	SE/TE: 487-492, 503-506
g. Describe the impact that inserting or deleting a data point has on the measures of center (median, mean) for a data set.	SE/TE: South Carolina Lesson 1