2021 Grade 6 Math Pacing Guide

EnVisions Sequence of Concepts:	**Digits** Sequence of Concepts:
1. **Positive Rational Numbers** 2. **Integers & Rational Numbers** 3. **Numerical & Algebraic Expressions** 4. **Equations & Inequalities** 5. **Ratios & Rates** 6. **Percents** 7. **Area, Surface Area, Volume** 8. **Data & Statistics**	1. **Numerical & Algebraic Expressions** 2. **Equations and Inequalities** 3. **Fractions, Decimals** 4. **Rational Numbers and Integers** 5. **Ratios/Rates** 6. **Percents** 7. **Area, Surface Area, Volume** 8. **Data & Statistics**

Grade 6 / Math / Topic 1: Use Positive Rational Numbers (22-24 days)				
Time Frame	**Primary Math Skills**	**Instructional Strategy**	**Academic Vocabulary**	**Standards & Math Practice**
3 days	Introduce digital platforms ● EnVisions pilot resources ● Google Classroom ● IXL ● Reflex ● Brainpop, Khan Academy, etc.	● Guided Practice ● Direct Instruction	N/A	N/A
1 day	● Readiness Assessment		5th Grade Review Vocabulary	5th Grade Review Standards

2 days	Lesson 1-1 ● Add and subtract decimals with precision. ● Multiply decimals. ● Add, subtract, and multiply decimals to solve real-world problems.	● Problem Based Learning ● Direct Instruction ● Guided Practice ● Independent Practice/Application	None	6.NS.B.3
2 days	Lesson 1-2 ● Use place-value structure to divide whole numbers and decimals. ● Divide whole numbers and decimals to solve real-world problems.		None	6.NS.B.2 6.NS.B.3
2 days	Lesson 1-3 ● Use models to multiply fractions. ● Multiply the numerators and then the denominators to find the product of two fractions. ● Multiply mixed numbers.		None	Prepares for 6.NS.A.1
1-2 days	3-Act Mathematical Modeling Lesson ● Use mathematical modeling to represent a problem situation and to propose a solution. ● Test and verify the appropriateness of their math models. ● Explain why the results from their mathematical models may not align exactly to the problem situation.		None	6.NS.B.3

2 days	Lesson 1-4 ● Use models to divide with fractions. ● Use equations to divide with fractions.		None	6.NS.A.1
2 days	Lesson 1-5 ● Use models to divide fractions by fractions. ● Use an algorithm to divide fractions by fractions.		None	6.NS.A.1
2 days	Lesson 1-6 ● Divide with mixed numbers. ● Estimate the quotient of mixed numbers.		None	6.NS.A.1
2 days	Lesson 1-7 ● Solve multistep problems with fractions and decimals.		None	6.NS.A.1
2 days	Topic 1 Review and Assessment	● Envision Review ● Envisions Assessment	None	See above.

Formative Assessment Plan	Summative Assessment Plan
● IXL ● Envisions Fluency Practice ● Envision Topic Review ● Slates/Whiteboards ● Entrance/Exit Slips ● Homework ● Readiness Assessments	● Envisions End of Topic Tests ● Envisions Benchmark Test ● Real-world application project- STEM Project ● Mid-Topic Assessment ● Topic Performance Task

● Pick a Project ● Mid-Topic Checkpoint and Performance Task ● Language Development Activity	
Main Resources	**Supplementary Resources**
● Envisions Topic 1	● Khan Academy ● Mr. Falci's Math Site ● Illustrative Math ● Teachers Pay Teachers ● 6th Grade Google Drive- "TpT- Math" folder

Topic 1 Appendix

Prior 6th Grade Math Pacing Guide
6th grade Instructional Framework

Grade 6 / Math /Topic 2: Integers and Rational Numbers (16-18 days)

Time Frame	Primary Math Skills	Instructional Strategy	Academic Vocabulary	Standards & Math Practice
2 days	**Lesson 2-1** ● Identify opposites of integers. ● Compare and order integers. ● Use integers to represent real world quantities and explain the meaning of 0 in each context	● Problem Based Learning ● Direct Instruction ● Guided Practice ● Independent Practice/Application	integers, opposites	6.NS.C.5, 6.NS.C.6a, 6.NS.C.6c
2 days	**Lesson 2-2** ● Plot rational numbers on a number line. ● Compare and order rational numbers. ● Use rational numbers to represent real-world quantities.		Rational number	6.NS.C.6c, 6.NS.C.7a, 6.NS.C.7b
2 days	**Lesson 2-3** ● Use absolute value to represent a number's distance from 0. ● Interpret absolute value in real-world situations.		Absolute value	6.NS.C.7c, 6.NS.C.7d
2 days	**Lesson 2-4** ● Identify and graph points with rational coordinates on the coordinate plane. ● Reflect points with rational coordinates across both axes.		coordinate plane, ordered pair, origin, quadrant, x- and y-axes	6.NS.C.6b, 6.NS.C.6c

			None	6.NS.C.5, 6.NS.C.7d
2 days	3-Act ● Use mathematical modeling to represent a problem situation and to propose a solution ● Test and verify the appropriateness of their math models ● Explain why the results from their mathematical models may not align exactly with the problem situation		None	6.NS.C.5, 6.NS.C.7d
2 days	Lesson 2-5 ● Use absolute value to find the distance between two points that lie on the same horizontal or vertical line on a coordinate plane ● Solve real-world and mathematical problems involving distances on the coordinate plane		None	6.NS.C.8
2 days	Lesson 2-6 ● Find side lengths of polygons on the coordinate plane ● Find the perimeter of polygons on the coordinate plane		none	6.NS.C.8 6.G.A.3
2 days	Topic 1 Review and Assessment	● Envision Review ● Envisions Assessment	None	See above.
1 day	Topic 1-2 Benchmark Assessment (optional)	Envision Topic 1-2 Benchmark	none	See above.

Formative Assessment Plan	Summative Assessment Plan
- IXL - Envisions Fluency Practice - Envision Topic Review - Slates/Whiteboards - Entrance/Exit Slips - Homework - Readiness Assessments - Pick a Project - Mid-Topic Checkpoint and Performance Task - Language Development Activity	- Envisions End of Topic Tests - Envisions Benchmark Test - Real-world application project- STEM Project - Mid-Topic Assessment - Topic Performance Task
Main Resources	Supplementary Resources
Envisions Topic 2	- Khan Academy - Mr. Falci's Math Site - Illustrative Math - Teachers Pay Teachers 6th Grade Google Drive- "TpT- Math" folder

Topic 2 Appendix

Prior 6th Grade Math Pacing Guide
6th grade Instructional Framework

Grade 6 / Math /Topic 3: Numeric and Algebraic Expressions (18-20 days)				
Time Frame	**Primary Math Skills**	**Instructional Strategy**	**Academic Vocabulary**	**Standards & Math Practice**
2 days	Lesson 3-1 ● Write expressions using whole-number exponents to represent real-world and mathematical problems. ● Evaluate expressions with whole-number exponents.	● Problem Based Learning ● Direct Instruction ● Guided Practice ● Independent Practice/Application	base, evaluate, exponent, power	6.EE.A.1
2 days	Lesson 3-2 ● Find the prime factorization of a whole number. ● Find the greatest common factor (GCF) and the least common multiple (LCM) of two whole numbers. ● Use the GCF and the Distributive Property to add. ● Use the GCF and the LCM to solve problems.		composite number, factor tree, greatest common factor (GCF), least common multiple (LCM, prime, factorization, prime number	6.NS.B.4
2 days	Lesson 3-3 ● Evaluate expressions using the order of operations. ● Insert grouping symbols in a numerical expression to affect the value of the expression.		numerical expression	6.EE.A.1 6.EE.A.3
2 days	Lesson 3-4 ● Write an algebraic expression to		algebraic expression,	6.EE.A.2a 6.EE.A.2b

			coefficient, term, variable	6.EE.B.6
	model a pattern. ● Write an algebraic expression from a word phrase. ● Use precise mathematical language when identifying parts of an expression.			
2 days	Lesson 3-5 ● Evaluate algebraic expressions, including those with whole numbers, decimals, and fractions.		substitution	6.EE.A.2c 6.EE.B.6
1-2 days	3 Act Mathematical Modeling Lesson ● Use mathematical modeling to represent a problem situation and to propose a solution ● Test and verify the appropriateness of their math models ● Explain why the results from their mathematical models may not align exactly with the problem situation		none	6.EE.A.2 6.EE.B.6
2 days	Lesson 3-6 ● Write equivalent algebraic expressions. ● Identify equivalent algebraic expressions ● Justify whether two expressions are equivalent.		equivalent expressions	6.EE.A.3 6.EE.A.4
2 days	Lesson 3-7 ● Use properties of operations to simplify algebraic expressions by combining like terms.		like terms, simplify	6.EE.A.3 6.EE.A.4

2 days	Topic 3 Review and Assessment	• Envision Review • Envisions Assessment		See above.

Formative Assessment Plan	Summative Assessment Plan
• IXL • Envisions Fluency Practice • Envision Topic Review • Slates/Whiteboards • Entrance/Exit Slips • Homework • Readiness Assessments • Pick a Project • Mid-Topic Checkpoint and Performance Task • Language Development Activity	• Envisions End of Topic Tests • Envisions Benchmark Test • Real-world application project- STEM Project • Mid-Topic Assessment • Topic Performance Task
Main Resources	**Supplementary Resources**
• Envisions Topic 3	• Khan Academy • Mr. Falci's Math Site • Illustrative Math • Teachers Pay Teachers • 6th Grade Google Drive- "TpT- Math" folder

Topic 3 Appendix

Prior 6th Grade Math Pacing Guide
6th grade Instructional Framework

Grade 6 / Math /Topic 4: Represent and Solve Equations and Inequalities (24-26 days)

Time Frame	Primary Math Skills	Instructional Strategy	Academic Vocabulary	Standards & Math Practice
2 days	Lesson 4-1 ● Identify equations and variables ● Use substitution to find solutions to equations	● Problem Based Learning ● Direct Instruction ● Guided Practice ● Independent Practice/Application	Equation, solution of an equation	6.EE.8.5
2 days	Lesson 4-2 ● Use the properties of equality to keep both sides of an equation equal ● Identify which properties of equality are used to write equivalent expressions		Addition Property of Equality, Subtraction Property of Equality, Multiplication Property of Equality Division Property of Equality	6.EE.A.4, 6.EE.B.7
2 days	Lesson 4-3 ● Write one-variable addition and subtraction equations ● Use inverse relationships and properties of equality to solve one-step addition and subtraction equations		Inverse relationship	6.EE.B.7, 6.EE.B.6
2 days	Lesson 4-4 ● Write one-variable multiplication and division equations ● Use inverse relationships and properties of equality to solve one-step multiplication and division equations		none	6.EE.B.7, 6.EE.B.6

2 days	Lesson 4-5 ● Write and solve equations that involve fractions, decimals, and mixed numbers		None	6.EE.B.7, 6.EE.B.6
2 days	Lesson 4-6 ● Understand the symbols required to write an inequality ● WRite inequalities to describe mathematical or real-world situations		inequality	6.EE.B.8, 6.EE.B.5
2 days	Lesson 4-7 ● Describe solutions to an inequality ● Represent solutions to an inequality on a number line		none	6.EE.B.8, 6.EE.B.5
1-2 days	3 Act Mathematical Modeling Lesson ● Use mathematical modeling to represent a problem situation and to propose a solution ● Test and verify the appropriateness of their math models ● Explain why the results from their mathematical models may not align exactly with the problem situation			6.EE.B.8, 6.EE.B.5 6.EE.B.6
2 days	4-8 ● Identify dependent variables ● Identify independent variables		Dependent variables, independent variable	6.EE.C.9
2 days	Lesson 4-9		none	6.EE.C.9

	● Analyze the relationships between variables by using tables ● Write equations to represent the relationships between variables			
2 days	Lesson 4-10 ● Analyze the relationship between dependent and independent variables using tables, graphs, and equations		none	6.EE.C.9
2 days	Topic 4 Review and Assessment	● Envision Review ● Envisions Assessment	None	See above.
1 day	Topic 1-4 Benchmark Assessment (optional)	Envision Topic 1-4 Benchmark	none	See above.

Formative Assessment Plan	Summative Assessment Plan
● IXL ● Envisions Fluency Practice ● Envision Topic Review ● Slates/Whiteboards ● Entrance/Exit Slips ● Homework ● Readiness Assessments ● Pick a Project ● Mid-Topic Checkpoint and Performance Task ● Language Development Activity	● Envisions End of Topic Tests ● Envisions Benchmark Test ● Real-world application project- STEM Project ● Mid-Topic Assessment ● Topic Performance Task
Main Resources	**Supplementary Resources**
● Envisions Topic 4	● Khan Academy

	● [Mr. Falci's Math Site](#) ● Illustrative Math ● Teachers Pay Teachers ● 6th Grade Google Drive- "TpT- Math" folder

Topic 4 Appendix

Prior 6th Grade Math Pacing Guide
6th grade Instructional Framework

Grade 6 / Math /Topic 5: Understand and Use Ratio and Rate (24-26 days)				
Time Frame	**Primary Math Skills**	**Instructional Strategy**	**Academic Vocabulary**	**Standards & Math Practice**
2 days	Lesson 5-1 ● Use rations to describe the relationship between two quantities.	● Problem Based Learning ● Direct Instruction ● Guided Practice ● Independent Practice/Application	ratio, terms	6.RP.A.1 6.RP.A.3
2 days	Lesson 5-2 ● Use multiplication and division to find equivalent ratios ● Solve problems by finding equivalent ratios		circumference, diameter, equivalent ratios, Pi	6.RP.A.3a
2 days	Lesson 5-3 ● Use ratio tables to compare ratios. ● Compare ratios to solve problems.		none	6.RP.A.3a
2 days	Lesson 5-4 ● Represent equivalent ratios on graphs. ● Use ratio tables and graphs to solve problems.		none	6.RP.A.3a
2 days	Lesson 5-5 ● Use rates to describe ratios in which the terms have different units. ● Use rates and unit rates to solve problems.		rate, unit rate	6.RP.A.2 6.RP.A.3a 6.RP.A.3b

2 days	Lesson 5-6 ● Use ratio reasoning to compare rates and solve problems.		unit price	6.RP.A.3b 6.RP.A.3a
2 days	Lesson 5-7 ● Use unit rate to solve problems involving constant speed. ● Use unit rates to solve problems involving unit price. ● Solve unit rate problems using an equation.		constant speed	6.RP.A.3b
1-2 days	3 Act Mathematical Modeling Lesson ● Use mathematical modeling to represent a problem situation and to propose a solution ● Test and verify the appropriateness of their math models ● Explain why the results from their mathematical models may not align exactly with the problem situation		none	6.RP.A.2 6.RP.A.3b
2 days	Lesson 5-8 ● Use ratio reasoning and conversion factors to convert customary units of measure.		conversion factor, dimensional analysis	6.RP.A.3d
2 days	Lesson 5-9 ● Use ratio reasoning and conversion factors to convert metric units of measure.		none	6.RP.A.3d
2 days	Lesson 5-10 ● Use ratio reasoning and		none	6.RP.A.3d

	conversion factors to convert between customary and metric units of measure.			
2 days	Topic 5 Review and Assessment	● Envision Review ● Envisions Assessment	None	See above.

Formative Assessment Plan	Summative Assessment Plan
● IXL ● Envisions Fluency Practice ● Envision Topic Review ● Slates/Whiteboards ● Entrance/Exit Slips ● Homework ● Readiness Assessments ● Pick a Project ● Mid-Topic Checkpoint and Performance Task ● Language Development Activity	● Envisions End of Topic Tests ● Envisions Benchmark Test ● Real-world application project- STEM Project ● Mid-Topic Assessment ● Topic Performance Task
Main Resources	**Supplementary Resources**
● Envisions Topic 5	● Khan Academy ● Mr. Falci's Math Site ● Illustrative Math ● Teachers Pay Teachers ● 6th Grade Google Drive- "TpT- Math" folder

Topic 5 Appendix

Prior 6th Grade Math Pacing Guide
6th grade Instructional Framework

Grade 6 / Math /Topic 6:Understand and Use Percent(16-18 days)

Time Frame	Primary Math Skills	Instructional Strategy	Academic Vocabulary	Standards & Math Practice
2 days	**Lesson 6-1** ● Represent the percent of a whole ● Find the percent of a whole	● Problem Based Learning ● Direct Instruction ● Guided Practice ● Independent Practice/Application	percent	6.RP.A.3c
2 days	**Lesson 6-2** ● Write equivalent values as fractions, decimals, and percents ● Write fractions as decimals and percents when the denominator of the fraction is not 100		none	6.RP.A.3c
2 days	**Lesson 6-3** ● Write percents that are greater than 100 ● Write percents that are less than 1		none	6.RP.A.3c
2 days	**Lesson 6-4** ● Estimate the percent of a number		none	6.RP.A.3c
2 days	**Lesson 6-5** ● Use the decimal form of a percent to find the percent of a number ● Write an equation to solve a		none	6.RP.A.3c

	percent problem			
2 days	Lesson 6-6 ● Find the whole amount when given a part and the percent		none	6.RP.A.3c
2 days	3-Act ● Use mathematical modeling to represent a problem situation and to propose a solution ● Test and verify the appropriateness of their math models ● Explain why the results from their mathematical models may not align exactly with the problem situation		None	6.RP.A.3c
2 days	Topic 6 Review and Assessment	● Envision Review ● Envisions Assessment	None	See above.
1 day	Topic 1-6 Benchmark (optional)	Envision Topic 1-4 Benchmark	none	See above.

Formative Assessment Plan	Summative Assessment Plan
● IXL ● Envisions Fluency Practice ● Envision Topic Review ● Slates/Whiteboards ● Entrance/Exit Slips ● Homework ● Readiness Assessments ● Pick a Project ● Mid-Topic Checkpoint and Performance Task	● Envisions End of Topic Tests ● Envisions Benchmark Test ● Real-world application project- STEM Project ● Mid-Topic Assessment ● Topic Performance Task

Main Resources	Supplementary Resources
● Language Development Activity	
● Envisions Topic 6	● Khan Academy ● Mr. Falci's Math Site ● Illustrative Math ● Teachers Pay Teachers ● 6th Grade Google Drive- "TpT- Math" folder

Topic 6 Appendix

Prior 6th Grade Math Pacing Guide
6th grade Instructional Framework

Grade 6 / Math /Topic 7: Solve Area, Surface Area, and Volume Problems (20-22 days)

Time Frame	Primary Math Skills	Instructional Strategy	Academic Vocabulary	Standards & Math Practice
2 days	Lesson 7-1 ● Use a formula to find the areas of parallelograms and rhombuses. ● Find the base or height of a parallelogram or rhombus when the area and the height or base are known.	● Problem Based Learning ● Direct Instruction ● Guided Practice ● Independent Practice/Application	None (possible parallelogram, rhombus, various geometric shapes)	6.G.A.1 6.EE.A.2c
2 days	Lesson 7-2 ● Find the areas of triangles, including right triangles. ● Find the corresponding base or height of a triangle.		none	6.G.A.1 6.EE.A.2c
2 days	Lesson 7-3 ● Find the areas of trapezoids. ● Find the areas of kites.		trapezoid kite	6.G.A.1 6.EE.A.2c
2 days	Lesson 7-4 ● Find the areas of polygons by composing and decomposing shapes, including polygons, on the coordinate plane.		polygon	6.G.A.1 6.EE.A.2c 6.G.A.3 6.NS.C.6c 6.NS.C.8
2 days	Lesson 7-5 ● Classify solid figures. ● Identify solid figures from nets.		base, edge, face, net, polyhedron, vertex	6.G.A.4

	● Draw nets of solid figures.			
1-2 days	3-Act ● Use mathematical modeling to represent a problem situation and to propose a solution ● Test and verify the appropriateness of their math models ● Explain why the results from their mathematical models may not align exactly with the problem situation		None	6.G.A.4 6.EE.A.2c
2 days	Lesson 7-6 ● Find the surface area of rectangular prisms, including cubes. ● Find the surface area of triangular prisms.		None (possible surface area, rectangular prisms, triangular prisms)	6.G.A.4 6.EE.A.2a 6.EE.A.2c 6.EE.B.6
2 days	Lesson 7-7 ● Find the surface areas of square and triangular pyramids.		none	6.G.A.4 6.EE.A.2a 6.EE.A.2c 6.EE.B.6
2 days	Lesson 7-8 ● Use cubes and a formula to find the volume of a rectangular prism or a cube with fractional edge lengths.		none	6.G.A.2 6.EE.A.2a 6.EE.A.2c 6.EE.B.6
2 days	Topic 7 Review and Assessment	● Envision Review ● Envisions Assessment	None	See above.

Formative Assessment Plan	Summative Assessment Plan
- IXL - Envisions Fluency Practice - Envision Topic Review - Slates/Whiteboards - Entrance/Exit Slips - Homework - Readiness Assessments - Pick a Project - Mid-Topic Checkpoint and Performance Task - Language Development Activity	- Envisions End of Topic Tests - Envisions Benchmark Test - Real-world application project- STEM Project - Mid-Topic Assessment - Topic Performance Task
Main Resources	Supplementary Resources
Envisions Topic 7	- Khan Academy - Mr. Falci's Math Site - Illustrative Math - Teachers Pay Teachers 6th Grade Google Drive- "TpT- Math" folder

Topic 7 Appendix

Prior 6th Grade Math Pacing Guide
6th grade Instructional Framework

Grade 6 / Math /Topic 8: Display, Describe, and Summarize Data (18-20 days)				
Time Frame	**Primary Math Skills**	**Instructional Strategy**	**Academic Vocabulary**	**Standards & Math Practice**
2 days	Lesson 8-1 ● Identify statistical questions ● Write statistical questions and display the collected	● Problem Based Learning ● Direct Instruction ● Guided Practice ● Independent Practice/Application	Statistical question	6.SP.A.1, 6.S.B.4
2 days	Lesson 8-2 ● Determine the mean, median, mode, and range of a data set		Mean, median, mode, range	6.SP.A.3, 6.SP.B.5c
2 days	Lesson 8-3 ● Display data in a box plot ● Interpret and analyze a box plot		Box plot, quartiles	6.SP.B.4
2 days	Lesson 8-4 ● Organize data into equal intervals and display data in a frequency table or histogram ● Interpret and analyze a histogram		Frequency table, histogram	6.SP.B.4, 6.SP.5.a
2 days	Lesson 8-5 ● Calculate the mean absolute deviation (MAD) and interquartile range (IQR) of a data set ● Summarize data using measures of variability		Absolute deviation, mean absolute deviation (MAD), interquartile range (IQR)	6.SP.B.4, 6.SP.5.c
2 days	Lesson 8-6		outlier	6.SP.B.5d, 6.SP.5c

	● Select the most appropriate measure of center and variability for a data set ● Use measures to describe data sets			
2 days	Lesson 8-7 ● Describe the center, spread, and overall shape of a data set ● Summarize numerical data sets using measures of center and related measures of variability		Data distribution	6.SP.A.2, 6.SP.B.5b, 6.SP.B.4, 6.SP.B.5c
1-2 days	3-Act ● Use mathematical modeling to represent a problem situation and to propose a solution ● Test and verify the appropriateness of their math models ● Explain why the results from their mathematical models may not align exactly with the problem situation		None	6.SP.A.2, 6.SP.A.3, 6.SP.B.5
2 days	Topic 8 Review and Assessment	● Envision Review ● Envisions Assessment	None	See above.
1 day	Topic 1-8 Benchmark Assessment (optional)	Envision Topic 1-8 Benchmark	none	See above.

Formative Assessment Plan	Summative Assessment Plan
● IXL ● Envisions Fluency Practice	● Envisions End of Topic Tests ● Envisions Benchmark Test

• Envision Topic Review • Slates/Whiteboards • Entrance/Exit Slips • Homework • Readiness Assessments • Pick a Project • Mid-Topic Checkpoint and Performance Task • Language Development Activity	• Real-world application project- STEM Project • Mid-Topic Assessment • Topic Performance Task
Main Resources	Supplementary Resources
• Envisions Topic 8	• Khan Academy • Mr. Falci's Math Site • Illustrative Math • Teachers Pay Teachers • 6th Grade Google Drive- "TpT- Math" folder

Topic 8 Appendix

Prior 6th Grade Math Pacing Guide
6th grade Instructional Framework