Math for 7th Grade Summer Bridge: Unit, Topic, and Math CCSS

Activity	Topic(s)	CCSS
Unit 1: "Survival" Set Up		
Survival Guidelines		**6.RP.3a** Make tables of equivalent ratios relating quantities with whole-number measurements
Acrostic You	Team builder	
Guild Selection	Setting up teams	**6.RP.3c** Find a percent of a quantity as a rate per 100; solve problems involving finding the whole, given a part and the percent.
Guild Team Banner	Team banner	
Interactive Notebook	Structure of INB	
Program Goals	Individual goals	
Guild Challenge: Calendar Math	Collaborative problem-solving	
Costa's Levels of Thinking	Levels of thinking	
Fraction-Decimal-Percent Models	Modeling	
Guild Challenge: Fraction-Decimal-Percent	Practice: fraction-decimal-percent	
The Importance of Official Math Language	Vocabulary	
Exit Ticket	Reflections, remaining questions	
Unit 2: Ratios and Proportional Reasoning		
Warm-Up, Unit 2		**6.RP.3b** Solve unit rate problems including those involving unit pricing and constant speed.
Word Break	Review of fractional parts	
Domino Conversion Match-Up	Fractions-decimals-percent	**6.RP.3c** Find a percent of a quantity as a rate per 100; solve problems involving finding the whole, given a part and the percent.
Race to Equivalence	Conceptual understanding of fraction	
Compare and Order Rational Numbers: Focused Notes	Ratonal numbers	**6.NS.7a** Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram.
Snowball Fight: Vocabulary Activity	Fun vocab activity	**7.RP.3** Use proportional relationships to solve multistep ratio and percent problems.
Guild Challenge: Triple Match	Fraction-decimal-percent	
Ratio and Proportion Review: Focused Notes	Ratio and proportion	
Guild Challenge: Yucky Proportion Application	Ratio and proportion	
Guild Challenge: Order on the Line	Ordering fractions	
3-2-1 Reflection	Reflection on equivalence	
Unit 3: Rational Number Operations and Concepts, Fractions		
Warm-Up, Unit 3		**7.NS.1** Apply and extend previous understanding of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.
Addition and Subtraction of Fractions: Focused	Fractions-decimals-percent	
Guild Challenge: 10-Minute Madness	Operations with fractions	
Guild Challenge: Fraction Train	Solving fraction problems	**7.NS.2** Apply and extend previous understanding of multiplication and division and of fractions to multiply and divide rational numbers
Guild Challenge: Multiplication Team Relay	Fun review of multiplication facts	
Multiplication of Fractions Using Models	Modeling fractions	**7.NS.3** Solve read-world and mathematical problems involving the four operations with rational numbers.
Brain Break: Charades Vocabulary Activity	Team builder	
Guild Challenge: What's the Problem?	Numerical problems to word problems	
Math Task: Cups of Chocolate Chips	Application of fraction operations	
Unit 4: Rational Number Operations and Concepts, Fractions		
Warm-Up, Unit 4		**6.NS.1** Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions.
Division of Fractions: What Does It Mean?	Divisoin of fractions	
Putting It All Together	Operations with fractions	**7.NS.1** Apply and extend previous understanding of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.
Teach and Go Activity, Part 1	Demonstrate understanding of	
SWAT Vocabulary Game	Vocabulary building	**7.NS.2** Apply and extend previous understanding of multiplication and division and of fractions to multiply and divide rational numbers.
Teach and Go Activity, Part 2	Student-to-student teaching	
Summarization	Writing summaries	**7.NS.3** Solve read-world and mathematical problems involving the four operations with rational numbers.
Fraction Operations BINGO	Operations with fractions	
Guild Challenge: 10-Minute Madness	Fraction operations	

Unit 5: Rational Number Operations & Concepts, Integers		
Warm-up, Unit 5		**6.NS.3** Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.
Everything Has Its Place	Place value, prime numbers	**7.NS.1a** Describe situations in which opposite quantities combine to make 0. (7.NS.1a)
Decimal Partner Review	Decimals ↔ words	**7.NS.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 contexts.
Add, Subtract, Multiply, and Divide Decimals: Folding Organizer	Decimal operations	
Decimal Scavenger Hunt	Interactive solving decimal problems	
Guild Challenge: Decimals	Solving decimal problems	
Snake and Humans Story Time	(+) and (-) integers	
Mini Lesson Using 2- Color Counters	Integer problems	**7.NS.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 contexts.
Add and Subtract Integers: Focused Notes	Integer operations	
Integer Conga Line	Oral explanations of integer rules	
Snakes and Humans Integer Practice	Operations and number lines	**7.NS.1d** Apply properties of operations as strategies to add and subtract
Reflection: Decimals and Integers		
Unit 6: Rational Number Operations & Concepts, Integers		
Warm-up Unit 6		**7.NS.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 contexts.
Human Number Line	Operations with integers	
Integer Card Game	Operations with integers	
Multiply and Divide Integers: Modeling and Rules	Operations with integers	
Brain Break: Choice	Team builder	**7.NS.1d** Apply properties of operations as strategies to add and subtract rational numbers.
Integer Practice	(+) and (-) integers	
Who's the Greatest?	Integer operations card games	**7.NS.2** Apply and extend previous understanding of multiplication and division and of fractions to multiply and divide rational numbers
Integer Relay Race	(+) and (-) integers	**7.NS.3** Solve real-world and mathematical problems involving the four operations with rational numbers.
Reflection: Learning Log		
Unit 7: Rational Number Operations & Concepts, Order of Operations		
Warm-up Unit 7		**6.EE.1** Write and evaluate numerical expressions involving whole-number exponents
Back Me Up: Vocabulary	Vocabulary game	
Order of Operations Review: Focused Notes	Order of operations	**7.NS.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 contexts.
Does Your Guild Operate with Order?	Explaining steps in operations	
Word Hunt	Interactive solving integer problems	
Guild Challenge: Think, Think, Think!	Critical thinking; justifications	**7.NS.1d** Apply properties of operations as strategies to add and subtract rational numbers.
SLAP	Integer operations	
Brain Break: Human Knot	Team builder	**7.NS.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 contexts.
Guild Challenge: Order of Operations	Multistep integer problems (game)	
Guild Challenge: Mistaken Mike	Error analysis	
		7.NS.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). Interpret quotients of rational numbers by describing real-world contexts.
		7.NS.2c Apply properties of operations as strategies to multiply and divide rational numbers.

Unit 8: Algebraic Concepts, Expressions		
Unit Plan		**6.EE.2a** Write expressions that record operations with numbers and with letters standing for numbers.
Warm-up for unit 8		
Writing Algebraic Expressions: Focused Notes	Algebraic expressions	**6.EE.2b** Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. (6.EE.2b)
Lost in Translation	Matching algebra verbal and symbolic and expressions	
Expression-Problem Match	Matching problems and expressions	**6.EE.2c** Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. 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).
Substitution Crossword	Algebraic crossword puzzle	
Reflection: Snowball Fight	Interactive translation of verbal and symbolic expressions	
Reverse Frayer Vocabulary Activity	Representing math vocabulary	**6.EE.3** Apply the properties of operations to generate equivalent expressions.
Equations with Cups and Counters	Alg equations with manipulatives	
Exit Ticket	Reflections, remaining questions	
Unit 9: Algebraic Concepts, Equations		
Warm-Up, Unit 9		
Algebra One- and Two-Step Equations: Focused Notes		**6.NS.6b** Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.
Guild Challenge: Equation Train	Solve equations using substitution	
Human Number Line	Rational numbers	**6.EE.7** Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q, and x are all nonnegative rational numbers.
Algebra One- and Two-Step Inequalities: Focused		
Human Inequalities Graphing	Interactive, physical representation of inequalities	**6.EE.8** Write an inequality of the form x>c or x<c to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form x>c or x<c have infinitely many solutions; represent solutions of such inequalities on number line diagrams.
Coordinate Graphing Review		
Coordinate Graphing SWAT	Graphing review game	
Walking on Sunshine: Coordinate Graphing	Practice on graphing	**7.EE.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.
Reflection: Algebraic Equations	Oral explanations of equations	
		7.EE.4b Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the
Unit 10: Algebraic Concepts, Proportionality		
Warm-Up, Unit 10		**6.EE.7** Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q, and x are all nonnegative rational numbers. (6.EE.7)
Who Dunnit Murder Mystery Game	Solving algebraic equations	
Set the Table, Part 1	Rate of change; proportional relationships	**6.EE.8** Write an inequality of the form x>c or x<c to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form x>c or x<c have infinitely many solutions; represent solutions of such inequalities on number line diagrams.
Brain Break: Crazy Strips	Team builder	
Set the Table, Part 2	Graphical proportional and non-proportional relationships	**7.EE.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.
4 Corners	Multiple representations of algebraic equations	
Guild Challenge: 4 Corners		**7.EE.4b** Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem.
		7.RP.2b Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.

Unit 11: Algebraic Concepts, Measurement

Warm-up, Unit 11		**6.NS.6b** Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes. **6.EE.9** Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. **6.G.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.
From Here to There: Vocabulary Review		
Guild Battleship™	Coordinate graphing game	
Measurement and Formulas People Hunt: Give One, Get One	Measurement conversions and formulas	
I See Shapes and Area	Review of 2-D figures	
Decomposing Area	Area of polygons	
Brain Break: Last Detail	Team builder; attention to detail	
Finding Perimeter and Area (and Guild Challenge)	Perimeter and area	
Reflection: Measurements		

Unit 12: Algebraic Concepts, Measurement

Warm-up Unit 12		**6.G.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. **7.G.6** Solve real-world and mathematical problems involving area, volume and surface area of two-and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.
Measurement Stations	Polygons; area, perimeter	
Area and Perimeter Super Shapes	Polygons; area, perimeter	
Guild Challenge: Mr. Math's Fantastic Yard	Polygons; compound shapes	
SWAT Formulas & Symbols	Review game	
Exploring Volume (Philosophical Chairs)	Volume and area of rectangular prism; structured class debate	
Guild Challenge: What's Your Grind?	Volume and surface area	
Exit Ticket: 3-D Measurements	Reflection on measurements	

Unit 13: Summer Bridge Review

Warm-up, Unit 13		All TEKS previously listed
Hot Seat	Vocabulary game	
Horse Race: Interactive Notebook Review	Review of program content	
Brain break: Scrabble Challenge	Team builder	
Around the World	Math problem competition	
Partner to Partner (optional)	Team builder	
Puzzling Problems	Math problem competition	
Project Polygon	Measurement design project	
Vocabulary Relay Race (optional)	Vocabulary building	

Units 14 and 15: Closure and End-of-Bridge Exam

Warm-Up, Unit 14		All TEKS previously listed
Treasure Hunt	Content review: game format	
End of Bridge Exam		
Warm-Up, Unit 15 Money Challenge		
Bridge Commercial (optional)		
Brain Break- Group Juggle (optional)	Team builder	
Thank-you Note (optional)		
Hand Jive (optional)	Team builder	
Learning Log (optional)		
Brain Break: Funny Fruits and Vegetables	Team builder	
Missing Link Puzzle Page (optional)	Review challenge	
Celebrate Good Times (optional)		