Algebra Readiness Summer Bridge Unit, Topic, and TEKS Alignment

Activity	Topic(s)	TEKS
Unit 1: "Survival" Set Up		
Survival Guidelines		**5.4 B** Represent and solve multi-step problems involving the four operations with whole numbers using equations with a letter standing for the unknown quantity; **5.4 H** Represent and solve problems related to perimeter and/or area and related to volume. **6.7 B** Distinguish between expressions and equations verbally, numerically, and algebraically **6.8 D** Determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles and volume of right rectangular prisms where dimensions are positive rational numbers.
Vocabulary: The Importance of Official Math Language		
Equation Name Plate		
Guild Selection		
The Interactive Notebook	Structure of INB	
Guild Flags		
Word Break	Review of fractional parts	
Costa's Levels of Thinking		
Costa's Card Sort	Identifying levels of questions	
Brain Break: Stand Up and Be Counted	Team builder	
Guild Challenge Calendar Math	Collaborative problem-solving	
Exit Ticket	Reflections, remaining questions	
Unit 2 - Rational Numbers: Fractions		
Warm-Up, Unit 2		**6.5 C** Use equivalent fractions, decimals, and percents to show equal parts of the same whole **7.3 A** Add, subtract, multiply, and divide rational numbers fluently **7.3 B** Apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers.
Program Goals		
Acrostic You	Team builder	
Vocabulary	Review of vocabulary	
Fractions: Focused Notes		
Birthday Human Number Line Challenge	Team builder	
Teach and Go, Part 1	Demonstrate understanding of operations and concepts	
Guild Challenge: Multiplication Team Relay	Fun review of multiplication facts	
Teach and Go, Part 2	Student-to-student teaching	
Summarization	Writing summaries	
Guild Challenge: 5 Minute Madness	Rational number challenge	
The Parking Lot	Questions for the teacher	
Unit 3 - Rational Numbers: Square Roots		
Warm-Up, Unit 3		**6.2 B** Identify a number, its opposite, and its absolute value; **6.2 C** Locate, compare, and order integers and rational numbers using a number line **6.5 C** Use equivalent fractions, decimals, and percents to show equal parts of the same whole. **8.2 B** Approximate the value of an irrational number, including π and square roots of numbers less than 225, and locate that rational number approximation on a number line
Domino Conversion Match Up	Fractions-decimals-percents	
Modeling Squares and Square Roots		
Word Hunt	Interactive solving integer problems	
Guild Challenge: Square Roots and the Number Line		
Reflection: Squares and Square Roots		
SWAT Vocabulary Game		
Inequalities Focused Notes		
Human Number Line (My number is)	Operations with integers	
Guild Challenge: Crossing the River	Team builder	
Unit 4 - Rational Numbers: Integers		
Warm-Up, Unit 4		**6.3 C** Represent integer operations with concrete models and connect the actions with the models to standardized algorithms; **6.3 D** Add, subtract, multiply, and divide integers fluently **6.3 E** Multiply and divide positive rational numbers fluently **6.7 A** Generate equivalent numerical expressions using order of operations, including whole number exponents and prime factorization; **7.3 A** Add, subtract, multiply, and divide rational numbers fluently
Quickwrite: Integers	"Brain dump" on integers	
Zero Pair	Additive inverse, abolute values	
Rules to Tools	Conceptualization of zero pairs	
Brain Break: Act It Out	Team builder	
Who's the Greatest?	Integer operations card games	
Integer Train/Relay Game	Integer operations	
Guild Challenge: SWAT Take 2-Integers	Vocabulary involving integers	
Reflection: Learning Log		

Unit 5 - Algebraic Concepts: Transformations and Expressions		
Warm-Up, Unit 5		**6.7 A** Generate equivalent numerical expressions using order of operations, including whole number exponents and prime factorization; **6.7 D** Generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties **8.10 A** Generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane **8.10 B** Differentiate between transformations that preserve congruence and those that do not **8.10 C** Explain the effect of translations, reflections over the x- or y-axis, and rotations limited to 90°, 180°, 270°, and 360° as applied to two-dimensional shapes on a coordinate plane using an algebraic representation
Transformation Exploration Part 1	Congruence and similarity	
SLAP	Integer card games	
Transformation Exploration Part 2	Congruence and similarity, student presentations and explanations	
Transformation Exploration Sort and Summary	Summary activity	
Expression-Problem Match		
Substitution Crossword	Algebraic crossword puzzle	
See Run Do	Algebra equations and vocabulary	
Exit Ticket		
Unit 6 - Algebraic Concepts: Equations		
Warm-Up, Unit 6		**6.7 C** Determine if two expressions are equivalent using concrete models, pictorial models, and algebraic representations **6.7 D** Generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties **6.9 A** Write one-variable, one-step equations and inequalities to represent constraints or conditions within problems **6.10 A** Model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts **7.10 A** Write one-variable, two-step equations and inequalities to represent constraints or conditions within problems
Combining Like Terms	Interactive discovery activity	
DIstributive Property	Interactive discovery activity	
Brain Break: Last Detail	Team builder; attention to detail	
Putting it All Together	Like terms; distributive property	
Modeling Solving Equation	Modeling with manipulatives	
Guild Challenge: Balance	Graphics → algebraic equations	
What's Your Fav?	Word problems → algebraic equations, Solving equations	
		7.11 A Model and solve one-variable, two-step equations and inequalities **8.8 A** Write one-variable equations or inequalities with variables on both sides that represent problems using rations numbers and constants **8.8 C** Model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants

Unit 7 - Algebraic Concepts: Functions		
Warm-Up- Unit 7		**6.9 A** Write one-variable, one-step equations and inequalities to represent constraints or conditions within problems **6.10 A** Model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts **7.4 A** Represent constant rates of change in mathematical and real-world problems given pictorial, tabular, verbal, numeric, graphical, and algebraic representations, including d = rt **7.10 A** Write one-variable, two-step equations and inequalities to represent constraints or conditions within problems **7.11 A** Model and solve one-variable, two-step equations and inequalities **8.5 A** Represent linear proportional situations with tables, graphs, and equations in the form of y = kx **8.5 B** Represent linear non-proportional situations with tables, graphs, and equations in the form of y = mx + b, where b ≠ 0 **8.5 F** Distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form y = kx or y = mx + b, where b ≠ 0 **8.8 A** Write one-variable equations or inequalities with variables on both sides that represent problems using rational number coefficients and constants **8.8 C** Model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants **A1.5 A** Solve linear equations in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides
Student Guided Practice Bingo	Equation bingo	
Guild Challenge: Back to School	Word problems → algebraic equations	
Snowball Fight Activity	Creating and solving equations	
Function Machine Activity	Developing understanding of a function	
Set the Table Part 1	Functions, slope, proportional relationships	
Brain Break: Team Huddle	Team builder	
Set the Table Part 2	Graphical proportional and non-proportional relationships	
Unit 8 - Algebraic Concepts: Slope		
Warm-Up- Unit 8		**6.6 C** Represent a given situation using verbal descriptions, tables, graphs, and equations in the form y = kx or y = x + b **8.4 B** Graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship; **8.4 C** Use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems **8.5 G** Identify functions using sets of ordered pairs, tables, mappings, and graphs **A1.2 G** Write an equation of a line that is parallel or perpendicular to the X or Y axis and determine whether the slope of the line is
Function Card Sort	Identifying functions	
Slope: Focused Notes		
Brain Break: Human Knot	Team builder	
Slope Practice Ghosts in the Graveyard		
Guild Challenge: Concentration	Matching representations of functions	
Graph Interpretation Activity		
What's the Story?	Creating and interpreting graphs	
Brain Break: Choice	Team builder	
Reflection: Learning Log		
Unit 9 - Algebraic Concepts: Slope		
Warm-Up, Unit 9		**7.7 A** Represent linear relationships using verbal descriptions, tables, graphs, and equations that simplify to the form y = mx + b. **8.4 B** Graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship; **8.4 C** Use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems **8.5 A** Represent linear proportional situations with tables, graphs, and equations in the form of y = kx; **8.5 B** Represent linear non-proportional situations with tables, graphs, and equations in the form of y = mx + b, where b ≠ 0 **8.5 I** Write an equation in the form y = mx + b to model a linear relationship between two quantities using verbal, numerical, tabular, and graphical representations
4 Corners Card Matching	Multiple representations of algebraic functions	
Guild Challenge: 4 Corners		
Brain Break: Like Things	Team builder	
Forms of Linear Equations: Focused Notes		
I Have Who Has (y=mx+b)	Linear equations	
Systems of Linear Equations: Focused Notes	Solutions of systems; graphing	
Math Graffiti	Vocabulary activity	

Unit 10 - Algebraic Concepts		
Warm-Up, Unit 10		**8.9 A** Identify and verify the values of x and y that simultaneously satisfy two linear equations in the form y = mx + b from the intersections of the graphed equations **8.10 D** Model the effect on linear and area measurements of dilated two-dimensional shapes **A1.2E** Write the equation of a line that contains a given point and is parallel to a given line **A1.2 F** Write the equation of a line that contains a given point and is perpendicular to a given line
Parallel and perpendicular lines		
Making Connections: Transformations and Slope		
Brain Break: Hand Jive	Team builder	
Solving Systems of Equations by Substitution: Focused Notes	Substitutions and graphing systemsl evaluating equations	
Guild Challenge: Substitution Scavenger Hunt	Interactive group activity	
Guild Challenge: Quick Draw Vocabulary Hunt	Using vocab cards in appendix	
Solving Systems of Equations by Elimination: Focused Notes		
Guild Challenge: Solving Systems by Elimination, Trashketball		**A1.5C** Solve systems of two linear equations with two variables for mathematical and real-world problems
Reflection		
Unit 11 - Measurement: Pythagorean Theorem		
Warm-Up-Unit 11		**7.3 A** Add, subtract, multiply, and divide rational numbers fluently **8.6 C** Use models and diagrams to explain the Pythagorean theorem **8.7 C** Use the Pythagorean Theorem and its converse to solve problems **8.7 D** Determine the distance between two points on a coordinate plane using the Pythagorean Theorem
Vocabulary Review: Back me Up	Vocabulary game	
The Pythagorean Theorem	Graphing and solving with P.T.	
Pythagorean Theorem Practice		
Guild Challenge: Distance on the Coordinate Plane	Using P.T.	
Brain Break: Funny Fruits and Vegetables	Team builder	
Pythagorean Theorem Application	Multi-step, real world problems	
Create Your Own Problem	Creating and solving P.T. problems	
Guild Challenge: Fraction Fun		
Unit 12 - Measurement: 2D and 3D Shapes		
Warm-Up, Unit 12		**6.8 D** Determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles and volume of right rectangular prisms where dimensions are positive rational numbers **7.9 A** Solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids **7.9 B** Determine the circumference and area of circles **7.9 C** Determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles **7.9 D** Solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net **8.6 A** Describe the volume formula V = Bh of a cylinder in terms of its base area and its height
SWAT: Formulas and Symbols		
Perimeter Practice	Perimeter; algebraic expressions	
Guild Challenge: Pythagorean Theorem, Area, and Perimeter		
Brain Break: Alike or Different?	Team builder	
Exploring Volume (Philosophical Chairs)	Volume and area of cylinders; structured class debate	
Turn Up the Volume	Word problems on volume	
Brain Break: Scrabble	Team builder	
Surface Area and Nets	Using manipulatives	
Measurement in Reverse	Manipulation of formulas	
		8.7 B Use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, ~~triangular prisms.~~ and cylinders
		8.8 D Use informal arguments to establish facts about the angle sum and exterior angle of triangles, the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles
Unit 13 - Measurement: 3D Shapes		
Warm-Up, Unit 13		**7.11 C** Write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships. **8.7 A** Solve problems involving the volume of cylinders, cones, and spheres **8.7 B** Use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders
X-Games: Algebra in Geometry	Writing and solving equations, in context of geometric shapes	
Effects of Changing Dimensions	Perimeter, area, volume; discovering patterns	
What's Your Grind?	Volume and surface area	
Volume of Pyramids, Cones, and Spheres	Understanding and using formulas	
Reflection		

Units 14 and 15 - Test Review		
Warm -Up, Units 14 and 15		All TEKS previously listed
Gallery Walk Exam Review	Content review for end-of-bridge exam; gallery walk format	
End-of-Bridge Exam		
Money Challenge (optional)	Challlenge problems	
Bridge Commercial (optional)		
Thank-you Note (optional)		
Partner to Partner (optional)	Team builder	
Hand Jive (optional)	Team builder	
Brain Break: Funny Fruits and Vegetables (optional)	Team builder	
Missing Link Puzzle Page (optional)	Review challenge	
Celebrate Good Times (optional)		