Bridge Builder 6th Grade Math	**Code**	**ACTIVITY 1: STRUCTURAL CONCEPTS**	**BRIDGE BUILDER ACTIVITIES 2A, 2B, AND 2C: BEAM ME UP**	**BASED BRIDGE MODELING**	**ACTIVITY 4: BASIC BOX BRIDGE STRUCTURE**	**ACTIVITY 5: IMPROVED BOX BRIDGE STRUCTURE**		
Numbers and Operations								
Multiply and divide fractions	**N.MR**							
Understand division of fractions as the inverse of multiplication.	**N.MR.06.01**							
Given an applied situation involving dividing fractions, write a mathematical statement to represent the situation.	**N.FL.06.02**							
Solve for the unknown in equations.	**N.MR.06.03**							
Multiply and divide any two fractions, including mixed numbers, fluently.	**N.FL.06.04**							
Represent rational numbers as fractions or decimals								
Order rational numbers and place them on the number line.	**N.ME.06.05**							
Represent rational numbers as fractions or terminating decimals when possible, and translate between these representations.	**N.ME.06.06**							
Understand that a fraction or a negative fraction is a quotient of two integers.	**N.ME.06.07**							
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Add and subtract integers and rational numbers								
Understand integer subtraction as the inverse of integer addition. Understand integer division as the inverse of integer multiplication.*	**N.MR.06.08**							

Add and multiply integers between -10 and 10; subtract and divide integers using the related facts. Use the number line and chip models for addition and subtraction.*	**N.FL.06.09**							
Add, subtract, multiply and divide positive rational numbers fluently.	**N.FL.06.10**							
Find equivalent ratios								
Find equivalent ratios by scaling up or scaling down.	**N.ME.06.11**							
Solve decimal, percentage and rational number problems								
Calculate part of a number given the percentage and the number.	**N.FL.06.12**							
Solve contextual problems involving percentages such as sales taxes and tips.*	**N.MR.06.13**							
For applied situations, estimate the answers to calculations involving operations with rational numbers.	**N.FL.06.14**							
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Solve applied problems that use the four operations with appropriate decimal numbers.	**N.FL.06.15**							
Use exponents								
Understand and use integer exponents, excluding powers of negative bases; express numbers in scientific notation.*	**N.ME.06.16**							
Understand rational numbers and their location on the number line								
Locate negative rational numbers (including integers) on the number line; know that numbers and their negatives add to 0, and are on opposite sides and at equal distance from 0 on a number line.	**N.ME.06.17**							

Understand that rational numbers are quotients of integers (non zero denominators), e.g., a rational number is either a fraction or a negative fraction.	**N.ME.06.18**							
Understand that 0 is an integer that is neither negative nor positive.	**N.ME.06.19**							
Know that the absolute value of a number is the value of the number ignoring the sign; or is the distance of the number from 0.	**N.ME.06.20**							
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ALGEBRA								
Calculate rates								
Solve applied problems involving rates, including speed.	**A.PA.06.01**							
Understand the coordinate plane								
Plot ordered pairs of integers and use ordered pairs of integers to identify points in all four quadrants of the coordinate plane.	**A.RP.06.02**							
Use variables, write expressions and equations, and combine like terms								
Use letters, with units, to represent quantities in a variety of contexts, e.g., y lbs., k minutes, x cookies.	**A.FO.06.03**							
Distinguish between an algebraic expression and an equation.	**A.FO.06.04**							
Use standard conventions for writing algebraic expressions	**A.FO.06.05**							
Represent information given in words using algebraic expressions and equations.	**A.FO.06.06**							
Simplify expressions of the first degree by combining like terms, and evaluate using specific values.	**A.FO.06.07**							

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Represent linear functions using tables, equations, and graphs								
Understand that relationships between quantities can be suggested by graphs and tables	**A.RP.06.08**							
Solve problems involving linear functions whose input values are integers; write the equation; graph the resulting ordered pairs of integers, e.g., given c chairs, the "leg function" is 4c; if you have 5 chairs, how many legs?; if you have 12 legs, how many chairs?*	**A.PA.06.09**							
Represent simple relationships between quantities using verbal descriptions, formulas or equations, tables, and graphs, e.g., perimeter-side relationship for a square, distance-time graphs, and conversions such as feet to inches.	**A.RP.06.10**							
Solve equations								
Relate simple linear equations with integer coefficients, e.g., 3x = 8 or x + 5 = 10, to particular contexts and solve.*	**A.FO.06.11**							
Understand that adding or subtracting the same number to both sides of an equation creates a new equation that has the same solution.	**A.FO.06.12**							

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Understand that multiplying or dividing both sides of an equation by the same non-zero number creates a new equation that has the same solutions.	**A.FO.06.13**							
Solve equations of the form ax + b = c, e.g., 3x + 8 = 15 by hand for positive integer coefficients less than 20, use calculators otherwise, and interpret the results.	**A.FO.06.14**							
MEASUREMENT								
Convert within measurement systems								
Convert between basic units of measurement within a single measurement system, e.g., square inches to square feet.	**M.UN.06.01**							
Find volume and surface area								
Draw patterns (of faces) for a cube and rectangular prism that, when cut, will cover the solid exactly (nets).	**M.PS.06.02**							
Compute the volume and surface area of cubes and rectangular prisms given the lengths of their sides, using formulas.	**M.TE.06.03**							

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GEOMETRY								
Understand and apply basic properties								
Understand and apply basic properties of lines, angles, and triangles, including:	**G.GS.06.01**							
Understand and apply basic properties of lines, angles, and triangles, including: • triangle inequality • relationships of vertical angles, complementary angles, supplementary angles • congruence of corresponding and alternate interior angles when parallel lines — are cut by a transversal, and that such congruencies imply parallel lines • locate interior and exterior angles of any triangle, and use the property that an exterior — angle of a triangle is equal to the sum of the remote (opposite) interior angles • know that the sum of the exterior angles of a convex polygon is 360º.	**G.GS.06.01**							
Understand the concept of congruence and basic transformations								
Understand that for polygons, congruence means corresponding sides and angles have equal measures.	**G.GS.06.02**							

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Understand the basic rigid motions in the plane (reflections, rotations, translations), relate these to congruence, and apply them to solve problems.	**G.TR.06.03**							
Understand and use simple compositions of basic rigid transformations, e.g., a translation followed by a reflection.	**G.TR.06.04**							
Construct geometric shapes								
Use paper folding to perform basic geometric constructions of perpendicular lines, midpoints of line segments and angle bisectors; justify informally.	**G.SR.06.05**							
DATA AND PROBILITY								
Understand the concept of probability and solve problems								
Express probabilities as fractions, decimals, or percentages between 0 and 1; know that 0 probability means an event will not occur and that probability 1 means an event will occur.	D.PR.06.01							
Compute probabilities of events from simple experiments with equally likely outcomes, e.g., tossing dice, flipping coins, spinning spinners, by listing all possibilities and finding the fraction that meets given conditions.	**D.PR.06.02**							

