ARIZONA'S ACADEMIC STANDARDS ASSESSMENT

Standard	Minimally Proficient	Partially Proficient	Proficient	Highly Proficient
	The Minimally Proficient student	The Partially Proficient student	The Proficient student	The Highly Proficient student
Operations and Algebraic Thinking				
3.OA.A.1	Identify whole number products with visual support.	Interpret whole number products with visual support.	Interpret products of whole numbers as the total number of objects in equal groups (e.g., interpret 5 x 7 as the total number of objects in 5 groups of 7 objects each).	Interpret products of whole numbers within 100, representing context using pictures, numbers, and words.
3.OA.A.2	Identify whole number quotients with visual support.	Interpret whole number quotients with visual support.	Interpret whole number quotients of whole numbers (e.g., interpret 56 ÷ 8 as the number of objects in each group when 56 objects are partitioned equally into 8 groups, or as a number of groups when 56 objects are partitioned into equal groups of 8 objects each).	Interpret quotients of whole numbers within 100, representing context using pictures, numbers, and words.
3.OA.A.3	Identify products and quotients within 100 to solve word problems involving equal groups and arrays when a visual model is given.	Multiply and divide within 100 to solve word problems involving equal groups and arrays when a visual model is given.	Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities.	Multiply and divide within 100 to solve multi-step word problems involving equal groups, arrays, and measurement quantities.
3.OA.A.4	Recognize the unknown whole number in a multiplication or division equation, when the unknown number is the solution using visual support/arrays.	Determine the unknown whole number in a multiplication or division equation, when the unknown number is the product or quotient using visual support/arrays.	Determine the unknown whole number in a multiplication or division equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8 x ⬚ = 48, 5 = ⬚ ÷ 3, 6 x 6 = ⬚ .	Determine an unknown whole number in a multiplication and division equation. Students will use the given context to generate an equation.
3.OA.B.5	Apply properties of operations as strategies to multiply and divide. Properties include commutative properties of multiplication. (Students do not need to use the formal terms for these properties.)	Apply properties of operations as strategies to multiply and divide. Properties include commutative and associative properties of multiplication. Students do not need to use the formal terms for these properties.)	Apply properties of operations as strategies to multiply and divide. Properties include commutative and associative properties of multiplication and the distributive property. (Students do not need to use the formal terms for these properties.)	Use multiple strategies of operations to multiply and divide within a word problem.
3.OA.B.6	Identify division as unknown factor problems by finding missing number in the second factor position with visual support/ arrays.	Solve division as unknown factor problems by finding missing number in the second factor position with visual support/arrays.	Understand division as an unknown-factor problem (e.g., find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8).	Solve division as unknown factor problems by using the relationship between multiplication and division. Model multiplication and division in a variety of ways.
3.OA.C.7	Multiply and divide within 100 using visual support/arrays.	Organize expressions to multiply and divide within 100 using visual support/ arrays.	Fluently multiply and divide within 100. By the end of Grade 3, know from memory all multiplication products through 10 x 10 and division quotients when both the quotient and divisor are less than or equal to 10.	Fluently multiply and divide within 100 within range of contexts.

3.OA.D.8	Solve one-step word problems using the four operations with visual support/arrays. Represent these problems using equations with a letter standing for the unknown quantity. Utilize understanding of the Order of Operations when there are no parentheses.	Solve two-step word problems using the four operations using visual support. Represent these problems using equations with a letter standing for the unknown quantity. Utilize understanding of the Order of Operations when there are no parentheses.	Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Utilize understanding of the Order of Operations when there are no parentheses.	Solve two-step word problems with large whole numbers and using multiple operations.
3.OA.D.9	Identify addition patterns using visual supports.	Identify multiplication and subtraction patterns using visual supports.	Identify patterns in the addition table and the multiplication table and explain them using properties of operations (e.g. observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends).	Create and extend arithmetic patterns, explain patterns using properties of operations.
3.OA.D.10	Recognize whether an answer is reasonable or not when rounding.	Use rounding to determine the reasonableness of answers when using the four operations to solve problems.	When solving problems, assess the reasonableness of answers using mental computation and estimation strategies including rounding.	Recognize the reasonableness of answers using different types of estimation strategies when using the four operations to solve problems. Choose the best estimation strategy for a specific purpose.

	Number and Operations in Base Ten			
3.NBT.A.1	Use place value understanding to round a two-digit number to the nearest 10.	Use place value understanding to round a three-digit number to the nearest 100.	Use place value understanding to round whole numbers to the nearest 10 or 100.	Use rounding strategies in real-world situations.
3.NBT.A.2	Fluently add and subtract within 1000 using strategies and algorithms based on the relationship between addition and subtraction.	Fluently add and subtract within 1000 using strategies and algorithms based on place value and/or the relationship between addition and subtraction.	Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	Explain the method used in finding the sum or difference; recognize and identify an error and shows the correct answer.
3.NBT.A.3	Skip count by 10, 20 or 50 to multiply single-digit whole numbers by multiples of 10 in the range 10-90.	Use grouping strategies (associative property) to multiply single-digit whole numbers by multiples of 10 in the range 10-90.	Multiply one-digit whole numbers by multiples of 10 in the range 10 to 90 using strategies based on place value and the properties of operations (e.g., 9 x 80, 5 x 60).	Show product of single-digit whole numbers by multiples of 10 using multiple strategies.

Number and Operations - Fractions				
3.NF.A.1	Identify a fraction (1/b) as the quantity formed by one part when a whole is partitioned into b equal parts given visual support.	Understand a fraction (1/b) as the quantity formed by one part when a whole is partitioned into b equal parts.	Understand a fraction (1/b) as the quantity formed by one part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b.	Apply understanding of unit fractions to real world, multi-step problems.
3.NF.A.2	Understand a fraction as a number on the number line; represent fractions on a number line diagram. a. Identify a unit fraction as being between 0 and 1 on a number line. b. Recognize a partition that creates 1/2 or 1/4 on a number line. c. Recognize that if 1 is in the numerator of a fraction, then it is a unit fraction.	Understand a fraction as a number on the number line; represent fractions on a number line diagram. a. Identify 1/2 and 1/3 on a number line. b. Identify the partitions on a number line that would represent common fractions. c. Identify unit fractions.	Understand a fraction as a number on the number line; represent fractions on a number line diagram. a. Represent a fraction 1/b on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Understand that each part has size 1/b and that the end point of the part based at 0 locates the number 1/b on the number line. b. Represent a fraction a/b on a number line diagram by marking off a lengths 1/b from 0. Understand that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line including values greater than 1. c. Understand a fraction 1/b as a special type of fraction that can be referred to as a unit fraction (e.g. 1/2, 1/4).	Understand a fraction as a number on the number line; represent fractions on a number line diagram. a. Create a number line to locate any unit fraction that represents a real world value b. Create a number line to locate fractions greater than 1 that represents a real world value c. Create unit fractions to compare values in multi-step, real world contexts
3.NF.A.3	Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. a. Understand equivalent fractions using denominators of 2, 4 and 8 given visual models. b. Recognize and generate equivalent fractions using denominators of 2, 4 and 8 given visual models. c. Express and recognize fractions that are equivalent to 1. d. Compare two fractions with the same denominator and records results using symbols.	Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. a. Understand equivalent fractions using denominators of 2, 4 and 8. b. Recognize and generate equivalent fractions using denominators of 2, 4 and 8. c. Express and recognize fractions that are equivalent to whole numbers. d. Compare two fractions with the same numerator and records results using symbols.	Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. a. Understand two fractions as equivalent if they have the same relative size compared to 1 whole. b. Recognize and generate simple equivalent fractions. Explain why the fractions are equivalent. c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Understand that comparisons are valid only when the two fractions refer to the same whole. Record results of comparisons with the symbols >, =, or <, and justify conclusions.	Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. a. Identify equivalent fractions by creating fraction models to compare fractions that pertain to the same whole. b. Explain why two fractions are equivalent. Identify equivalent fractions by creating fraction models to compare fractions that pertain to the same whole. c. Express whole numbers as fractions with denominators greater than 1. d. Create and compare two fractions that have the same numerator or same denominator using symbols within a context.

	Measurement and Data			
3.MD.A.1	Solve problems involving measurement. a. Tell, write, and measure time to the nearest minute. b. Can add money using symbols $, ".", ¢.	Solve problems involving measurement. a. Solve one-step word problems involving addition or subtraction of time intervals in minutes with scaffolding. b. Can add money using symbols $, ".", ¢.	Solve problems involving measurement. a. Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes (e.g., representing the problem on a number line diagram). b. Solve word problems involving money through $20.00, using symbols $, ".", ¢.	Solve problems involving measurement. a. Create and solve multi-step time interval problems. b. Solve two-step word problems involving money through $20 using symbols $, ".", ¢.
3.MD.A.2	Using grams, kilograms or liters, measure and estimate liquid volumes and masses of objects using models.	Using grams, kilograms or liters, solve simple one-step measurement word problems using either addition or subtraction.	Measure and estimate liquid volumes and masses of objects using metric units. (Excludes compound units such as cm3 and finding the geometric volume of a container.) Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units. Excludes multiplicative comparison problems (problems involving notions of "times as much").	Using grams, kilograms or liters, estimate and solve multi-step measurement word problems involving any of the four operations.
3.MD.B.3	Complete a scaled picture graph or bar graph (with a scale factor of 1 or 5) to represent data set with support.	Complete a scaled picture graph or bar graph to represent a data set with support. Solve one-step "how many more" and "how many less" problems using information presented in scaled bar graphs.	Create a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs.	Create own scale and graph based on given data parameters.
3.MD.B.4	Generate measurement data by measuring lengths to the nearest half-inch. Show the data by making a line plot, where the horizontal scale is marked by whole numbers or halves with supports.	Generate measurement data by measuring lengths to the nearest quarter-inch. Show the data by making a line plot, where the horizontal scale is marked by whole numbers, halves, or quarters with supports.	Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch to the nearest quarter-inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.	Show the data by making a line plot, where the student decides whether the horizonal scale is marked by whole numbers, halves, or quarters based on the given data.
3.MD.C.5	Understand area as an attribute of plane figures and understand concepts of area measurement. a. Can identify a square unit. b. Can distinguish area from length and width.	Understand area as an attribute of plane figures and understand concepts of area measurement. a. Understand area is measured using square units. b. Recognize overlapping and gaps in square unit place on a figure would not accurately describe area	Understand area as an attribute of plane figures and understand concepts of area measurement. a. A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area. b. A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.	Understand area as an attribute of plane figures and understand concepts of area measurement. a. Can identify and use different unit squares. b. Cover a plane figure with unit squares of different sizes to show that the area of the same figure can be expressed as different numbers in different units.
3.MD.C.6	Find the area of a rectangle by counting squares covering the rectangle and expresses the area without units.	Find area of a rectangle by counting unit squares.	Measure areas by counting unit squares (e.g., square cm, square m, square in, square ft, and improvised units).	Find the area of 2 plane figures by creating and counting unit squares.

| 3.MD.C.7 | Relate area to the operations of multiplication and addition.

a. Find the area of one rectangles by tiling.

b. Multiply side lengths with both sides less than or equal to 5 to find area.

c. Determine a missing value in an area model that represents the distributive property where all values are less than of equal to 5.

d. Find the area of a rectilinear figure that is composed of two rectangles with side lengths less than or equal to 5 in a mathematical context. | Relate area to the operations of multiplication and addition.

a. Show that the area of a rectangle found by tiling is the same as would be found by multiplying the side lengths.

b. Multiply side lengths with one side less than or equal to 5 to find area.

c. Determines a missing value in an area model that represents the distributive property.

d. Find the area of a simple decomposition. | Relate area to the operations of multiplication and addition.

a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.

b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving realworld and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.

c. Use tiling to show that the area of a rectangle with whole-number side lengths a and b + c is the sum of a × b and a × c. Use area models to represent the distributive property in mathematical reasoning.

d. Understand that rectilinear figures can be decomposed into non-overlapping rectangles and that the sum of the areas of these rectangles is identical to the area of the original rectilinear figure. Apply this technique to solve problems in real-world contexts. | Relate area to the operations of multiplication and addition.

a. Confirm tiling and multiplication of side lengths in self created example.

b. Compare the area of 2 plane figures by multiplying their side lengths and compares their sizes.

c. Create a word problem using the distributive property to find the area of rectangles.

d. Design area problems in which decomposition is integral to understanding and solving the problem. |
| 3.MD.C.8 | Find the perimeter of plane figures (given the side lengths). | Solve mathematical problems involving perimeters of plane figures, understand the difference in area and perimeter. | Solve real-world and mathematical problems involving perimeters of plane figures and areas of rectangles, including finding the perimeter given the side lengths, finding an unknown side length. Represent rectangles with the same perimeter and different areas or with the same area and different perimeters. | Construct rectangles that have the same perimeter but different areas and the reverse. |

Geometry				
3.G.A.1	Identify properties of squares.	Understand the properties of quadrilaterals and the subcategories of quadrilaterals.	Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples quadrilaterals that do not belong to any of these subcategories.	Recognize and sort examples of quadrilaterals that have shared attributes and that the shared attributes can define a larger category; draw examples and non-examples of quadrilaterals that are not rhombuses, rectangles, or squares.
3.G.A.2	Partition shapes into b parts with equal areas. Express the area of each part as a unit fraction 1/b of the whole. (limited to halves and quarters).	Partition shapes into b parts with equal areas. Express the area of each part as a unit fraction 1/b of the whole. (limited to halves, quarters, and eighths).	Partition shapes into b parts with equal areas. Express the area of each part as a unit fraction 1/b of the whole. (Grade 3 expectations are limited to fractions with denominators b = 2,3,4,6,8.)	Partition shapes into parts with equal areas and expresses the area as a unit fraction of the whole to answer questions presented in a context.