Timeline & Resources	AZ College and Career Readiness Standard	Essential Question (HESS Matrix)	Learning Goal	Vocabulary (Content/Academic)
1st Quarter Weeks 1 August 3 2 August 10 Place Value Mats Base ten blocks Teaching Tools 18, 19, 31 Vocabulary Cards Center Activities Topic 1	3.NBT.1 Use place value understanding to round whole numbers to the nearest 10 or 100	 How can you read and write 3 and 4 digit numbers? How can you use and name numbers? How are greater numbers read and written? How can you complete the pattern on a number line? How can whole numbers be compared and ordered? 	 I will be able to: * determine the place value of a number. * Read and write numbers * Complete the pattern on a number line * Compare numbers * Order numbers 	digits place value standard form expanded form word form period compare order whole numbers ones tens hundreds thousands
1st Quarter Weeks 3 August 17 4 August 24 • Flashcards • Place Value blocks • Teaching Tools 18, 34, 35	3.NBT.2.a 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	• What steps do you take to add and subtract numbers to the 1000 place?	I will be able to: * Add and subtract numbers within 1000 * Round numbers to the nearest 10 or 100	Addends Hundreds Tens Add Subtract Sum Commutative Property

 Center Activity Topic 2 & 3 	Commutative Property (Order) 7 + 5 = 5 + 7 Identity (Zero) Property 5 + 0 = 5 Associative (Grouping) Property (3+4)+5=3+(4+5)	 What are some ways to think about addition? When do you subtract? How can sums and differences be found mentally? How can you round numbers? How can you estimate sums and differences? How do equations work? 		Associative Property Identity Property Difference Fact Family Round Estimate Compatible numbers equations
 1st Quarter Weeks 5 August 31 6 Sept. 7 7 Sept. 14 Problem Solving Recording Sheet Teaching Tool 1 Center Activity Topic 3 	3.OA.D.8 Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. Note: ADDITION & SUBTRACTION ONLY	• What information and strategies would you use to solve a multistep word problem?	I will be able to: * Use addition and subtraction to solve all kinds of word problems.	Solve Equations Unknown quantity Addition subtraction
1 st Quarter Weeks 8 Sept. 21 9 Sept. 28 10 Oct. 5 • Vocabulary Cards • Addition Table • Flashcards	3.OA.D.9 Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. Note: <i>ADDITION</i> <i>ONLY</i>	• What strategy do I use to compute the sum found on an addition table?	I will be able to: * Find patterns in addition tables and explain them using what I know about how numbers work	Identify Addition explain Properties of operations Compute Sum

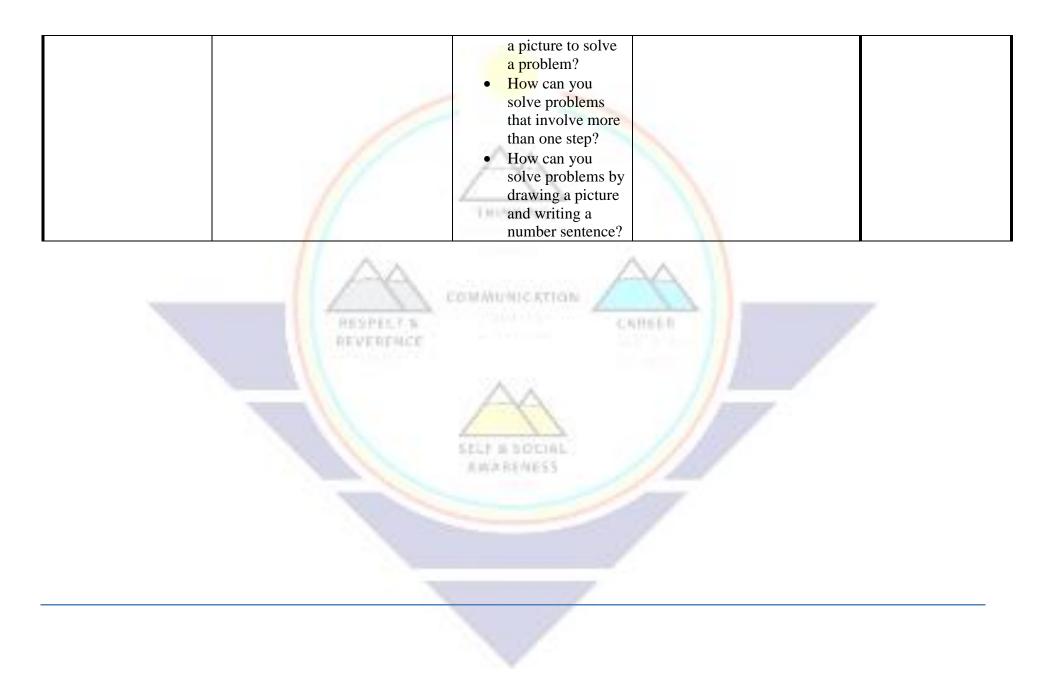
Timeline & Resources	AZ College and Career Readiness Standard	Essential Question (HESS Matrix)	Learning Goal	Vocabulary (Content/Academic)
2 nd Quarter Weeks 11 Oct. 12 12 Oct. 19 • Two-color counters • Teaching Tool 17 • Vocabulary Cards • Center Activities Topic 4 • 4-1 and 4-5 • Topic 5 • Topic 5	3.OA.1 Interpret products of whole numbers (interpret 5 x 7 as the total number of objects in 5 groups of 7 objects each).	 How can you find the total number of objects in equal groups? Does the picture show the problem? How do you know? How does an array show equal groups? What happens when you change the order of the factors? 	I will be able to: * Understand multiplication by thinking about groups of objects	Multiplication Factors product Array <i>Commutative</i> <i>Property of</i> <i>Multiplication</i> Multiples *Identity Property of Multiplication *Zero Property of Multiplication *Distributive Property *Associative Property of Multiplication
2 nd Quarter Week 13 Oct. 26 • Topics 7 & 8 • Two Color Counters • Teaching Tools 17, 41	3.OA.2 Interpret whole numbers quotients of whole numbers (interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal	 How can you think of division as sharing? How is division different from multiplication? What are the different 	I will be able to: * Understand division by thinking about how one group can be divided into smaller groups	Division Remainder Dividend Divisor Quotient Equally

 Center Activities 7-1 & 7-2 	shares of 8 objects each.	 meanings of division? How is division related to other operations? How many are in each group? How many equal groups? How can you use a multiplication table to solve division problems? What is the main idea of a division story? 		
2 nd Quarter Week 14 Nov. 2 MULTIPLICATION o Topic 4-4, 4-5 o Topic 5-7 o Topic 6-9 DIVISION o Topic 7-5 o Topic 8-5 o Two-color counters o Division Sentence Cards o Teaching Tools 17, 36, 40, 16 o Vocabulary Cards o Center Activities 4-2 thru 8-9	3.OA.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities (by using drawings and equations with a symbol for the unknown number to represent the problem).	 What do you need to write? What do you know? What strategy or strategies can you use? How can you represent the information as number sentences? How can an unknown division fact be found by thinking of a 	I will be able to: * Use what I know about multiplication and division to solve word problems	Situations Equal groups Arrays Repeated Addition Skip Counting Quantities Equations Represent Unknown number

		related multiplication fact?		
2nd Quarter Week 15 Nov. 9 Topic 7 & 8 Multiplication Table Teaching Tool 9 Center Activity 7-5 & 7-6	3.OA.4 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 $8 \times ? = 48$, $5=? \div 3$, $6 \times 6=?$	 How can you describe a problem situation using an equation? How can you use a multiplication table to solve division problems? What is a variable? 	I will be able to: * Find the missing number in a multiplication or division equation	Unknown whole number Equation Factors products Dividend Divisor Quotient
 2nd Quarter Week 16 Nov. 16 Topics 4, 5 & 6 Vocabulary Cards Two Color Counters Teaching Tool 17 Center Activities 4-3, 5-3, 6-1 & 6-6 Lesson 8-2 Algebra Connections FlipChart Internet Doc Cam 	3.OA.5 Apply properties of operations as strategies to multiply and divide. Examples: if 6 x 4 is known, then 4 x 6=24 is also known (Commutative Property of Multiplication). 3 x5x2 can be found by 3 x5=15, then 15 x2=30, or by 5x2=10, then $3x10=30$ (Associative Property). Know that 8 x 5=40 and 8 x 2=16, one can find 8 x 7 as 8 x (5 + 2)= (8x5) + (8x2)=40 + 16=56 (Distributive Property).	 How can unknown multiplication facts be found using known facts? Which factor do you break apart? Which factor does not change? Does order matter when you multiply? What are the patterns in multiples of 1 and 0? 	 I will be able to: * Use the commutative property of multiplication. * Use the associative property of multiplication * Use the distributive property of multiplication 	Apply Properties of Operations Strategies Commutative Property Associative Property Distributive Property Identity Property Zero Property of Multiplication Multiple

		 How can you break up a multiplication fact? 		
 2nd Quarter Week 17 Nov. 30 Topic 7-3 Two Color Counters Teaching Tool 17 Vocabulary Cards Center Activities 7-3, 7-4 Flashcards Multiplication table Fact Family Chart 	3.OA.6 Understand division as an unknown factor problem. Example: find 32÷8 by finding the number that makes 32 when multiplied by 8.	 How do you decide how to share equally? What part of the picture shows the total? How can you use a multiplication table to solve division problems? How can you describe a problem situation using an equation? 	 I will be able to: * Find the answer to a division problem by thinking of the missing factor in a multiplication problem * use fact family numbers 	Unknown factor Equation
 2nd Quarter Week 18 Dec. 7 Topic 8 Center Activity 8-7 Flashcards Teacher Made Weekly Tests 	3.OA.7 Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (knowing that 8 x 5=40, one knows that 40 \div 5=8) or properties of operations. By the end of Grade 3, know from memory all products of two one- digit numbers.	 How can an unknown division fact be found by thinking of a related multiplication fact? What multiplication fact can help you solve this problem? What is the related division fact? What happens to the number of objects in each group when you take a number and divide it into a 	 I will be able to: * Multiply and divide within 100 easily and quickly because I know how multiplication and division are related. * Understand the relationship between multiplication and division. * Distinguish between the properties of operations. * Memorize all the products to a 	Fluently Strategies Relationship Dividend Divisor Quotient

		 greater number of equal groups? How can multiplication facts help you divide? What multiplication fact can you use? How do you divide with 6 and 7? What fact can you use? 	multiplication and division sentence	
 2nd Quarter Week 19 Dec. 14 Topics 4-8 Word Problems Teacher Made Weekly Tests Topics 4-5, 5-7, 6- 9, 7-6, 8-5, & 8-9 Cubes per pair Teacher Made Graphic Organizer Teaching Tools Recording Sheet 	3.OA.8 Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. Note: <i>MULTIPLICATION &</i> <i>DIVISION ONLY</i>	 What are some multiplication stories you could write about in a number sentence? How do you write a good mathematical explanation? How can you tell when you need to answer more than one question to solve a problem? How can you figure out what question needs to be answered first in a multi-step problem? How can you use objects and draw 	I will be able to: * Use multiplication and division to solve all kinds of word problems.	Solve Two-step word problems Represent Equations Unknown quantity Assess Mental computation Number Sentence Operations Take apart



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3 rd Quarter Week 20 January 4 • Topic 5-1, 5-5, 5-6 • Center Activity 5-6	3.NBT.3 Multiply one-digit-whole numbers by multiples of 10 in the range 10- 90 (9 x 80, 5 x 60) using strategies based on place value and properties of operations	 * What are the patterns in multiples of 10? * What is the rule for multiplying by a multiple of 10? 	I will be able to: * Quickly and easily multiply one digit whole numbers by 10	Multiply Multiples Range Strategies
3 rd Quarter Week 21 January 11 Topic 9 Crayons Centimeter Grid Two Color Counters Teaching Tools 11, 17, 45 Vocabulary Cards Center Activity 9-1 thru 9-4 Fraction Bars 	3.NF.1 Understand a fraction 1/b as the quantity formed by 1 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	 How can you divide a whole into equal parts? How can you show and name parts of a region? How can a fraction name part of a group? How can you find a fractional part of a set? 	I will be able to: * Show and understand that fractions are equal parts of a whole	Understand Fraction Quantity Numerator Denominator Equal Groups Halves Unit Fraction Thirds Fourths Fifths Sixths Eighths Tenths Twelfths

3 rd Quarter	3.NF.2	* How can you I will be able to:	Understand
 Weeks 22 January 18 23 January 25 Topics 9 & 10 8 ½ x 1 paper strips number lines drawing paper Fraction Strips Crayons Teaching Tools 10, 22 Vocabulary Cards Center Activities 9-5 thru 9-7 & 10- 9 	 J.NF.2 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. Recognize that each part has size 1/b and that the endpoint 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 of a lengths 1/b from 0. Recognize that the resulting interval has size a/b and that is endpoint locates the number a/b on the number line. 	 A How can you find fractions on a number line? * How are models used to show fractional parts and mixed numbers? * How do you estimate parts? * How can a fraction name part of a length? 	Fraction Number line Mixed Numbers Benchmark fractions
 3rd Quarter Weeks 24 February 1 25 February 8 Topic 10 Fraction model strips/bars Scissors Crayons Three sheets of 8 ½ x 1 Number Lines 	 3.NF.3 Explain equivalence of fractions in special cases, and compares fractions by reasoning about their size a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line b. Recognize and generate 	 * How can different fractions name the same part of a whole? * What do * What do * Compare fractions by reasoning about their size * Show whole numbers as fractions * Show whole numbers as fractions * Recognize fractions that are equal to one whole 	Explain Equivalence Fractions Compare Number line Equivalent fractions Simplest form

• Vocabulary Cards	 simple equivalent fractions (1/2 = 2/4, 4/6=2/3). Explain why the fractions are equivalent by using a visual fraction model. c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3=3/1; recognize that 6/1=6; locate 4/4 and 1 at the same point of a number line diagram d. Compare two fractions with the same numerator of the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions by using a visual fraction model. 3.MD.5 	 * How can you compare and order fractions? * How can you compare fractions with the same denominator/nu merator? * Are there fraction names for whole numbers? * How can benchmark numbers be used to compare fractions? * How can you compare fractions on a number line? 	I will be able to:	Recognize
Weeks 26 February 15 27 February 22	Recognize area as an attribute of plane figures and understand concepts of area measurement a. A square with side length 1	 * How do you measure area? * What type of units describe area? 	 Will be able to: * Understand that the area of plane shapes can be measured in square units 	Attribute Plane figures Solid Figures Area

 Topic 14-1, 14-2 (b), 14-9, 14-10 Centimeter Grid Paper Tracing Shapes 1 inch grid paper Rulers Teaching Tools 11 & 12 Vocabulary Cards Center Activities 14-1, 14-2, and 14-10 	 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 	 * How can you use equal areas to model unit fractions? * What types of units describe area? 		
 3rd Quarter Weeks 28 February 29 Topic 14-1, 14-3, 14-6 Centimeter Grid Paper Index Cards Scissors Teaching Tool 11 & 12 	3.MD.6 Measure arrays by counting unit squares (cm, m, in, ft, and improvised units).	measure area using standard units of length?	I will be able to: * Measure areas by counting unit squares	Measure Arrays Unit Squares
 3rd Quarter Weeks 29 March 7 Topic 14 Centimeter grid paper 1 inch grid paper Teaching Tool 11 & 12 Center Activities 14-4, 14-5, 14-7, 14-8 	 3.MD.7 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 (14-4 b.) c. Multiply side lengths to find areas of rectangles 	 * How can you find the area of a figure? (squares & rectangles) * How can the area of rectangles represent the distributive property? 	 will be able to: * Measure area by using what I know about multiplication and addition. 	Relate Area Tiling Recognize Decomposing Solve

	 with whole number side lengths in the context of solving real world and mathematical problems, and represent whole- number products as rectangular areas (14-4, 14- 8) d. Use tiling to show in a concrete case that the area of a rectangle with whole- number side lengths a and b + c is the sum of a x b and a x c. Use area models to represent the distributive property in mathematical reasoning (Topic 6, 14-5) e. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non- overlapping parts, applying this technique to solve real world problems (14-7) * How can rectangles have the same area but different perimeters? * How can rectangles have the same area but different perimeters? 	
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Timeline & Resources	AZ College and Career Readiness StandardEssential Question (HESS Matrix)Learning Goal		Learning Goal	Vocabulary (Content/Academic)	
4 th Quarter Week 30 March 21 O Topic 13 O Centimeter grid paper O Drawing Paper O Ruler Vard stick Measuring tape or string Straws Craftsticks O Colored chalk Colored chalk Teaching Tools 11, 24, 46 Vocabulary Cards Center Activities 13-1 thru 13-5	3.MD.8 Solve real world and mathematical problems involving perimeters of polygons; including finding the perimeter given the side lengths, find an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters	 What does perimeter mean? How can perimeter be measured and found? What does area mean? What are different ways to find the area of a shape? How do you find perimeter? How can you use tools to find perimeter? 	I will be able to: * Solve real world math problems using what I know about the perimeter of shapes	Solve Perimeters Polygons Unknown side lengths Different Length Inches Centimeter Feet	

4 th Quarter	3.G.1	• How do you	I will be able to:	Understand
 4th Quarter Week 31 March 28 Topic 11 Ruler or Straight edge Pipe cleaners 2 strips of paper with paper fasteners dot paper scissors glue polygons 1 inch grid paper tape teaching Tools 12, 14, 29, 43, 44 Center Activities 11-1 thru 11-9 	3.G.1 Understand that shapes in different categories (rhombuses, rectangles, and others) may share attributes (having four sides), and that they shared attributes can define a larger category (quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories	 describe angles? What is a polygon? How can you describe triangles? What are some special names for quadrilaterals? How can two dimensional shapes be described, analyzed, and classified? How do you know which shape goes into the categories of quadrilateral? How can you use all the parts of a shape to make a new shape? What generalization 	I will be able to: * Place shapes into categories depending upon their attributes	Understand Rhombuses Rectangles Squares Attributes Quadrilaterals Draw Examples Parallel lines Point Line Line segments Intersecting lines Parallelogram Polygon Side Vertex Diagonal Equilateral Triangle Isosceles Triangle Scalene Triangle Right Triangle Acute Triangle
		can be made from a group of polygons?		
4 th Quarter Week 32 April 4	3.G.2 Partition shapes into parts with equal areas. Express the area of each as a	How can you combine or separate shapes	I will be able to: * Recognize and draw quadrilaterals such as	Partition shapes Equal areas Express

 Topics 11- 6, 11-7, 11- 8, 14-9 Two Color Tiles Centimeter grid paper Crayons Teaching tools 11, 16 Center Activities 11-8 & 14- 9 	unit fraction of the whole (partition a shape into 4 parts with equal area, and describe the area of each part as 1/4 of the area of the shape)	 to make other shapes? How can you use all the parts of a shape to make a new shape? What is the same in these three polygons? 	rhombuses, rectangles, and squares, and other quadrilaterals.	
4 th Quarter Week 33 April 11 Topic 12 Clock faces Calendar Teaching Tools 25, 26 Center Activities 12-1 thru 12-5 	3.MD.1 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 by representing the problem on a number line diagram.	 How can lengths of time be measured and found? How do you tell time to the nearest time? How can you change units of time? How can you find elapsed time using addition and subtraction? 	I will be able to: * Tell and write time to the nearest minute * Measure time in minutes * Solve telling time word problems by adding and subtracting minutes	Nearest minute Intervals Solve Represent
4 th Quarter Week 34 April 18 O Topic 15 O Liter Container O Water	3.MD.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or	• What are the customary units for measuring capacity and weight?	 I will be able to: * Measure liquids and solids with liters, grams, and kilograms * Use addition, subtraction, multiplication, and division to solve word problems 	Measure Estimate Volumes Masses Objects Gram Kilograms

 Sand Rice Pan balance Dollar bill Stapler Teaching Tool 47 Vocabulary Cards Center Activities 15-1 thru 15-5 	volumes that are given in the same units by using drawings to represent the problem.	 What metric units describes math? What customary describes something is? How can you solve a problem by drawing a picture involving mass or volume? 	involving mass and volume.	Liters Add Subtract Multiply Divide Represent
4 th Quarter Week 35 April 25 36 May 2 Topic 16 Reading Pictograph s and bar graphs Making pictograph Making pictograph Centimeter grid paper Sandwich survey Taching tools 11, 30, 50 Vocabulary Cards Center Activities 16-3 thru 16-6 	3.MD.3 Draw 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 (draw a bar graph in which each square in the bar graph might represent 5 pets).	 How can data be represented and interpreted and analyzed? How do you determine how much a symbol in a pictograph represents? How can you choose a scale to make a bar graph on a grid paper? What conclusion can you draw from tables and graphs? 	I will be able to: * Create a bar graph to show data and solve problems using the information from the graphs	Scaled Picture Graph Bar Graph Pictograph Line graph Line plot Data

4 th Quarter	3.MD.4	•	How do you make	I will be able to:	Generate
Week 37 May 9 38 May 16 • Topic 16-1, 16-2 • Rulers • Paper	Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units- whole numbers, halves, or quarters.	1	and use line plots? How can you make line plots to organize and represent data you have collected?	* Create a line plot from measurement data, where the measured objects have been measured to the nearest whole number half, or quarter	Data Halves Fourths Quarters Horizontal Vertical

