

A Correlation of

INVESTIGATIONS

IN NUMBER, DATA, AND SPACE®

©2017



to the

Arizona Mathematics Standards Grades K-5

**A Correlation of Investigations 3 in Number, Data, and Space ©2017
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Table of Contents

Kindergarten.....	2
Grade 1	9
Grade 2	16
Grade 3	23
Grade 4	31
Grade 5	39

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Kindergarten Units

Unit 1 - Counting People, Sorting Buttons

Unit 2 - Counting Quantities, Comparing Lengths

Unit 3 - Make a Shape, Fill a Hexagon

Unit 4 - Collect, Count and Measure

Unit 5 - Build a Block, Build a Wall

Unit 6 - How Many Now?

Unit 7 - How Many Noses? How Many Eyes?

Unit 8 - Ten Frames and Teen Numbers

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Arizona Mathematics Standards Kindergarten	Investigations 3 in Number, Data, and Space ©2017 Kindergarten
Counting and Cardinality (CC)	
K.CC.A Know number names and the count sequence.	
K.CC.A.1 Count to 100 by ones and by tens.	Unit 1: Investigation 1, Investigation 2, Investigation 3 Unit 2: Investigation 1, Investigation 2 Unit 3: 1.2, 1.4, 1.5, 2.2, 2.4, 2.5, 2.6 Unit 4: Investigation 1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 3.2, 3.3, 3.4, 3.5 Unit 5: 1.2, 1.3, 1.4, 1.5, 1.7, 1.8, 1.9, 1.10 Unit 6: Investigation 1, 2.1, 2.2, 2.3, 2.5, 3.2, 3.4, 3.5 Unit 7: Investigation 1, Investigation 2 Unit 8: 1.5, 1.6, 1.7, 2.2, 2.3, 2.4, 2.6, 2.7, 2.8, 2.10, Investigation 3
K.CC.A.2 Count forward from a given number other than one, within the known sequence (e.g., "Starting at the number 5, count up to 11.").	Unit 2: CR 1.4, CR 1.8, CR 1.10, CR 2.4, CR 2.9, CR 2.10 Unit 3: CR 2.2, CR 2.5, CR 2.7 Unit 4: 2.3, 2.4, 2.5, 2.6, 2.7, 3.2, 3.3, 3.4, 3.5 Unit 5: CR 1.4, 1.5, CR 1.6, CR 1.10 Unit 6: 1.2, 1.3, 1.4, 1.5, 1.6, 3.2, 3.3, 3.4, 3.5, 3.6 Unit 7: CR 1.1, CR 1.2, CR 2.3, CR 3.1, CR 3.4, 3.7, CR 3.7 Unit 8: 2.6, 2.7, 2.8, 2.10, Investigation 3
K.CC.A.3 Write numbers from 0 to 20. Represent a number of objects with a written numeral 0 to 20 (with 0 representing a count of no objects).	Unit 1: 3.2, 3.3, 3.4, 3.5, 3.6 Unit 2: 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 2.1, 2.2, 2.3, 2.4, 2.6, 2.8, 2.9, 2.10 Unit 3: 1.2, 1.4, 1.5, 2.2, 2.4, 2.5, 2.6, 2.7 Unit 4: 1.2, 1.3, 1.4, 1.5, 1.9, 1.10, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, Investigation 3 Unit 5: 1.2, 1.3, 1.4, 1.5, 1.7, 1.8, 1.9, 1.10 Unit 6: Investigation 1, 2.1, 2.2, 2.3, 2.5, 2.6, 2.7, 2.8, Investigation 3 Unit 7: 1.2, 1.3, 2.2, 2.3, 3.1, 3.2, 3.4, 3.5, 3.6, 3.8 Unit 8: 1.1, 1.2, 1.3, 1.5, 1.6, 1.7, Investigation 2, Investigation 3

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K.CC.B Count to tell the number of objects.	
K.CC.B.4 Understand the relationship between numbers and quantities; connect counting to cardinality.	
a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object (one to one correspondence).	Unit 1: Investigation 1, Investigation 2, Investigation 3 Unit 2: Investigation 1, Investigation 2 Unit 3: 1.2, 1.4, 1.5, 2.2, 2.4, 2.5, 2.6 Unit 4: Investigation 1, Investigation 2, Investigation 3 Unit 5: 1.2, 1.3, 1.4, 1.5, 1.7, 1.8, 1.9, 1.10 Unit 6: Investigation 1, Investigation 2, Investigation 3 Unit 7: Investigation 2, Investigation 3 Unit 8: 1.1, 1.2, 1.3, 1.5, 1.6, 1.7, 2.2, 2.3, 2.4, 2.6, 2.7, 2.8, 2.10, Investigation 3
b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted (cardinality).	Unit 1: Investigation 1, Investigation 2, Investigation 3 Unit 2: Investigation 1, Investigation 2 Unit 3: 1.2, 1.4, 1.5, 2.2, 2.4, 2.5, 2.6 Unit 4: Investigation 1, Investigation 2, Investigation 3 Unit 5: 1.2, 1.3, 1.4, 1.5, 1.7, 1.8, 1.9, 1.10 Unit 6: Investigation 1, Investigation 2, Investigation 3 Unit 7: Investigation 2, Investigation 3 Unit 8: 1.1, 1.2, 1.3, 1.5, 1.6, 1.7, 2.2, 2.3, 2.4, 2.6, 2.7, 2.8, 2.10, Investigation 3
c. Understand that each successive number name refers to a quantity that is one larger (hierarchical inclusion).	Unit 1: 1.1, 1.2, 1.3, 1.5, 2.1, 2.5 Unit 2: 1.1 Unit 4: 1.6, 1.7, 1.8, 1.10, 2.3, 2.4, 2.5, 2.6, 2.7, Investigation 3 Unit 6: 1.3, 1.4, 1.5, 1.6 Unit 7: Investigation 3

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K.CC.B.5 Count to answer questions about “How many?” when 20 or fewer objects are arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1 to 20, count out that many objects.	Unit 1: Investigation 1, Investigation 2, Investigation 3 Unit 2: Investigation 1, Investigation 2 Unit 3: 1.2, 1.4, 1.5, 2.2, 2.4, 2.5, 2.6 Unit 4: Investigation 1, Investigation 2, Investigation 3 Unit 5: 1.2, 1.3, 1.4, 1.5, 1.7, 1.8, 1.9, 1.10 Unit 6: Investigation 1, Investigation 2, Investigation 3 Unit 7: 1.2, 1.3, 1.4, Investigation 2, Investigation 3 Unit 8: 1.1, 1.2, 1.3, 1.5, 1.6, 1.7, Investigation 2, Investigation 3
K.CC.C Compare numbers.	
K.CC.C.6 Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group. (Include groups with up to ten objects.)	Unit 1: Investigation 2, Investigation 3 Unit 2: 1.2, 1.3, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, Investigation 2 Unit 3: 1.2, 1.4, 1.5, 2.2, 2.4, 2.5, 2.6 Unit 4: 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.10, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 3.2, 3.3 Unit 5: 1.2, 1.3, 1.4, 1.5, 1.7, 1.8, 1.9, 1.10 Unit 6: Investigation 1, 2.1, 2.2, 2.3, 2.7, 2.8, 3.2, 3.4, 3.5 Unit 7: 1.4, Investigation 2, 3.2, 3.4, 3.5, 3.6, 3.8 Unit 8: 1.5, 1.6, 1.7, 2.2, 2.3, 2.4, 2.7, 2.8, 2.10, Investigation 3
K.CC.C.7 Compare two numbers between 0 and 10 presented as written numerals.	Unit 2: 2.5, 2.6, 2.7, 2.8, 2.9, 2.10, 2.11, 2.12 Unit 4: 3.2, 3.3 Unit 6: 1.1, 1.2, 1.3
Operations and Algebraic Thinking (OA)	
K.OA.A Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.	
K.OA.A.1 Represent addition and subtraction concretely.	Unit 2: CR 2.9 Unit 3: CR 1.4, CR 2.4, CR2.5 Unit 4: 1.6, 1.7, 1.8, 1.9, 1.10, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 3.2, 3.3, 3.4, 3.5, 3.6 Unit 6: 1.3, 1.4, 1.5, 1.6, Investigation 2, Investigation 3 Unit 7: 1.2, 1.3, Investigation 2, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8 Unit 8: Investigation 1, Investigation 2, Investigation 3

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K.OA.A.2 Solve addition and subtraction word problems and add and subtract within 10.	Unit 4: 1.6, 1.7, 1.8, 1.9, 1.10, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7 Unit 6: 1.3, 1.4, 1.5, 1.6, Investigation 2, Investigation 3 Unit 7: 1.2, 1.3, 2.2, 2.3, 3.2, 3.3, 3.4, 3.5, 3.6, 3.8 Unit 8: Investigation 1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.10, Investigation 3
K.OA.A.3 Decompose numbers less than or equal to 10 into pairs in more than one way (e.g., using fingers, objects, symbols, tally marks, drawings, expressions).	Unit 4: 2.1, 2.2, 2.3, 2.4, 2.5, Investigation 3 Unit 6: Investigation 3 Unit 8: 2.1, 2.2, 2.3, 2.4
K.OA.A.4 For any number from 1 to 9, find the number that makes 10 when added to the given number (e.g., using fingers, objects, symbols, tally marks, drawings, or equation).	Unit 8: 2.1, 2.2, 2.3, 2.4
K.OA.A.5 Fluently add and subtract within 5.	Unit 4: 2.3, 2.4, 2.5, 2.6, 2.7, 3.5 Unit 6: 2.1, 2.2, 2.5, 2.6, 2.7, 2.8, 3.1 Unit 8: 1.2, 1.3, 1.4, 1.5, 1.6, 1.7
Number and Operations in Base Ten (NBT)	
K.NBT.A Work with numbers 11 to 19 to gain foundations for place value.	
K.NBT.A.1 Compose and decompose numbers from 11 to 19 into ten ones and additional ones by using objects, drawings and/or equations. Understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones (e.g., $18 = 10 + 8$).	Unit 5: CR 1.4 Unit 6: CR 1.4, CR 2.4, 3.5 Unit 7: CR 1.3, CR 3.1 Unit 8: 2.5, 2.6, 2.7, 2.8, 2.9, 2.10, Investigation 3
K.NBT.B Use place value understanding and properties of operations to add and subtract.	
K.NBT.B.2 Demonstrate understanding of addition and subtraction within 10 using place value.	Unit 8: 1.4, 1.5, 2.1, 2.2, 2.3, 2.4
Measurement and Data (MD)	
K.MD.A Describe and compare measurable attributes.	
K.MD.A.1 Describe measurable attributes of a single object (e.g., length and weight).	Unit 2: 2.1, 2.2, 2.3, 2.4 Unit 4: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8 Unit 6: 1.1, 1.2, 1.3 Unit 8: 2.3, 2.4, 2.6, 3.1

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K.MD.A.2 Directly compare two objects with a measurable attribute in common to see which object has “more of” or “less of” the attribute, and describe the difference (e.g., directly compare the length of 10 cubes to a pencil and describe one as longer or shorter).	Unit 2: 2.1, 2.2, 2.3, 2.4, 2.6, 2.7, 2.8, 2.9, 2.10, 2.11, 2.12 Unit 4: 1.1, 1.2, 1.4 Unit 6: 1.1, 1.2, 1.3 Unit 8: 2.3, 2.4, 2.6, 3.1, 3.2, 3.3, 3.5
K.MD.B Classify objects and count the number of objects in each category.	
K.MD.B.3 Classify objects into given categories; count the number in each category and sort the categories by count. (Note: limit category counts to be less than or equal to 10.)	Unit 1: 3.1, 3.3, 3.4, 3.5, 3.6 Unit 2: 2.1, 2.2, 2.3, 2.4 Unit 3: 1.2, CR 1.2, 1.3, CR 1.5, CR 2.3, CR 2.6 Unit 4: CR 1.1, CR 1.4, CR 1.7, CR 1.10, CR 2.3, CR 2.6, CR 3.2, CR 3.6 Unit 5: 1.1, 1.2, 1.3 Unit 6: CR 1.1, 1.5, 1.6, CR 2.1, CR 2.6, CR 3.2 Unit 7: Investigation 1, Investigation 2, 3.2, 3.4, 3.5, 3.6 Unit 8: CR 1.7, CR 2.6, CR 3.2
Geometry (G)	
K.G.A Identify and describe shapes.	
K.G.A.1 Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.	Unit 1: Investigation 1, Investigation 2, 3.2, 3.3, 3.4, 3.5, 3.6 Unit 2: CR 1.8, CR 2.4, CR 2.10 3 Sessions: 1.1, 1.2, 1.4, 1.5, 2.1, 2.2, 2.4, 2.5, 2.6, 2.7 Unit 4: Investigation 3 Unit 5: Investigation 1
K.G.A.2 Correctly name shapes regardless of their orientation or overall size (e.g., circle, triangle, square, rectangle, rhombus, trapezoid, hexagon, cube, cone, cylinder, sphere).	Unit 3: Investigation 1, Investigation 2 Unit 5: Investigation 1 Unit 7: 1.1, 1.2, 1.3, 2.2, 2.3, 3.2
K.G.A.3 Identify shapes as two-dimensional (lying in a plane, flat) or three-dimensional (solid).	Unit 3: 1.1, 1.4, 1.5, 2.1, 2.2, 2.4, 2.6, 2.7 Unit 5: Investigation 1
Standards for Mathematical Practice	
K.MP.1 Make sense of problems and persevere in solving them.	Unit 1: 1.1, 1.2, 1.5, 2.1, 2.3, 3.1, 3.2, 3.4 Unit 7: 1.1, 1.2, 2.1, 2.2, 2.3, 3.1, 3.2, 3.4, 3.8

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K.MP.2 Reason abstractly and quantitatively.	Unit 4: 1.2, 1.3, 1.5, 1.6, 2.2, 2.3, 3.3, 3.4, 3.5, 3.6 Unit 7: 1.1, 1.2, 1.4, 2.2, 3.3, 3.4, 3.5, 3.7, 3.8
K.MP.3 Construct viable arguments and critique the reasoning of others.	Unit 5: 1.2, 1.3, 1.4, 1.6, 1.7, 1.9, 1.10 Unit 6: 1.1, 1.4, 1.5, 1.6, 2.2, 2.6, 3.2, 3.5, 3.6
K.MP.4 Model with mathematics.	Unit 2: 1.1, 1.3, 1.4, 1.9, 2.1, 2.6, 2.11, 2.12 Unit 5: 1.1, 1.2, 1.7, 1.9, 1.10
K.MP.5 Use appropriate tools strategically.	Unit 1: 1.1, 1.4, 1.5, 2.1, 2.4 Unit 6: 1.1, 1.2, 1.3, 1.6, 2.3, 2.4, 2.6, 2.7, 2.8, 3.1, 3.3, 3.5, 3.6
K.MP.6 Attend to precision.	Unit 3: 1.1, 1.2, 1.3, 1.4, 2.2, 2.3, 2.5, 2.6, 2.7 Unit 4: 1.1, 1.2, 1.3, 1.5, 1.6, 1.8, 2.1, 2.4, 3.2, 3.3, 3.5, 3.6
K.MP.7 Look for and make use of structure.	Unit 3: 1.2, 2.1, 2.2, 2.3, 2.5, 2.6, 2.7 Unit 8: 1.1, 1.2, 1.4, 1.5, 2.2, 2.5, 2.6, 2.7, 2.8, 2.9, 2.10, 3.1, 3.4, 3.5
K.MP.8 Look for and express regularity in repeated reasoning.	Unit 2: 1.1, 1.3, 1.6, 2.1, 2.11, 2.12 Unit 8: 2.1, 2.3, 2.5, 2.9, 2.10, 3.4, 3.5

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Grade 1 Units

Unit 1 - Building Numbers and Solving Story Problems

Unit 2 - Comparing and Combining Shapes

Unit 3 - How Many of Each? How Many in All

Unit 4 - Fish Lengths and Fraction Rugs

Unit 5 - Number Games and Crayon Problems

Unit 6 - Would You Rather Be an Eagle or a Whale?

Unit 7 - How Many Tens? How Many Ones?

Unit 8 - Blocks and Buildings

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Arizona Mathematics Standards Grade 1	Investigations 3 in Number, Data, and Space ©2017 Grade 1
Operations and Algebraic Thinking (OA)	
1.OA.A Represent and solve problems involving addition and subtraction.	
1.OA.A.1 Use addition and subtraction within 20 to solve word problems with unknowns in all positions (e.g., by using objects, drawings, and/or equations with a symbol for the unknown number to represent the problem).	Unit 1: 2.3, 2.4, 2.6, 2.7, 2.8, 3.1, 3.2, 3.4, 3.5, 3.6, 3.7 Unit 3: 2.1, 2.4, 2.6, 2.7, 2.8, 3.1, 3.2, 3.6 Unit 4: 1.5, 1.6, 1.7, 1.8, 2.6 Unit 5: 1.1, 1.5, 1.6, 1.7, 1.8, 2.3, 2.4, 2.6, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7 Unit 6: Investigation 1, 2.3 Unit 7: CR 1.1, CR 1.2, CR 1.3
1.OA.A.2 Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20 (e.g., by using objects, drawings, and/or equations with a symbol for the unknown number to represent the problem).	Unit 2: 1.3 Unit 3: CR 2.3, CR 2.5, 3.1, CR 3.1, CR 3.2, CR 3.4, 3.6, CR 3.6 Unit 4: Unit 5: Unit 6: Investigation 2 Unit 7: 1.1, 1.2
1.OA.B Understand and apply properties of operations and the relationship between addition and subtraction.	
1.OA.B.3 Apply properties of operations (commutative and associative properties of addition) as strategies to add and subtract within 20. (Students need not use formal terms for these properties.)	Unit 1: 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 3.1, 3.2, 3.4, 3.5, 3.6, 3.7 Unit 2: 1.3 Unit 3: 1.1, 2.1, 2.4, 2.5, 2.6, 2.7, 3.1, 3.2, 3.3, 3.4, 3.6, 4.8 Unit 4: 1.5, 1.6, 1.7, 1.8, 2.6 Unit 5: Investigation 1, Investigation 2, Investigation 3
1.OA.B.4 Understand subtraction as an unknown-addend problem within 20 (e.g., subtract 10 - 8 by finding the number that makes 10 when added to 8).	Unit 1: 3.2, 3.3, 3.4, 3.5, 3.6, 3.7 Unit 3: 1.3, 2.2, 2.3, 2.7 Unit 4: 1.5, 1.6, 1.7, 1.8, 2.6 Unit 5: 1.1, 1.5, 1.6, 1.7, 1.8, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7 Unit 6: CR 1.3, CR 1.5, CR 2.2, CR 2.3
1.OA.C Add and subtract within 10.	
1.OA.C.5 Relate counting to addition and subtraction (e.g., by using counting on 2 to add 2).	Unit 1: 1.4, 1.5, Investigation 2, Investigation 3 Unit 2: CR 1.3, CR 1.6, CR 2.5 Unit 3: 1.1, 1.3, 1.4, 2.5, 3.1, 3.2 Unit 5: 2.4, 2.6 Unit 7: 1.1, 1.2, 1.3

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1.OA.C.6 Fluently add and subtract within 10.	Unit 1: Investigation 2, Investigation 3 Unit 2: 1.1, 1.2, 1.3, 1.4 Unit 3: Investigation 1, Investigation 2, Investigation 3, 4.8 Unit 4: 1.5, 1.6, 1.7, 1.8, 2.6 Unit 5: Investigation 1, Investigation 2, Investigation 3 Unit 6: Investigation 1, 2.3 Unit 7: 1.1, 1.2, 1.3, 2.1, 2.2, 2.4, 2.5
1.OA.D Work with addition and subtraction equations.	
1.OA.D.7 Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false (e.g., Which of the following equations are true and which are false? $6 + 1 = 6 - 1$, $7 = 8 - 1$, $5 + 2 = 2 + 5$, $4 + 1 = 5 + 2$).	Unit 1: 2.2, 2.4, 2.5, 2.6, 3.2, 3.4 Unit 3: 1.2, 2.5, 2.6, 2.7, 2.8, Investigation 3, 4.8 Unit 5: 2.1, 2.3, 2.5, 2.7, 2.8, 3.1, 3.6
1.OA.D.8 Determine the unknown whole number in an addition or subtraction equation relating three whole numbers (e.g., determine the unknown number that makes the equation true in each of the equations $8 + \square = 11$, $5 = \square - 3$, $6 + 6 = \square$).	Unit 1: 2.3, 2.5, 2.6, 2.7, 2.8, 3.2, 3.3, 3.4, 3.6, 3.7 Unit 3: 1.1, 1.3, 1.4 Unit 4: CR 1.2, CR 1.4, 1.6, CR 1.6, CR 2.3 Unit 5: 1.2, 1.4, 1.5, 1.6, 1.7, 1.8, 2.1, 2.2, 2.3, 2.4, 2.6, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6 Unit 6: Unit 7: 1.6, 1.7, 1.8
Number and Operations in Base Ten (NBT)	
1.NBT.A Extend the counting sequence.	
1.NBT.A.1 Count to 120 by 1's, 2's, and 10's starting at any number less than 100. In this range, read and write numerals and represent a number of objects with a written numeral.	Unit 1: Investigation 1, 3.6 Unit 2: 2.3 Unit 3: Investigation 4 Unit 4: CR 1.2, CR 1.4, CR 1.6, CR 2.3 Unit 5: CR 1.3, CR 1.3, CR 1.5, CR 1.8, CR 2.1, CR 2.3, CR 2.5, CR 2.7, CR 3.1, CR 3.3, CR 3.4, CR 3.5, CR 3.6, CR 3.7 Unit 6: CR 1.3, CR 1.5, CR 2.2, CR 2.3 Unit 7: 1.3, 1.4, 1.5, 1.6, 1.7, 1.8 Investigation 2, Investigation 3

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1.NBT.B Understand place value.	
1.NBT.B.2 Understand that the two digits of a two-digit number represent groups of tens and ones. Understand the following as special cases:	
a. 10 can be thought of as a group of ten ones — called a “ten”.	Unit 3: 1.2, 1.4, 2.4, 4.1 Unit 4: CR 1.2, CR 1.4, CR 1.6, CR 2.3 Unit 5: CR 1.4, CR 1.6, 2.1, CR 2.2, 2.3, CR 2.6, CR 3.3, CR 3.4, CR 3.5 Unit 6: 1.1, CR 1.1, CR 1.2, CR 1.4, CR 1.6, CR 1.7, CR 1.9 Unit 7: 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, Investigation 2, Investigation 3
b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.	Unit 1: 1.3, 1.4, 1.5 Unit 2: CR 1.3, CR 1.6, CR 2.5 Unit 3: 1.2, 1.4, 2.4 Unit 4: CR 1.2, CR 2.3 Unit 5: 2.1, 2.3, CR 3.3, CR 3.4, CR 3.5
c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).	Unit 3: 1.4, CR 2.1, CR 2.4, CR 2.8, CR 3.65, CR 4.2, 4.4, CR 4.4, CR 4.6 Unit 4: CR 1.4, CR 1.6, CR 2.3 Unit 5: CR 1.4, CR 1.6, CR 2.2, CR 2.6 Unit 6: 1.1, CR 1.1, CR 1.2, CR 1.4, CR 1.6, CR 1.7, CR 1.9 Unit 7: 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, Investigation 2, Investigation 3
1.NBT.B.3 Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols $>$, $=$, and $<$.	Unit 1: 2.5, 3.6, CR 3.7 Unit 2: CR 1.1, CR 1.2, CR 1.5, CR 1.7, CR 2.2 Unit 3: CR 1.2, CR 1.3, CR 2.1, CR 2.2, CR 2.4, CR 2.6, CR 2.8, 3.3, CR 3.3, 3.4, CR 3.5, CR 4.1, CR 4.2, CR 4.4, CR 4.5, CR 4.6, CR 4.7, CR 4.8 Unit 4: CR 1.2, CR 1.4, CR 1.6, CR 2.3 Unit 7: 1.6, 2.2, 2.4, 2.5, 2.6, 2.7, 2.8
1.NBT.C Use place value understanding and properties of operations to add and subtract.	
1.NBT.C.4 Demonstrate understanding of addition within 100, connecting objects or drawings to strategies based on place value (including multiples of 10), properties of operations, and/or the relationship between addition and subtraction. Relate the strategy to a written form.	Unit 7: 1.2, 1.3, 1.4, 1.5, 1.7, 1.8, Investigation 3

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Arizona Mathematics Standards Grade 1	Investigations 3 in Number, Data, and Space ©2017 Grade 1
1.NBT.C.5 Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count.	Unit 7: 1.3, 1.4, 1.5, 1.6, 1.8, 2.5, 2.6, 2.7, 2.8, Investigation 3
1.NBT.C.6 Subtract multiples of 10 in the range of 10 to 90 (positive or zero differences), using objects or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. Relate the strategy to a written form.	Unit 7: 1.6, 1.7, 1.8
Measurement and Data (MD)	
1.MD.A Measure lengths indirectly and by iterating length units.	
1.MD.A.1 Order three objects by length. Compare the lengths of two objects indirectly by using a third object.	Unit 4: 1.1, 1.2, 1.3
1.MD.A.2 Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. (Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.)	Unit 4: 1.3, 1.4, 1.5, 1.6, 1.7
1.MD.B Work with time and money.	
1.MD.B.3a Tell and write time in hours and half-hours using analog and digital clocks.	Unit 1: CR 2.3 Unit 3: CR 1.4, CR 2.7, CR 4.3 Unit 4: 1.2, 2.1, 2.5 Unit 5: CR 1.1, CR 1.7, CR 2.4, CR 2.8, CR 3.2 Unit 6: CR 1.8, CR 2.1 Unit 7: CR 2.1, CR 3.3 Unit 8: CR 1.1, CR 1.3, CR 1.5, 1.6, CR 1.6
1.MD.B.3b Identify coins by name and value (pennies, nickels, dimes and quarters).	Teachers have the opportunity to address this standard, please see examples. Unit 5: 3.2, 3.3, 3.6

**A Correlation of Investigations 3 in Number, Data, and Space ©2017
To the Arizona Mathematics Standards**

Arizona Mathematics Standards Grade 1	Investigations 3 in Number, Data, and Space ©2017 Grade 1
1.MD.C Represent and interpret data.	
1.MD.C.4 Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.	Unit 1: 1.5 Unit 2: 2.1, 2.2, 2.3, 2.4 Unit 3: 4.1 Unit 6: Investigation 1, Investigation 2
Geometry (G)	
1.G.A Reason with shapes and their attributes.	
1.G.A.1 Distinguish between defining attributes (triangles are closed and 3 sided) versus non-defining attributes (color, orientation, overall size) for two-dimensional shapes; build and draw shapes that possess defining attributes.	Unit 2: 1.1, 1.2, 1.3, 1.4, 1.6, 1.7, Investigation 2 Unit 4: CR 1.8, CR 2.1, 2.2, CR 2.2, 2.3, CR 2.4, CR 2.5, CR 2.6 Unit 8: Investigation 1
1.G.A.2 Compose two-dimensional shapes or three-dimensional shapes to create a composite shape.	Unit 1: Investigation 1 Unit 2: Investigation 1 Unit 4: 2.2, 2.3, 2.4, 2.5 Unit 8: 1.3, 1.5, 1.6, 1.7, 1.8, 1.9
1.G.A.3 Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters. Describe the whole as two of, or four of the shares. Understand that decomposing into more equal shares creates smaller shares.	Unit 4: Investigation 2
Standards for Mathematical Practice	
1.MP.1 Make sense of problems and persevere in solving them.	Unit 1: 1.1, 1.2, 2.3, 2.4, 2.7, 2.8, 3.1, 3.2, 3.4, 3.6, 3.7 Unit 6: 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 2.1, 2.2
1.MP.2 Reason abstractly and quantitatively.	Unit 3: 1.1, 1.2, 2.1, 2.2, 2.4, 2.5, 2.6, 2.7, 3.1, 3.2, 3.5 Unit 7: 1.1, 1.3, 1.6, 1.7, 1.8, 2.1, 2.2, 2.3, 2.4, 2.5, 2.7, 2.8, 3.1, 3.2, 3.6

**A Correlation of Investigations 3 in Number, Data, and Space ©2017
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Arizona Mathematics Standards Grade 1	Investigations 3 in Number, Data, and Space ©2017 Grade 1
1.MP.3 Construct viable arguments and critique the reasoning of others.	Unit 2: 1.4, 1.5, 1.6, 1.7, 2.1, 2.2, 2.3, 2.4 Unit 5: 1.1, 1.4, 2.1, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 3.1, 3.5
1.MP.4 Model with mathematics.	Unit 4: 1.1, 1.2, 1.3, 1.5, 1.6, 2.1, 2.2, 2.3, 2.4 Unit 6: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2
1.MP.5 Use appropriate tools strategically.	Unit 2: 1.1, 1.6, 1.7, 2.2, 2.3, 2.4 Unit 4: 1.2, 1.3, 1.4, 1.5, 1.6, 1.7
1.MP.6 Attend to precision.	Unit 3: 1.2, 2.2, 2.4, 2.5, 2.8, 3.1, 3.2, 3.4, 4.1 Unit 8: 1.1, 1.2, 1.3, 1.5, 1.6
1.MP.7 Look for and make use of structure.	Unit 5: 1.2, 1.4, 2.1, 2.2, 2.3, 2.4, 2.5, 2.7, 2.8, 3.1, 3.3 Unit 8: 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8
1.MP.8 Look for and express regularity in repeated reasoning.	Unit 1: 1.2, 1.4, 2.2, 2.4, 2.5, 2.6, 2.7, 3.1, 3.2, 3.3, 3.4, 3.5 Unit 7: 1.2, 1.4, 2.2, 2.3, 2.5, 2.6, 2.7, 3.1, 3.3, 3.4, 3.5, 3.6, 3.7

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Grade 2 Units

Unit 1 - Coins, Number Strings, and Story Problems

Unit 2 - Attributes of Shapes and Parts of a Whole

Unit 3 - How Many Stickers? How Many Cents?

Unit 4 - Pockets, Teeth and Guess My Rule

Unit 5 - How Many Tens? How Many Hundreds?

Unit 6 - How Far Can You Jump?

Unit 7 - Partners, Teams, and Other Groups

Unit 8 - Enough for the Class? Enough for the Grade?

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Arizona Mathematics Standards Grade 2	Investigations 3 in Number, Data, and Space ©2017 Grade 2
Operations and Algebraic Thinking (OA)	
2.OA.A Represent and solve problems involving addition and subtraction.	
2.OA.A.1 Use addition and subtraction within 100 to solve one- and two-step word problems. Represent a word problem as an equation with a symbol for the unknown.	Unit 1: 2.3, 2.4, 3.1, 3.3, 3.6, 3.7, 4.1, 4.2, 4.4, 4.5 Unit 2: 1.3, 1.4, 2.1, 3.1, 3.3 Unit 3: 1.2, 1.3, 1.5, 1.7, 1.8, 2.4, 2.6, 2.8, 2.9, 3.1, 3.4, 3.5, 3.7 Unit 4: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.6 Unit 5: 1.3, 1.5, 1.6, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7 Unit 6: 1.2, 1.3, 1.5, 1.6, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6 Unit 7: 1.1, 1.3, 1.4, 2.3, 2.5 Unit 8: 1.1, 1.2, 1.4, 1.7, 1.9, 1.10, 1.11, 2.1, 2.3, 2.5, 2.6, 2.7
2.OA.B.2 Fluently add and subtract within 20. By the end of Grade 2, know from memory all sums of two one-digit numbers.	Unit 1: 1.1, 1.4, 1.6, 2.2, 2.4, 2.6, 2.8, 3.2, 3.3, 3.7, 4.2, 4.4, 4.5 Unit 2: 1.1, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 3.1 Unit 3: 1.1, 1.3, 1.6, 1.7, 2.2, 2.6, 2.8, 3.2, 3.5, 3.7 Unit 4: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.4, 2.5 Unit 5: 1.1, 1.3, 1.5, 1.6, 2.1, 2.3, 3.3, 3.7 Unit 6: 1.6, 2.3, 2.6 Unit 7: 1.1, 1.3, 2.1, 2.3, 2.5, 2.6 Unit 8: 1.2, .3, 1.5, 1.9, 2.1, 2.3, 2.5, 2.7, 2.8
2.OA.C Work with equal groups of objects to gain foundations for multiplication.	
2.OA.C.3 Determine whether a group of objects (up to 20) has an odd or even number of members (e.g., by pairing objects or counting them by 2's).	Unit 7: 1.1, 1.2, 1.3, 1.4, 1.5
2.OA.C.4 Use addition to find the total number of objects arranged in rectangular arrays (with up to 5 rows and 5 columns). Write an equation to express the total as a sum of equal addends.	Unit 7: 2.1, 2.2, 2.3, 2.4, 2.5, 2.6
Number and Operations in Base Ten (NBT)	
2.NBT.A Understand place value.	
2.NBT.A.1 Understand that the three digits of a three-digit number represent groups of hundreds, tens, and ones (e.g., 706 equals 7 hundreds, 0 tens, and 6 ones and also equals 70 tens and 6 ones). Understand the following as special cases:	Unit 5: 2.3, 2.4, 2.5, 2.6, 3.2, 3.6, 3.7 Unit 6: 1.1, 1.2, 1.4, 1.5, 2.2 Unit 7: 1.1, 2.1 Unit 8: 1.11, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9
a. 100 can be thought of as a group of ten tens—called a “hundred.”	Unit 3: 1.5, 1.6, 1.7, 1.8, 3.2, 3.3, 3.5, 3.6 Unit 5: 2.6

**A Correlation of Investigations 3 in Number, Data, and Space ©2017
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Arizona Mathematics Standards Grade 2	Investigations 3 in Number, Data, and Space ©2017 Grade 2
b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).	Unit 3: 3.2, 3.3, 3.5, 3.6 Unit 5: 2.2, 2.3, 2.4, 2.6, 3.6, 3.8 Unit 7: 2.3
2.NBT.A.2 Count within 1000; skip count by 5's, 10's and 100's.	Unit 1: 1.2, 1.3, 1.4, 1.5, 2.4, 3.1, 3.4, 3.5, 3.6, 3.7 Unit 3: 2.4, 3.4, 3.6, 3.7 Unit 4: 1.5, 2.2 Unit 5: 2.1, 2.6, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8 Unit 7: 1.1, 1.2, 1.4, 2.1, 2.2, 2.3, 2.4
2.NBT.A.3 Read and write numbers up to 1000 using base-ten numerals, number names, and expanded form.	Unit 1: 1.4, 1.5, 1.6, 2.6, 3.2 Unit 2: 2.3 Unit 3: 1.5, 1.6, 1.7, 1.8, 3.3, 3.5 Unit 5: 1.2, 2.2, 2.3, 2.4, 2.5, 2.6, 3.2, 3.5, 3.6, 3.7, 3.8 Unit 6: 1.1, 1.2, 1.4, 1.5, 2.2 Unit 7: 1.1, 2.1 Unit 8: 2.1, 2.1, 2.3, 2.4, 2.5, 2.9
2.NBT.A.4 Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using $>$, $=$, and $<$ symbols to record the results of comparisons.	Unit 3: 3.3, 3.5 Unit 5: 1.5, 1.6, 2.2, 2.3, 2.4, 2.5, 2.6, 3.5, 3.8 Unit 6: 1.1, 1.4 Unit 7: 1.1, 2.1 Unit 8: 2.1
2.NBT.B Use place value understanding and properties of operations to add and subtract.	
2.NBT.B.5 Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.	Unit 1: 2.7, 3.6 Unit 2: 3.4 Unit 3: 1.4, 1.5, 1.8, 2.3, 2.6, 2.9, 3.1, 3.3, 3.5, 3.7 Unit 4: 1.1, 2.5 Unit 5: 1.1, 1.4, 1.5, 1.6, 2.1, 2.4, 2.6, 3.1, 3.3, 3.5 Unit 6: 1.1, 1.3, 1.4, 1.6, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6 Unit 7: 1.1, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6 Unit 8: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 1.11, 2.6
2.NBT.B.6 Add up to three two-digit numbers using strategies based on place value and properties of operations.	Unit 3: 1.5, 2.5, 2.6, 2.7, 2.8, 2.9, 3.6 Unit 4: 1.1, 2.5 Unit 5: 1.2, 1.3, 2.3, 3.1, 3.2, 3.3, 3.6, 3.7 Unit 6: 2.6 Unit 7: 2.2, 2.6 Unit 8: 1.7, 2.6, 2.9

**A Correlation of Investigations 3 in Number, Data, and Space ©2017
To the Arizona Mathematics Standards**

Arizona Mathematics Standards Grade 2	Investigations 3 in Number, Data, and Space ©2017 Grade 2
2.NBT.B.7 Demonstrate understanding of addition and subtraction within 1000, connecting objects or drawings to strategies based on place value (including multiples of 10), properties of operations, and/or the relationship between addition and subtraction. Relate the strategy to a written form	Unit 8: 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9
2.NBT.B.8 Mentally add 10 or 100 to a given number in the range of 100 and 900, and mentally subtract 10 or 100 from a given number in the range of 100 and 900.	Unit 3: 3.5, 3.6 Unit 5: 1.6, 2.3, 2.4, 2.5, 2.6, 3.3, 3.5, 3.6, 3.7
2.NBT.B.9 Explain why addition and subtraction strategies work, using place value and the properties of operations. (Explanations may be supported by drawings or objects.)	Unit 1: 2.2, 2.3, 2.5, 2.8, 3.1, 3.2, 3.7, 4.1, 4.3, 4.5 Unit 3: 1.4, 1.5, 1.6, 1.7, 1.8, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.4, 3.7 Unit 5: 1.3, 1.5, 1.6, 2.2, 2.4, 3.1, 3.2, 3.4, 3.6, 3.8 Unit 8: 1.1, 1.3, 1.7, 1.10, 1.11, 2.1, 2.3, 2.6, 2.8, 2.9
Measurement and Data (MD)	
2.MD.A Measure and estimate lengths in standard units.	
2.MD.A.1 Measure the length of an object by selecting and using appropriate tools (e.g., ruler, meter stick, yardstick, measuring tape).	Unit 6: 1.4, 1.5, 1.6, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6
2.MD.A.2 Measure the length of an object twice, using different standard length units for the two measurements; describe how the two measurements relate to the size of the unit chosen. Understand that depending on the size of the unit, the number of units for the same length varies.	Unit 6: 2.3, 2.4, 2.5, 2.6
2.MD.A.3 Estimate lengths using units of inches, feet, centimeters, and meters.	Unit 6: 2.1, 2.2, 2.3, 2.4, 2.6
2.MD.A.4 Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.	Unit 6: 1.3, 1.5, 1.6, 2.1, 2.2, 2.3, 2.4, 2.5

**A Correlation of Investigations 3 in Number, Data, and Space ©2017
To the Arizona Mathematics Standards**

Arizona Mathematics Standards Grade 2	Investigations 3 in Number, Data, and Space ©2017 Grade 2
2.MD.B Relate addition and subtraction to length.	
2.MD.B.5 Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same unit.	Unit 6: 1.5, 1.6, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6
2.MD.B.6 Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram.	Unit 1: 1.1, 1.2, 1.3, 1.6, 2.2, 2.6, 3.3, 3.5, 3.7, 4.1, 4.2, 4.4, 4.5 Unit 2: 2.1, 3.4 Unit 3: 1.4, 1.5, 1.6, 1.7, 1.8, 2.1, 2.2, 2.7, 2.8, 3.1, 3.3, 3.4, 3.6, 3.7 Unit 5: 1.1, 1.5, 3.1, 3.2, 3.5, 3.6 Unit 6: 2.1, 2.4 Unit 8: 1.1, 1.2, 1.3, 1.6, 1.7, 1.8, 1.9, 1.10, 1.11
2.MD.C Work with time and money.	
2.MD.C.7 Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.	Unit 2: 1.3, 2.2, 3.7, 3.8 Unit 3: 2.4, 2.9, 3.4, 3.6 Unit 4: 1.3, 1.6, 2.3 Unit 5: 1.1, 1.6, 3.1 Unit 6: 1.1, 1.3, 2.5 Unit 7: 1.2, 1.4, 2.3, 2.4, 2.5 Unit 8: 1.1, 1.4, 1.7, 1.8, 1.9
2.MD.C.8 Solve word problems involving collections of money, including dollar bills, quarters, dimes, nickels, and pennies. Record the total using \$ and ¢ appropriately.	Unit 1: 1.4, 3.3, 3.4, 3.5, 3.6, 3.7 Unit 2: 1.1 Unit 3: 1.3, 1.4, 1.5, 2.5, 2.7, 2.8, 2.9, 3.1, 3.2 Unit 4: 2.6 Unit 5: 1.4, 1.5, 1.6, 2.2 Unit 8: 1.4, 1.5, 1.6, 1.7, 1.9, 1.10, 1.11, 2.6, 2.9
2.MD.D Represent and interpret data.	
2.MD.D.9 Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.	Unit 4: 2.1, 2.4, 2.5, 2.6 Unit 6: 1.4, 1.6, 2.4, 2.5

**A Correlation of Investigations 3 in Number, Data, and Space ©2017
To the Arizona Mathematics Standards**

Arizona Mathematics Standards Grade 2	Investigations 3 in Number, Data, and Space ©2017 Grade 2
2.MD.D.10 Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in the graph.	Unit 4: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.4
Geometry (G)	
2.G.A Reason with shapes and their attributes.	
2.G.A.1 Identify and describe specified attributes of two-dimensional and three-dimensional shapes, according to the number and shape of faces, number of angles, and the number of sides and/or vertices. Draw two-dimensional shapes based on the specified attributes (e.g., triangles, quadrilaterals, pentagons, and hexagons).	Unit 1: 1.2, 1.3, 1.4, 1.5 Unit 2: 1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 3.1
2.G.A.2 Partition a rectangle into rows and columns of same-size rectangles and count to find the total number of rectangles.	Unit 2: 2.3, 2.4, 2.5, 2.6 Unit 7: 2.2, 2.4, 2.6
2.G.A.3 Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, fourths, half of, third of, fourth of, and describe the whole as two halves, three thirds, or four fourths. Recognize that equal shares of identical wholes need not have the same shape.	Unit 2: 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8
Standards for Mathematical Practice	
2.MP.1 Make sense of problems and persevere in solving them.	Unit 1: 1.1, 1.2, 1.4, 2.1, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 4.1, 4.2 Unit 8: 1.1, 1.3, 1.5, 1.6, 1.7, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8
2.MP.2 Reason abstractly and quantitatively.	Unit 3: 1.2, 1.5, 1.6, 1.7, 1.8, 2.3, 2.4, 2.6, 2.7, 2.8, 3.1, 3.2, 3.3, 3.4, 3.7 Unit 7: 1.1, 1.2, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6
2.MP.3 Construct viable arguments and critique the reasoning of others.	Unit 2: 1.1, 1.2, 1.3, 2.2, 3.1, 3.2, 3.3, 3.4, 3.5 Unit 7: 1.2, 1.3, 1.4, 2.1, 2.3, 2.6

**A Correlation of Investigations 3 in Number, Data, and Space ©2017
To the Arizona Mathematics Standards**

Arizona Mathematics Standards Grade 2	Investigations 3 in Number, Data, and Space ©2017 Grade 2
2.MP.4 Model with mathematics.	Unit 4: 1.1, 1.4, 1.5, 1.6, 2.3, 2.4, 2.5, 2.6 Unit 5: 1.3, 1.5, 1.6, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7
2.MP.5 Use appropriate tools strategically.	Unit 3: 1.1, 1.2, 1.4, 1.5, 1.6, 1.7, 1.8, 2.3, 2.4, 2.6, 2.7, 2.8, 3.1, 3.2, 3.3, 3.4, 3.7 Unit 6: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3, 2.4, 2.5
2.MP.6 Attend to precision.	Unit 4: 1.1, 1.4, 1.5, 1.6, 2.4, 2.6 Unit 6: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.4
2.MP.7 Look for and make use of structure.	Unit 2: 1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.3, 2.5, 3.5 Unit 5: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3, 2.5, 2.6, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7
2.MP.8 Look for and express regularity in repeated reasoning.	Unit 1: 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.6, 2.7, 2.8, 3.2, 3.5, 4.2 Unit 8: 1.2, 1.3, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 1.11, 2.4, 2.5, 2.7, 2.8

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Grade 3 Units

Unit 1 - Understanding Equal Groups

Unit 2 - Graphs and Line Plots

Unit 3 - Travel Stories and Collections

Unit 4 - Perimeter, Area, and Polygons

Unit 5 - Cube Patterns, Arrays, and Multiples of 10

Unit 6 - Fair Shares and Fractions on Number Lines

Unit 7 - How Many Miles?

Unit 8 - Larger Numbers and Multi-Step Problems

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Arizona Mathematics Standards Grade 3	Investigations 3 in Number, Data, and Space ©2017 Grade 3
Operations and Algebraic Thinking (OA)	
3.OA.A Represent and solve problems involving whole number multiplication and division.	
3.OA.A.1 Interpret products of whole numbers as the total number of objects in equal groups (e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each).	Unit 1: Investigation 1, 2.1, 2.3, 2.4, 2.5, 2.6, 3.1, 3.2, 3.3, 4.2, 4.3, 4.5, 4.6 Unit 5: 1.1, 1.2, 1.3
3.OA.A.2 Interpret whole number quotients of whole numbers (e.g., interpret $56 \div 8$ 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).	Unit 1: 4.1, 4.2, 4.3, 4.5, 4.6 Unit 5: 1.2, 1.3, 1.4, 1.5, 3.6 Unit 8: 1.1, 1.3
3.OA.A.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities.	Unit 1: Investigation 1, 2.3, 2.4, 2.5, 2.6, Investigation 4 Unit 5: 1.4, 1.5, 2.5, 2.6, 3.1, 3.2, 3.3, 3.5, 3.6 Unit 8: 1.1, 1.3, 1.4, 1.5, 1.6, 2.1, 2.3, 2.4, 2.5
3.OA.A.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 $8 \times \square = 48$, $5 = \square \div 3$, $6 \times 6 = \square$.	Unit 1: 1.3, 1.4, 2.6, 4.3, 4.4, 4.5, 4.6 Unit 2: TMM 1.1, TMM 1.2 Unit 5: 2.4, 3.4 Unit 7: TMM1.1, TMM 1.2, TMM 1.3, TMM 1.4, TMM 1.5, TMM 1.6, TMM 1.7, TMM 3.1, TMM 3.2 Unit 8: 1.1
3.OA.B Understand properties of multiplication and the relationship between multiplication and division.	
3.OA.B.5 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.)	Unit 1: 2.2, 2.3, 2.4, 2.5, 2.6, 3.1, 3.2, 3.4, 3.5, 3.6, 3.7 Unit 5: Investigation 2, 3.3, 3.4 Unit 8: 1.3, 1.6, Investigation 2, 3.4
3.OA.B.6 Understand division as an unknown-factor problem (e.g., find $32 \div 8$ by finding the number that makes 32 when multiplied by 8).	Unit 1: 4.1, 4.2, 4.4, 4.5, 4.6 Unit 5: 1.4, 1.5, 2.4 Unit 7: TMM 3.1, TMM 3.2, TMM3.3 Unit 8: 1.1, 1.2, 1.6, 2.3
3.OA.C Multiply and divide within 100.	

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Arizona Mathematics Standards Grade 3	Investigations 3 in Number, Data, and Space ©2017 Grade 3
3.OA.C.7 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.	Unit 1: 3.3, 3.4, 3.5, 3.6, 3.7, 4.5, 4.6 Unit 3: TMM 3.1, TMM 3.2, TMM 3.3, TMM 3.4 Unit 5: Investigation 2, 3.1, 3.2, 3.4, 3.5, 3.6 Unit 6: TMM 2.1, TMM 2.2, TMM 2.3 Unit 8: Investigation 1, Investigation 2
3.OA.D Solve problems involving the four operations, and identify and explain patterns in arithmetic.	
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. Utilize understanding of the Order of Operations when there are no parentheses.	Unit 2: 1.5 Unit 4: 1.3, 1.4, 1.5 Unit 5: 3.3, 3.4, 3.5, 3.6 Unit 7: 1.3, 1.4, 1.5, 1.6, 1.7, 2.4, 2.5, 3.5, 3.6 Unit 8: 2.4, 2.5, Investigation 3
3.OA.D.9 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).	Unit 1: 1.3, 2.1, 2.2, 2.5, 2.6, 3.5, 3.6, 3.7 Unit 3: 1.4, 2.1 Unit 5: 1.1, 1.2, 1.3, 3.1, 3.2 Unit 7: TMM 1.1, TMM 1.2, TMM 1.3, TMM 1.4, TMM 1.5, TMM 1.6, TMM 1.7 Unit 8: 1.2, Investigation 3
3.OA.D.10 When solving problems, assess the reasonableness of answers using mental computation and estimation strategies including rounding.	Unit 3: 2.4, 3.5, 5.2, 5.3, 5.4, 5.5, 5.6 Unit 5: 1.5, 2.3, 2.5, 2.6, 3.3, 3.4, 3.5, 3.6 Unit 7: 2.1, 2.2, 2.3, 2.5, 3.2, 3.4, 3.5, 3.6 Unit 8: 1.2, 3.1, 3.2, 3.3, 3.4, 3.5
Number and Operations in Base Ten (NBT)	
3.NBT.A Use place value understanding and properties of operations to perform multi-digit arithmetic.	
3.NBT.A.1 Use place value understanding to round whole numbers to the nearest 10 or 100.	Unit 3: 2.4, 3.2, 3.3, 3.4, 3.5 Unit 4: TMM 1.1, TMM 1.2, TMM 1.3, TMM 1.4, TMM 1.5, TMM 2.4, TMM 2.5, TMM 2.6, TMM 3.2, TMM 3.5 Unit 5: 1.3, TMM 1.3, TMM 1.4, TMM 1.5, TMM 2.1, TMM 2.2 Unit 7: TMM 2.1, TMM 2.2, TMM 2.3, TMM 2.4, TMM 2.5, TMM 3.4, TMM 3.5, TMM 3.6 Unit 8: TMM 2.1, TMM 2.2, TMM 2.3, TMM 2.4, TMM 2.5, TMM 3.1, TMM 3.2, TMM 3.3

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Arizona Mathematics Standards Grade 3	Investigations 3 in Number, Data, and Space ©2017 Grade 3
3.NBT.A.2 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.	<p>Unit 1: TMM 3.2, TMM 3.3, TMM 4.3, TMM 4.4, TMM 4.5, TMM 4.6</p> <p>UNIT 2: TMM 2.1, TMM 2.2, TMM 2.3</p> <p>Unit 3: 1.2, 1.5, 2.3, 2.4, 3.2, 3.3, 3.4, 3.5, Investigation 4, Investigation 5</p> <p>Unit 4: TMM 1.1, TMM 1.2, TMM 1.3, TMM 1.4, TMM 1.5, TMM 2.4, TMM 2.5, TMM 2.6, TMM 3.2, TMM 3.5</p> <p>Unit 5: 1.3, TMM 1.3, TMM 1.4, TMM 1.5, TMM 2.1, TMM 2.2, TMM 3.5, TMM 3.6</p> <p>Unit 6: TMM 1.1, TMM 1.2, TMM 1.3, TMM 1.4, TMM 1.5, TMM 2.1, TMM 2.2, TMM 2.3</p> <p>Unit 7: Investigation 1, Investigation 2, Investigation 3</p>
3.NBT.A.3 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., 9×80 , 5×60).	Unit 5: 3.1, 3.2, 3.4, 3.5
Number and Operations – Fractions (NF)	
3.NF.A Understand fractions as numbers.	
3.NF.A.1 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 $1/b$.	Unit 6: 1.1, 1.2, 1.3, 1.4, 1.7, 1.8, 2.1, 2.3, 2.4, 2.5
3.NF.A.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. 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.	Unit 6: 1.5, 2.2
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.	Unit 6: 1.5, 1.6, 1.7, 2.2, 2.5

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Arizona Mathematics Standards Grade 3	Investigations 3 in Number, Data, and Space ©2017 Grade 3
c. Understand a fraction $1/b$ as a special type of fraction that can be referred to as a unit fraction (e.g. $1/2$, $1/4$).	Unit 6: 1.1, 1.2, 1.3, 1.4, 1.7, 1.8, 2.1, 2.3, 2.4, 2.5
3.NF.A.3 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.	Unit 6: 1.4, 1.5, 1.7, 2.1, 2.3, 2.4
b. Recognize and generate simple equivalent fractions. Explain why the fractions are equivalent.	Unit 6: 1.4, 1.5, 1.7, 2.1, 2.3, 2.4
c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers.	Unit 6: 1.3, 1.5, 1.7, 2.2
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.	Unit 6: 1.2, 2.2, 2.3, 2.4, 2.5
Measurement and Data (MD)	
3.MD.A Solve problems involving measurement.	
3.MD.A.1a 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).	Unit 3: TMM 4.4, TMM 4.5, TMM 5.1, TNN 5.4, TMM 5.5, TMM 5.6 Unit 6: TMM 1.6, TMM 1.7, TMM 1.8, TMM 2.4, TMM 2.5 Unit 8: TMM 1.1, TMM 1.2, TMM 1.3, TMM 1.4, TMM 1.5, TMM 1.6, TMM 3.4, TMM 3.5
3.MD.A.1b Solve word problems involving money through \$20.00, using symbols \$, ".", ¢.	Unit 3: 3.1, 4.1, 5.3 Unit 7: 3.3, 3.4, 3.5 Unit 8: 1.5

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Arizona Mathematics Standards Grade 3	Investigations 3 in Number, Data, and Space ©2017 Grade 3
3.MD.A.2 Measure and estimate liquid volumes and masses of objects using metric units. (Excludes compound units such as cm ³ 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”).	Unit 7: 1.1, 1.2, 1.4, 1.5, 1.6, 1.7
3.MD.B Represent and interpret data.	
3.MD.B.3 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.	Unit 2: 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 2.6
3.MD.B.4 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.	Unit 2: 2.2, 2.4, 2.5, 2.6 Unit 6: 1.6
3.MD.C Geometric measurement: Understand concepts of area and perimeter.	
3.MD.C.5 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.	Unit 4: 2.2, 2.3, 2.5, 2.6, 2.7
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.	Unit 4: 2.2, 2.3, 2.4, 2.5, 2.6, 2.7
3.MD.C.6 Measure areas by counting unit squares (e.g., square cm, square m, square in, square ft, and improvised units).	Unit 4: 2.2, 2.3, 2.4, 2.5, 2.6, 2.7

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3.MD.C.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.	Unit 1: 3.1, 3.3, 3.4 Unit 4: 2.4, 2.5, 2.6, 2.7
b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real-world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.	Unit 1: 3.3, 3.4, 3.5 Unit 5: 2.1
c. Use tiling to show that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning.	Unit 1: 3.5 Unit 5: 2.1, 2.2, 2.6 Unit 8: 2.2
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.	Unit 4: 2.5, 2.6, 2.7, 3.5
3.MD.C.8 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.	Unit 4: Investigation 1, 2.4, 3.4, 3.5 Unit 7: 1.7
Geometry (G)	
3.G.A Reason with shapes and their attributes.	
3.G.A.1 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.	Unit 4: 3.3, 3.4, 3.5

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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. (Grade 3 expectations are limited to fractions with denominators $b = 2,3,4,6,8$.)	Unit 6: 1.1, 1.2, 1.4, 1.7, 1.8, 2.5
Standards for Mathematical Practice	
3.MP.1 Make sense of problems and persevere in solving them.	Unit 1: 1.1, 1.3, 1.4, 2.3, 2.4, 2.5, 4.6 Unit 7: 1.4, 1.5, 1.6, 1.7, 3.1, 3.4, 3.5
3.MP.2 Reason abstractly and quantitatively.	Unit 3: 1.2, 1.3, 1.4, 3.1, 4.2, 5.3, 5.5 Unit 5: 1.2, 2.1, 2.3, 3.4, 3.5
3.MP.3 Construct viable arguments and critique the reasoning of others.	Unit 4: 2.2, 2.3, 2.5, 2.6, 2.7, 3.2, 3.3 Unit 7: 1.5, 1.6, 1.7, 2.1, 2.5, 3.3, 3.4
3.MP.4 Model with mathematics.	Unit 2: 1.1, 1.5, 1.6, 1.9, 2.1, 2.2, 2.5 Unit 6: 1.1, 1.3, 1.4, 1.8, 2.2, 2.3, 2.4
3.MP.5 Use appropriate tools strategically.	Unit 2: 1.2, 1.4, 1.5, 1.7, 2.1, 2.2, 2.5 Unit 6: 1.2, 1.4, 1.5, 2.3, 2.4
3.MP.6 Attend to precision.	Unit 4: 1.2, 1.3, 2.6, 2.7 Unit 8: 1.2, 1.5, 1.6, 2.5, 3.2, 3.3
3.MP.7 Look for and make use of structure.	Unit 3: 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 3.2, 3.3, 3.4, 4.2, 5.2, 5.4, 5.5 Unit 5: 1.1, 1.5, 2.1, 2.2, 2.5, 2.6, 3.2, 3.5
3.MP.8 Look for and express regularity in repeated reasoning.	Unit 1: 2.2, 3.2, 3.3, 3.4 Unit 8: 1.2, 3.1, 3.2, 3.3, 3.5

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Grade 4 Units

- Unit 1 - Arrays, Factors, and Multiplicative Comparison**
- Unit 2 - Generating and Representing Measurement Data**
- Unit 3 - Multiple Towers and Cluster Problems**
- Unit 4 - Measuring and Classifying Shapes**
- Unit 5 - Large Numbers and Landmarks**
- Unit 6 - Fraction Cards and Decimal Grids**
- Unit 7 - How Many Packages and Groups?**
- Unit 8 - Penny Jars and Towers**

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Arizona Mathematics Standards Grade 4	Investigations 3 in Number, Data, and Space ©2017 Grade 4
Operations and Algebraic Thinking (OA)	
4.OA.A Use the four operations with whole numbers to solve problems.	
4.OA.A.1 Represent verbal statements of multiplicative comparisons as multiplication equations. Interpret a multiplication equation as a comparison (e.g., 35 is the number of objects in 5 groups, each containing 7 objects, and is also the number of objects in 7 groups, each containing 5 objects).	Unit 1: 1.5, 1.6, 1.8 Unit 3: 2.5
4.OA.A.2 Multiply or divide within 1000 to solve word problems involving multiplicative comparison (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison).	Unit 1: 1.5, 1.6, 1.8 Unit 3: 1.4, 2.5, 3.6 Unit 7: 2.4, 2.5
4.OA.A.3 Solve multistep word problems using the four operations, including problems in which remainders must be interpreted. Understand how the remainder is a fraction of the divisor. Represent these problems using equations with a letter standing for the unknown quantity.	Unit 3: 1.1 Unit 4: 1.4, 1.5 Unit 5: 2.6, 2.7, 3.3, 3.4, 3.5, 3.6 Unit 7: 1.2, 3.4, 3.5, 3.6 Unit 8: Investigation 1
4.OA.B Gain familiarity with factors and multiples.	
4.OA.B.4 Find all factor pairs for a whole number in the range 1 to 100 and understand that a whole number is a multiple of each of its factors.	Unit 1: 1.1, 1.2, 1.3, 1.6, 1.7, 1.8, Investigation 2 Unit 3: TMM 1.4, TMM 2.1, TMM 2.2, 3.1, TMM 3.1, 3.2, TMM 3.2, TMM 3.3
4.OA.C Generate and analyze patterns.	
4.OA.C.5 Generate a number pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself and explain the pattern informally (e.g., given the rule “add 3” and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers).	Unit 8: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10

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Arizona Mathematics Standards Grade 4	Investigations 3 in Number, Data, and Space ©2017 Grade 4
4.OA.C.6 When solving problems, assess the reasonableness of answers using mental computation and estimation strategies including rounding.	Unit 3: 1.1 Unit 4: 1.4, 1.5 Unit 5: 2.6, 2.7, 3.3, 3.4, 3.5, 3.6 Unit 7: 1.2, 3.4, 3.5, 3.6 Unit 8: Investigation 1
Number and Operations in Base Ten (NBT)	
4.NBT.A Generalize place value understanding for multi-digit whole numbers.	
4.NBT.B.4 Fluently add and subtract multi-digit whole numbers using a standard algorithm.	Unit 4 TMM 1.1, TMM 1.2, TMM 1.3, TMM 1.4, TMM 1.5, TMM 3.1, TMM 3.2, TMM 3.3, TMM 3.4 Unit 5: 1.4, 1.5, 1.6, 2.4, 2.5, 2.6, 2.7, 3.4, 3.5, 3.6 Unit 6: TMM 1.1, TMM 1.2, TMM 1.3, TMM 1.4, TMM 1.5, TMM 1.6, TMM 3.1, TMM 3.2, TMM 3.3, TMM 3.4, TMM 3.5, TMM 3.6
4.NBT.B.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	Unit 1: 1.1, 1.4, 1.6 Unit 3: Investigation 1, 2.4, 2.6, Investigation 3 Unit 4: 1.2, 4.5, 4.6 Unit 5: TMM 1.1, TMM 1.2, TMM 1.3, TMM 1.4, TMM 1.5, TMM 1.6, TMM 2.5, TMM 2.6, TMM 2.7, TMM 3.4, TMM 3.5, TMM 3.6 Unit 7: Investigation 1, Investigation 2, 3.2, 3.4, 3.5, 3.6 Unit 8: TMM 1.1, TMM 1.3, TMM 1.4, TMM 1.5
4.NBT.B.6 Demonstrate understanding of division by finding whole-number quotients and remainders with up to four-digit dividends and one-digit divisors.	Unit 3: 2.1, 2.2, 2.3, 2.4, 2.5, 3.3, 3.4, 3.7 Unit 4: 4.5, 4.6 Unit 7: Investigation 3 Unit 8: TMM 1.1, TMM 1.2, TMM 1.4, TMM 1.5
Number and Operations - Fractions (NF)	
4.NF.A Extend understanding of fraction equivalence and ordering.	
4.NF.A.1 Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to understand and generate equivalent fractions.	Unit 6: 1.1, 1.2, 1.3, 1.5, 1.6, 2.2, 2.3, 2.4, 2.5, 2.6, 2.8
4.NF.A.2 Compare two fractions with different numerators and different denominators (e.g., by creating common denominators or numerators and by comparing to a benchmark fraction).	Unit 6: 2.1, 2.2, 2.3, 2.4, 2.5, 2.6

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a. Understand that comparisons are valid only when the two fractions refer to the same size whole.	Unit 6: 2.1, 2.2, 2.3, 2.4, 2.5, 2.6
b. Record the results of comparisons with symbols $>$, $=$, or $<$, and justify the conclusions.	Unit 6: 2.1, 2.2, 2.3, 2.4, 2.5, 2.6
4.NF.B Build fractions from unit fractions by applying and extending previous understanding of operations on whole numbers.	
4.NF.B.3 Understand a fraction a/b with $a > 1$ as a sum of unit fractions ($1/b$).	
a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.	Unit 6: 1.1, 1.2, 3.1, 3.2, 3.4
b. Decompose a fraction into a sum of fractions with the same denominator in more than one way (e.g., $3/8 = 1/8 + 1/8 + 1/8$; $3/8 = 2/8 + 1/8$; $2\ 1/8 = 1 + 1 + 1/8$ or $2\ 1/8 = 8/8 + 8/8 + 1/8$).	Unit 6: 1.1, 3.1
c. Add and subtract mixed numbers with like denominators (e.g., by using properties of operations and the relationship between addition and subtraction and/or by replacing each mixed number with an equivalent fraction).	Unit 6: 3.3, 3.4, 4.2, 4.3, 4.4
d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators.	Unit 6: 3.1, 3.2, 3.4, 4.2, 4.3, 4.4
4.NF.B.4 Build fractions from unit fractions.	
a. Understand a fraction a/b as a multiple of a unit fraction $1/b$. In general, $a/b = a \times 1/b$.	Unit 6: 4.1, 4.2, 4.3, 4.4
b. Understand a multiple of a/b as a multiple of a unit fraction $1/b$, and use this understanding to multiply a whole number by a fraction. In general, $n \times a/b = (n \times a)/b$.	Unit 6: 4.1, 4.2, 4.3, 4.4

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c. Solve word problems involving multiplication of a whole number by a fraction. For example, if each person at a party will eat $\frac{3}{8}$ of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?	Unit 6: 4.1, 4.2, 4.3, 4.4
4.NF.C Understand decimal notation for fractions, and compare decimal fractions.	
4.NF.C.5 Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 (tenths) and 100 (hundredths). For example, express $\frac{3}{10}$ as $\frac{30}{100}$, and $\frac{3}{10} + \frac{4}{100} = \frac{34}{100}$. (Note: Students who can generate equivalent fractions can develop strategies for adding fractions with unlike denominators in general. But addition and subtraction with unlike denominators, in general, is not a requirement at this grade.)	Unit 6: 1.4, 1.5, 3.5, 3.6, 4.2, 4.3, 4.4
4.NF.C.6 Use decimal notation for fractions with denominators 10 (tenths) or 100 (hundredths), and locate these decimals on a number line.	Unit 6: 1.4, 1.5, 1.6, 2.7, 2.8, 3.5
4.NF.C.7 Compare two decimals to hundredths by reasoning about their size. Understand that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols $>$, $=$, or $<$.	Unit 6: 2.7, 2.8
Measurement and Data (MD)	
4.MD.A Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.	
4.MD.A.1 Know relative sizes of measurement units within one system of units which could include km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit and in a smaller unit in terms of a larger unit. For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1,12), (2,24), (3,36).	Unit 2: 1.2, 2.1, 2.2, 2.3 Unit 4: Investigation 1 Unit 7: 1.1, 1.2

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Arizona Mathematics Standards Grade 4	Investigations 3 in Number, Data, and Space ©2017 Grade 4
4.MD.A.2 Use the four operations to solve word problems and problems in real-world context involving distances, intervals of time (hr, min, sec), liquid volumes, masses of objects, and money, including decimals and problems involving fractions with like denominators, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using a variety of representations, including number lines that feature a measurement scale.	Unit 2: 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.4, 2.5, 2.6 Unit 4: 1.3, 1.4, 1.5 Unit 5: 1.1, 1.2, 1.3, 2.1, 2.6, 2.7, 3.4, 3.5, 3.6 Unit 6: 3.5, 3.6, 4.2, 4.3, 4.4 Unit 7: 1.2, 3.6 Unit 8: TMM 1.6, 1.7, TMM 1.7, 1.8TMM 1.8, TMM 1.9, TMM 1.10
4.MD.A.3 Apply the area and perimeter formulas for rectangles in mathematical problems and problems in real-world contexts including problems with unknown side lengths.	Unit 4: 1.4, 1.5, 4.5, 4.6
4.MD.B Represent and interpret data.	
4.MD.B.4 Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Solve problems involving addition and subtraction of fractions by using information presented in line plots.	Unit 2: 1.1, 2.3, 2.5, 2.6 Unit 6: 3.3
4.MD.C Geometric measurement: Understand concepts of angle and measure angles.	
4.MD.C.5 Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:	
a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through $\frac{1}{360}$ of a circle is called a "one-degree angle," and can be used to measure angles.	Unit 4: 3.3, 3.4
b. An angle that turns through n one-degree angles is said to have an angle measure of n degrees.	Unit 4: 3.1, 3.3, 3.4
4.MD.C.6 Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.	Unit 4: 3.3, 3.4, 4.6

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4.MD.C.7 Understand angle measures as additive. (When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts.) Solve addition and subtraction problems to find unknown angles on a diagram within mathematical problems as well as problems in real-world contexts.	Unit 4: 3.1, 3.2, 3.4
Geometry (G)	
4.G.A Draw and identify lines and angles, and classify shapes by properties of their lines and angles.	
4.G.A.1 Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.	Unit 4: 2.1, 2.2, 2.5, 3.2
4.G.A.2 Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size (e.g., understand right triangles as a category, and identify right triangles).	Unit 4: 2.1, 2.2, 2.3, 2.4, 2.5
4.G.A.3 Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.	Unit 4: 4.1, 4.2, 4.3, 4.4
Standards for Mathematical Practice	
4.MP.1 Make sense of problems and persevere in solving them.	Unit 1: 1.1, 1.5, 1.6, 1.8, 2.1 Unit 7: 1.1, 1.3, 1.6, 1.7, 2.1, 2.2, 3.3, 3.4
4.MP.2 Reason abstractly and quantitatively.	Unit 3: 1.1, 1.4, 2.1, 2.2, 2.3, 3.3 Unit 7: 1.2, 1.4, 1.5, 2.1, 2.4, 2.5, 3.1, 3.5
4.MP.3 Construct viable arguments and critique the reasoning of others.	Unit 2: 1.2, 1.4, 1.5, 2.4, 2.5 Unit 6: 1.1, 1.2, 1.5, 1.6, 2.2, 2.4, 2.5, 2.6, 3.3, 3.6, 4.1, 4.3
4.MP.4 Model with mathematics.	Unit 2: 1.1, 1.5, 2.1, 2.4 Unit 8: 1.2, 1.3, 1.5, 1.6, 1.7, 1.9

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Arizona Mathematics Standards Grade 4	Investigations 3 in Number, Data, and Space ©2017 Grade 4
4.MP.5 Use appropriate tools strategically.	Unit 4: 1.1, 1.3, 1.4, 1.5, 2.2, 3.1, 3.2, 3.3, 3.4, 4.1, 4.4 Unit 5: 1.2, 1.3, 1.4, 1.6, 2.1, 2.2, 2.4, 2.5, 3.1, 3.6
4.MP.6 Attend to precision.	Unit 4: 1.2, 1.3, 1.4, 1.5, 2.3, 3.1, 3.3, 4.1, 4.3, 4.4, 4.5 Unit 6: 1.1, 1.4, 1.6, 2.1, 2.3, 2.5, 2.8, 3.1, 4.1, 4.2, 4.3
4.MP.7 Look for and make use of structure.	Unit 3: 1.1, 1.3, 2.1, 2.5, 3.1, 3.2, 3.4, 3.5, 3.6 Unit 5: 1.1, 1.2, 1.4, 1.5, 1.6, 2.2, 2.3, 2.4, 3.1, 3.2, 3.4
4.MP.8 Look for and express regularity in repeated reasoning.	Unit 1: 1.2, 1.3, 1.6, 2.1, 2.2 Unit 8: 1.1, 1.2, 1.5, 1.6, 1.7, 1.8

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Grade 5 Units

Unit 1 - Puzzles, Clusters, and Towers

Unit 2 - Prisms and Solids

Unit 3 - Rectangles, Clocks, and Tracks

Unit 4 - How Many People and Teams?

Unit 5 - Temperature, Height, and Growth

Unit 6 - Between 0 and 1

Unit 7 - Races, Arrays, and Grids

Unit 8 - Properties of Polygons

**A Correlation of Investigations 3 in Number, Data, and Space ©2017
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Arizona Mathematics Standards Grade 5	Investigations 3 in Number, Data, and Space ©2017 Grade 5
Operations and Algebraic Thinking (OA)	
5.OA.A Write and interpret numerical expressions	
5.OA.A.1 Use parentheses and brackets in numerical expressions, and evaluate expressions with these symbols (Order of Operations).	Unit 1: 1.1, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 3.4, 3.5, 3.6, 3.7 Unit 3: 2.3, 2.4, 2.5, 3.1, 3.2 Unit 4: 2.1 Unit 5: 1.5, 1.6, 1.7, 2.4, 2.5, 2.6, 2.7 Unit 8: 2.1, 2.2, 2.3, 2.4, 2.5
5.OA.A.2 Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them (e.g., express the calculation "add 8 and 7, then multiply by 2" as $2 \times (8 + 7)$). Recognize that $3 \times (18,932 + 921)$ is three times as large as $18,932 + 921$, without having to calculate the indicated sum or product).	Unit 1: 1.2, 2.3, 2.4, 2.5, 2.7, 3.6, 3.7 Unit 3: 3.3, 3.4 Unit 5: 2.5
5.OA.B Analyze patterns and relationships.	
5.OA.B.3 Generate two numerical patterns using two given rules (e.g., generate terms in the resulting sequences). Identify and explain the apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane (e.g., given the rule "add 3" and the starting number 0, and given the rule "add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence).	Unit 5: 1.6, 1.7, 2.3, 2.4, 2.6, 2.7 Unit 8: 2.2, 2.3, 2.4, 2.5
5.OA.B.4 Understand primes have only two factors and decompose numbers into prime factors.	This standard was addressed Investigations 3 in Number, Data and Space Grade 4, please see: Unit 1: 1.6 Unit 2: 1.1, 2.2, 2.5

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Arizona Mathematics Standards Grade 5	Investigations 3 in Number, Data, and Space ©2017 Grade 5
Number and Operations in Base Ten (NBT)	
5.NBT.A Understand the place value system.	
5.NBT.A.1 Apply concepts of place value, multiplication, and division to understand that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.	Unit 6: 1.2, 1.6, 1.7 Unit 7: 3.1, 3.2, 3.4, 3.5, 3.6, 3.7
5.NBT.A.2 Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10.	Unit 1: 2.3, 2.4, 2.5, 3.2, 3.4, 3.6, 3.7 Unit 4: 1.4, 1.5, 2.1, 2.2, 2.6, 2.7, 3.1, 3.4, 3.5 Unit 5: 1.5, 1.6 Unit 7: 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10, 3.11
5.NBT.A.3 Read, write, and compare decimals to thousandths.	Unit 6: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9 Unit 7: 1.1, 1.2, 1.3, 1.4, 1.9, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3, 3.4
a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form.	Unit 6: 1.1, 1.2, 1.4, 1.5, 1.6, 1.7, 1.8, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.8, 2.9 Unit 7: 1.1, 1.2, 1.3, 1.4, 1.9, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3, 3.4
b. Compare two decimals to thousandths based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.	Unit 6: 1.1, 1.3, 1.4, 1.5, 1.7, 1.8, 2.3, 2.5, 2.6, 2.7, 2.8, 2.9 Unit 7: 1.2, 1.3, 1.4
5.NBT.A.4 Use place value understanding to round decimals to any place.	Unit 6: 1.6, 1.7, 1.8, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9 Unit 7: 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3, 3.4
5.NBT.B Perform operations with multi-digit whole numbers and with decimals to hundredths.	
5.NBT.B.5 Fluently multiply multi-digit whole numbers using a standard algorithm.	Unit 1: 1.1, 1.2 Unit 2: 1.3, 1.6, 1.7, 2.2, 2.3 Unit 3: 1.1, 2.1, 2.2, 2.3, 2.4, 2.5 Unit 4: 1.1, 1.2, 1.3, 1.4, 1.5, 2.4, 2.5, 2.6, 2.7, 3.1, 3.2, 3.3, 3.4, 3.5 Unit 5: 1.1, 1.4, 2.1, 2.2, 2.3, 2.5, 2.6 Unit 6: 1.3, 1.4, 2.1, 2.2, 2.3 Unit 7: 2.2 Unit 8: 2.3, 2.4, 2.5

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Arizona Mathematics Standards Grade 5	Investigations 3 in Number, Data, and Space ©2017 Grade 5
5.NBT.B.6 Apply and extend understanding of division to find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors.	Unit 1: 2.5, 2.6, 2.7, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7 Unit 2: 1.2, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3, 2.4 Unit 3: 1.1, 1.2, 2.1, 2.2 Unit 4: 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 3.1, 3.2, 3.3, 3.4, 3.5 Unit 5: 1.3, 2.1, 2.2, 2.3, 2.5 Unit 6: 1.3, 1.4, 1.5, 1.6, 2.1, 2.3 Unit 8: 2.2, 2.3
5.NBT.B.7 Add, subtract, multiply, and divide decimals to hundredths, connecting objects or drawings to strategies based on place value, properties of operations, and/or the relationship between operations. Relate the strategy to a written form.	Unit 6: 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9 Unit 7: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10, 3.11 Unit 8: 2.2
Number and Operations – Fractions (NF)	
5.NF.A Use equivalent fractions to add and subtract fractions.	
5.NF.A.1 Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators (e.g., $\frac{2}{3} + \frac{5}{4} = \frac{8}{12} + \frac{15}{12} = \frac{23}{12}$).	Unit 3: 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6 Unit 4: 1.1, 1.5 Unit 5: 1.1, 1.2, 1.3, 1.4 Unit 8: 2.3, 2.4, 2.5
5.NF.A.2 Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators by using a variety of representations, equations, and visual models to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers (e.g. recognize an incorrect result $\frac{2}{5} + \frac{1}{2} = \frac{3}{7}$, by observing that $\frac{3}{7} < \frac{1}{2}$).	Unit 3: 2.3, 2.5, 2.6, 2.7, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6 Unit 4: 1.1, 1.2, 1.3, 1.4, 1.5 Unit 6: 1.1, 1.2, 1.3

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Arizona Mathematics Standards Grade 5	Investigations 3 in Number, Data, and Space ©2017 Grade 5
5.NF.B Use previous understandings of multiplication and division to multiply and divide fractions.	
5.NF.B.3 Interpret a fraction as the number that results from dividing the whole number numerator by the whole number denominator ($a/b = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers. For example, interpret $3/4$ as the result of dividing 3 by 4, noting that $3/4$ multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people, each person has a share of size $3/4$. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?	Unit 7: 2.1, 2.2, 2.3, 2.4
5.NF.B.4 Apply and extend previous understandings of multiplication to multiply a fraction by a whole number and a fraction by a fraction.	Unit 7: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 1.11, 3.9, 3.10, 3.11 Unit 8: 1.4, 2.5
a. Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts. For example, use a visual fraction model to show $(2/3) \times 4 = 8/3$, and create a story context for this equation.	Unit 7: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 1.11, 3.9, 3.10, 3.11 Unit 8: 1.4, 2.5
b. Interpret the product of a fraction multiplied by a fraction $(a/b) \times (c/d)$. Use a visual fraction model and create a story context for this equation. For example, use a visual fraction model to show $(2/3) \times (4/5) = 8/15$, and create a story context for this equation. In general, $(a/b) \times (c/d) = ac/bd$.	Unit 7: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 1.11, 3.9, 3.10, 3.11 Unit 8: 1.4, 2.5
c. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.	Unit 7: 1.7, 1.8

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Arizona Mathematics Standards Grade 5	Investigations 3 in Number, Data, and Space ©2017 Grade 5
5.NF.B.5 Interpret multiplication as scaling (resizing), by:	
a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.	Unit 7: 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 1.11
b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number; explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1.	Unit 7: 1.3, 1.4, 1.5
5.NF.B.6 Solve problems in real-world contexts involving multiplication of fractions, including mixed numbers, by using a variety of representations including equations and models.	Unit 7: 1.1, 1.2, 1.3, 1.4, 1.5, 1.7, 1.8, 1.10, 1.11 Unit 8: 2.3, 2.4, 2.5
5.NF.B.7 Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.	Unit 7: 1.9, 1.10, 1.11, 2.1, 2.4, 3.9, 3.10, 3.11
a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. Use the relationship between multiplication and division to justify conclusions.	Unit 7: 1.10, 1.11, 2.1, 2.4
b. Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for $4 \div (1/5)$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to justify conclusions (e.g., $4 \div (1/5) = 20$ because $20 \times (1/5) = 4$).	Unit 7: 1.9, 1.11, 2.1, 2.4
c. Solve problems in real-world context involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, using a variety of representations.	Unit 7: 1.9, 1.10, 1.11, 3.9, 3.10, 3.11

**A Correlation of Investigations 3 in Number, Data, and Space ©2017
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Arizona Mathematics Standards Grade 5	Investigations 3 in Number, Data, and Space ©2017 Grade 5
Measurement and Data (MD)	
5.MD.A Convert like measurement units within a given measurement system.	
5.MD.A.1 Convert among different-sized standard measurement units within a given measurement system, and use these conversions in solving multi-step, real-world problems.	Unit 7: 3.8, 3.9, 3.10, 3.11 Unit 8: 1.1, 1.3, 2.1, 2.3
5.MD.B Represent and interpret data.	
5.MD.B.2 Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{8}$, $\frac{1}{2}$, $\frac{3}{4}$). Use operations on fractions for this grade to solve problems involving information presented in line plots. For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.	Unit 3: 3.4, 3.5, 3.6
5.MD.C Geometric measurement: Understand concepts of volume and relate volume to multiplication and to addition.	
5.MD.C.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement.	Unit 2: 1.1, 1.2, 1.5, 2.1, 2.4
a. A cube with side length 1 unit, called a “unit cube,” is said to have “one cubic unit” of volume, and can be used to measure volume.	Unit 2: 1.1, 1.2, 1.5, 2.1, 2.4
b. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.	Unit 2: 1.1, 1.2, 1.5, 2.1, 2.4
5.MD.C.4 Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.	Unit 2: 1.1, 1.2, 1.4, 2.1, 2.2, 2.3, 2.4
5.MD.C.5 Relate volume to the operations of multiplication and addition and solve mathematical problems and problems in real-world contexts involving volume.	Unit 2: 1.2, 1.3, 1.5, 1.6, 1.7, 1.8, 2.1, 2.2, 2.3, 2.4

**A Correlation of Investigations 3 in Number, Data, and Space ©2017
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Arizona Mathematics Standards Grade 5	Investigations 3 in Number, Data, and Space ©2017 Grade 5
a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes (e.g., to represent the associative property of multiplication).	Unit 2: 1.2, 1.3, 1.5, 1.6, 1.7, 1.8, 2.1, 2.2, 2.3, 2.4
b. Understand and use the formulas $V = l \times w \times h$ and $V = B \times h$, where in this case B is the area of the base ($B = l \times w$), for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths to solve mathematical problems and problems in real-world contexts.	Unit 2: 1.2, 1.5, 1.6, 2.1, 2.3, 2.4
c. Understand volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms, applying this technique to solve mathematical problems and problems in real-world contexts.	Unit 2: 1.6, 1.7, 1.8, 2.4
Geometry (G)	
5.G.A Graph points on the coordinate plane to solve mathematical problems as well as problems in real-world context.	
5.G.A.1 Understand and describe a coordinate system as perpendicular number lines, called axes, that intersect at the origin (0, 0). Identify a given point in the first quadrant of the coordinate plane using an ordered pair of numbers, called coordinates. Understand that the first number (x) indicates the distance traveled on the horizontal axis, and the second number (y) indicates the distance traveled on the vertical axis.	Unit 5: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 2.3, 2.4, 2.5, 2.6, 2.7
5.G.A.2 Represent real-world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.	Unit 5: 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 2.3, 2.4, 2.5, 2.6, 2.7

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Arizona Mathematics Standards Grade 5	Investigations 3 in Number, Data, and Space ©2017 Grade 5
5.G.B Classify two-dimensional figures into categories based on their properties.	
5.G.B.3 Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category.	Unit 8: 1.1, 1.2, 1.3, 1.4, 1.5
5.G.B.4 Classify two-dimensional figures in a hierarchy based on properties.	Unit 8: 1.1, 1.2, 1.3, 1.4, 1.5
Standards for Mathematical Practice	
5.MP.1 Make sense of problems and persevere in solving them.	Unit 1: 1.1, 1.3, 2.2, 2.4, 2.5, 3.2, 3.5 Unit 7: 1.1, 1.4, 1.7, 1.11, 2.1, 2.3, 3.2, 3.4, 3.5, 3.6, 3.8, 3.10
5.MP.2 Reason abstractly and quantitatively.	Unit 4: 1.2, 2.1, 2.4, 2.5, 3.1, 3.3, 3.4 Unit 8: 2.1, 2.2, 2.4, 2.5
5.MP.3 Construct viable arguments and critique the reasoning of others.	Unit 3: 1.1, 1.2, 1.5, 2.1, 2.2, 2.3, 2.6, 3.2, 3.3, 3.5 Unit 8: 1.1, 1.3, 1.5, 2.1, 2.3, 2.4, 2.5
5.MP.4 Model with mathematics.	Unit 2: 1.1, 1.4, 1.6, 1.7, 1.8, 2.2 Unit 5: 1.1, 1.2, 1.3, 1.4, 1.7, 2.1, 2.3, 2.5
5.MP.5 Use appropriate tools strategically.	Unit 2: 1.2, 1.5, 1.7, 2.1, 2.2, 2.3 Unit 5: 1.1, 1.2, 1.3, 1.6, 2.1, 2.5
5.MP.6 Attend to precision.	Unit 4: 1.1, 1.3, 2.1, 2.2, 2.4, 2.5, 2.7, 3.2 Unit 6: 1.1, 1.3, 1.4, 1.5, 1.6, 2.2, 2.4, 2.6, 2.7
5.MP.7 Look for and make use of structure.	Unit 1: 1.1, 1.2, 2.2, 2.4, 3.1, 3.4, 3.5, 3.6 Unit 6: 1.1, 1.3, 1.7, 1.8, 2.1, 2.4, 2.5, 2.8
5.MP.8 Look for and express regularity in repeated reasoning.	Unit 3: 1.1, 1.3, 1.4, 1.6, 2.1, 2.5, 2.7, 3.2, 3.3, 3.6 Unit 7: 1.3, 1.6, 1.8, 1.9, 1.10, 2.2, 2.3, 2.4, 3.3, 3.4, 3.8