

# Ganado Unified School District

## (MATH/3<sup>rd</sup> Grade)

### PACING Guide SY 2016-2017

Timeline & Resources	AZ College and Career Readiness Standard	Essential Question (HESS Matrix)	Learning Goal	Vocabulary (Content/Academic)
<b>1<sup>st</sup> QUARTER</b> Week 1 August 1  <b><u>CHAPTER 1</u></b>  Lesson 1: PLACE VALUE THROUGH THOUSANDS  Lesson 2: COMPARE NUMBERS  Lesson 3: ORDER NUMBERS  <ul style="list-style-type: none"> <li>○ Graphic Organizer</li> <li>○ Work Mat 1</li> <li>○ Base-ten blocks</li> <li>○ Work Mat 2</li> <li>○ Number cubes</li> <li>○ Newspapers/magazines</li> <li>○ Scissors</li> <li>○ Tape</li> <li>○ Glue</li> <li>○ Construction paper</li> <li>○ Online presentation</li> </ul>	3.NBT.1 Use place value understanding to round whole numbers to the nearest 10 or 100	<ul style="list-style-type: none"> <li>• How can numbers be <b>expressed</b>?</li> <li>• How many ways can you write a number?</li> <li>• How can numbers be <b>compared</b>?</li> <li>• How can numbers be <b>ordered</b>?</li> <li>• How do you use a place value chart?</li> <li>• How can you use place value to write different forms of numbers?</li> <li>• How do I tell the value of each digit in a number?</li> </ul>	I will be able to: <ul style="list-style-type: none"> <li>* <b>read</b> place value of whole numbers through thousands.</li> <li>* <b>write</b> place value of whole numbers through thousands</li> <li>* <b>identify</b> place value of whole numbers through thousands.</li> <li>* use place value to compare numbers.</li> <li>* Use a <b>number</b> line to order numbers through thousands.</li> <li>* Use place value to order numbers through thousands.</li> </ul>	<b><u>LESSON 1</u></b> digit place value standard form expanded form word form ones tens hundreds thousands  <b><u>LESSON 2</u></b> < less than >greater than = equal to  <b><u>LESSON 3</u></b> least greatest digit place value

<ul style="list-style-type: none"> <li>○ Academic vocabulary cards</li> </ul>				
<p><b>1<sup>st</sup> QUARTER</b></p> <p>Week 2 August 8</p> <p><b><u>CHAPTER 1</u></b></p> <p>Lesson 4: ROUND TO THE NEAREST TEN</p> <p>Lesson 5: ROUND TO THE NEAREST HUNDRED</p> <p>Lesson 6: PROBLEM-SOLVING INVESTIGATIONS-Use the Four-Step Plan</p> <ul style="list-style-type: none"> <li>○ Round Table</li> <li>○ Work Mat 1</li> <li>○ Base-ten blocks</li> <li>○ Connecting cubes</li> <li>○ Number cubes</li> <li>○ Number cards</li> <li>○ Index cards</li> <li>○ Lesson Animations</li> <li>○ My Math, pgs. 1-18</li> <li>○ Lesson Assessments, pg. 11-14</li> <li>○ Pair-Share</li> </ul>	<p>3.NBT.1</p> <p>Use place value understanding to round whole numbers to the nearest 10 or 100</p>	<ul style="list-style-type: none"> <li>• How do you change the value of a number?</li> <li>• What should you do to round a number that ends in 5, which is exactly halfway between two numbers?</li> <li>• Is it possible for a number to be rounded to the nearest ten and hundred and result in the same rounded number?</li> <li>• What facts do you know?</li> <li>• What do you need to find?</li> <li>• What strategy might be used to solve this problem?</li> <li>• Does your answer make sense?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* round numbers to the nearest ten</li> <li>* round numbers to the nearest hundred</li> <li>* use the four-step plan (UNDERSTAND, PLAN, SOLVE, AND CHECK) to solve problems</li> <li>*</li> </ul>	<p>Round</p> <p>Place value</p> <p>Ones</p> <p>Tens</p> <p>hundreds</p> <p>Understand</p> <p>Plan</p> <p>Solve</p> <p>Check</p> <p>Number Line</p> <p>Magic #</p> <p>Helper</p> <p>Nearest</p>
<p><b>1<sup>st</sup> QUARTER</b></p> <p>Week 3 August 15</p> <p><b><u>CHAPTER 2</u></b></p>	<p>3.NBT.2</p> <p><b>Fluently add and subtract within 1000 using strategies and algorithms based on place value; properties of operations, and/or</b></p>	<ul style="list-style-type: none"> <li>• What do the numbers have in common?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Use addition properties to add whole numbers.</li> <li>* Identify patterns in the addition table.</li> </ul>	<p>Associative Property</p> <p>Commutative Property</p> <p>Identity Property</p> <p>Mental math</p>

<p>Lesson 1: ADDITION PROPERTIES</p> <p>Lesson 2: PATTERNS IN THE ADDITION TABLE</p> <p>Lesson 3: ADDITION PATTERNS</p> <p>Lesson 4: ADD MENTALLY</p> <ul style="list-style-type: none"> <li>○ 0-5 # cubes</li> <li>○ Connecting cubes</li> <li>○ Counters</li> <li>○ Work Mat 1</li> <li>○ Base-ten blocks</li> <li>○ Work Mat 2</li> <li>○ Pair-Share</li> <li>○ Academic Vocabulary Cards</li> </ul>	<p>relationship between addition and subtraction.</p> <p>3.OA.D.9 <b>Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations.</b></p> <p>Note: <b>ADDITION ONLY</b></p>	<ul style="list-style-type: none"> <li>• How do you find patterns in numbers?</li> <li>• How do we use place value charts in math?</li> <li>• How can writing a number sentence help you solve a problem?</li> </ul>	<ul style="list-style-type: none"> <li>* Use place value to identify addition patterns</li> <li>* Use mental math addition strategies</li> </ul>	<p>Parentheses</p> <p>Regroup</p> <p>Pattern</p> <p>Estimate</p> <p>Reasonable</p> <p>Regroup</p> <p>Hundreds</p> <p>Ones</p> <p>Tens</p>
<p><b>1<sup>st</sup> QUARTER</b></p> <p>Week 4 August 22</p> <p><b><u>CHAPTER 2</u></b></p> <p>Lesson 5: ESTIMATE SUMS</p> <p>Lesson 6: HANDS-ON: USE MODELS TO ADD</p> <p>Lesson 7: ADD THREE-DIGIT NUMBERS</p> <ul style="list-style-type: none"> <li>○ Foldables</li> <li>○ Work Mat 1 &amp; 2</li> <li>○ Base-ten blocks</li> <li>○ Number cards</li> <li>○ Index cards</li> </ul>	<p>3.NBT.2 <b>Fluently add and subtract within 1000 using strategies and algorithms based on place value; properties of operations, and/or relationship between addition and subtraction.</b></p>	<ul style="list-style-type: none"> <li>• Why is it important to check for reasonableness?</li> <li>• How can we estimate?</li> <li>• How do we use place value to explore three-digit numbers?</li> <li>• Why we use estimation?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>• Estimate sums using rounding.</li> <li>• Use models to explore addition three-digit numbers.</li> <li>• Add three-digit numbers and use estimation to check my answer.</li> </ul>	<p>estimate</p> <p>addends</p> <p>addition sentence</p> <p>sum</p> <p>Reasonable</p> <p>Regroup</p> <p>Unknown</p> <p>Label</p> <p>Number line</p>

<ul style="list-style-type: none"> <li>○ Lesson Animations</li> <li>○ My Math, pgs. 1-18</li> <li>○ Word list</li> <li>○ Academic vocabulary cards</li> <li>○ Place value mats</li> <li>○ Turn and talk</li> <li>○ 0-5 # cubes</li> <li>○ 5-9 # cubes</li> </ul>				
<p><b>1<sup>st</sup> QUARTER</b></p> <p>Week 5 August 29</p> <p><b><u>CHAPTER 2</u></b></p> <p>Lesson 8: ADD FOUR-DIGIT NUMBERS</p> <p>Lesson 9: PROBLEM-SOLVING INVESTIGATION: Reasonable Answers</p> <ul style="list-style-type: none"> <li>○ Turn &amp; Talk</li> <li>○ Work Mat 1</li> <li>○ Base-ten blocks</li> <li>○ Number cards</li> <li>○ Index cards</li> <li>○ Lesson Animations</li> <li>○ My Math, pgs. 1-18</li> <li>○ Online Lesson Assessments</li> </ul>	<p>3.NBT.2 <b>Fluently add and subtract within 1000 using strategies and algorithms based on</b> place value; <b>properties of operations</b>, and/or relationship between addition and subtraction.</p> <p>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: <b>ADDITION ONLY</b></p>	<ul style="list-style-type: none"> <li>• How do we regroup four-digit numbers?</li> <li>• Why do we check our answers?</li> <li>• What's a strategy?</li> <li>• Why do we use visual aides?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>• Add four-digit numbers with regrouping</li> <li>• Check my answers for reasonableness</li> <li>• Use visual aides to determine my answer</li> <li>• Use a strategy</li> </ul>	<p>Bar diagram</p>
<p><b>1<sup>st</sup> QUARTER</b></p> <p>Week 6 September 5</p>	<p>3.NBT.2 <b>Fluently add and subtract within 1000 using strategies and algorithms based on</b> place value;</p>	<ul style="list-style-type: none"> <li>• How can we use strategies to subtract mentally?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>• Use strategies to subtract mentally</li> </ul>	<p>Difference Subtract</p> <p>Estimate</p>

<p><b><u>CHAPTER 3</u></b></p> <p>Lesson 1: SUBTRACT MENTALLY</p> <p>Lesson 2: ESTIMATE DIFFERENCES</p> <p>Lesson 3: PROBLEM-SOLVING INVESTIGATIONS: Estimate or Exact Answer</p> <ul style="list-style-type: none"> <li>○ Signal words</li> <li>○ Work Mat 1/2</li> <li>○ Base-ten blocks</li> <li>○ Number cards</li> <li>○ Index cards</li> <li>○ Lesson Animations</li> <li>○ My Math, pgs. 1-18</li> <li>○ Online Lesson Assessments</li> <li>○ 21<sup>st</sup> Century Assessments, Ch. 1 Test, pgs. 53-58</li> <li>○ Partner's Work</li> </ul>	<p><b>properties of operations</b>, and/or relationship between addition and subtraction.</p>	<ul style="list-style-type: none"> <li>• When do we use estimation in rounding?</li> <li>• How can we determine an estimate or an exact answer is needed to solve a problem?</li> </ul>	<ul style="list-style-type: none"> <li>• Estimate differences using rounding to the nearest ten or hundred</li> <li>• Determine whether an estimate or an exact answer is needed to solve a problem</li> <li>• Understand what facts I need to know</li> <li>• Plan the approach to solve a word problem</li> <li>• Solve a problem to find an estimate or right answer</li> <li>• Check my problem to make sure the answer first the facts given</li> </ul>	<p>Break apart</p> <p>Add</p> <p>Difference</p> <p>Equal sign</p> <p>Minus sign</p> <p>Subtract</p> <p>Sum</p> <p>addend</p> <p>Equal</p> <p>Estimate</p> <p>Plus sign</p> <p>Subtraction sentence</p>
<p><b>1<sup>st</sup> QUARTER</b></p> <p>Week 7 September 12</p> <p><b><u>CHAPTER 3</u></b></p> <p>Lesson 4: HANDS ON: SUBTRACT WITH REGROUPING</p>	<p>3.NBT.2</p> <p><b>Fluently add and subtract within 1000 using strategies and algorithms based on</b> place value; <b>properties of operations</b>, and/or relationship between addition and subtraction.</p> <p>3.OA.8</p>	<ul style="list-style-type: none"> <li>• How can you model subtracting with regrouping?</li> <li>• Who do we regroup for three-digit subtraction?</li> <li>• How can we regroup four-digit subtraction?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Model subtraction with regrouping</li> <li>* Subtract three-digit numbers with regrouping</li> <li>* Subtract four-digit numbers with regrouping</li> <li>* Subtract across zeros</li> <li>* Explain the steps I took to solve the problem</li> </ul>	<p>Inverse operations</p> <p>Regroup</p> <p>Round</p> <p>Digit</p> <p>Hundreds</p> <p>Tens</p> <p>Thousands</p>



<p>Lesson 5: SUBTRACT THREE-DIGIT NUMBERS</p> <p>Lesson 6: SUBTRACT FOUR-DIGIT NUMBERS</p> <p>Lesson 7: SUBTRACT ACROSS ZEROS</p> <ul style="list-style-type: none"> <li>○ Problem Solving Recording Sheet</li> <li>○ Teaching Tool 1</li> </ul>	<p>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: <b><i>SUBTRACTION ONLY</i></b></p>	<ul style="list-style-type: none"> <li>• When do we subtract zero?</li> </ul>		regroup
<p><b>1<sup>st</sup> QUARTER</b></p> <p>Week 8 September 19</p> <p><b><u>CHAPTER 4</u></b></p> <p>Lesson 1: HANDS ON-MODEL MULTIPLICATION</p> <p>Lesson 2: MULTIPLICATION AS REPEATED ADDITION</p> <p>Lesson 3: HANDS ON-MULTIPLY WITH ARRAYS</p> <p>Lesson 4: ARRAYS AND MULTIPLICATION</p> <ul style="list-style-type: none"> <li>○ 2 paper plates</li> <li>○ Vocabulary Cards</li> <li>○ Addition Table</li> <li>○ Flashcards</li> </ul>	<p>3.OA.1 Interpret products of whole numbers. (Interpret <math>5 \times 7</math> as the total number of objects in 5 groups of 7 objects each).</p> <p>3.OA.3 Use <b>multiplication</b> and division <b>within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities</b> (by using drawings and equations with a symbol for the unknown number to represent the problem).</p>	<ul style="list-style-type: none"> <li>• What strategy do I use to compute the sum found on an addition table?</li> <li>• How do I identify examples of factors and products?</li> <li>• Why do I use arrays to model multiplication?</li> <li>• How do I model arrays to multiply?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Use models to explore the meaning of multiplication</li> <li>* Relate multiplication and addition</li> <li>* Use arrays to explore and model multiplication</li> <li>* Use arrays to multiply</li> </ul>	<p>Equal groups Multiplication Multiplication sentence Multiply</p> <p>Factors Multiply Product</p> <p>Array Commutative property</p> <p>Array Commutative property</p>
<p><b>1<sup>st</sup> QUARTER</b></p> <p>Week 9 September 26</p>	<p>3.OA.3 Use <b>multiplication</b> and division <b>within 100 to solve word</b></p>	<ul style="list-style-type: none"> <li>• How do I use and make a table</li> </ul>	<ul style="list-style-type: none"> <li>• I will be able to:</li> <li>• Use the make a table strategy to solve a problem</li> </ul>	<p>Combination Tree diagram</p>

<p><b><u>CHAPTER 4</u></b></p> <p>Lesson 5: PROBLEM-SOLVING INVESTIGATION: MAKE A TABLE</p> <p>Lesson 6: USE MULTIPLICATION TO FIND COMBINATIONS</p> <ul style="list-style-type: none"> <li>○ paper</li> <li>○ Two-color counters</li> <li>○ Teaching Tool 17</li> <li>○ Vocabulary Cards</li> <li>○ Markers</li> <li>○ Red &amp; blue paper</li> <li>○ Colored pencils</li> </ul>	<p><b>problems</b> 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).</p>	<p>strategy to solve a problem?</p> <ul style="list-style-type: none"> <li>• How does a tree diagram solve the total number of combinations?</li> </ul>	<ul style="list-style-type: none"> <li>• Use multiplication to find the total number of combinations that can be made</li> </ul>	<p>table</p>
<p><b>1<sup>st</sup> QUARTER</b></p> <p>Week 10 October 3</p> <ul style="list-style-type: none"> <li>○ Math journals</li> <li>○ Scissors</li> <li>○ Glue sticks</li> <li>○ Markers</li> <li>○ Highlighters</li> </ul>	<p>3.OA.8</p> <p>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.</p> <p><b>NOTE: Addition and Subtraction ONLY</b></p>	<ul style="list-style-type: none"> <li>• How can following steps help me get to the right answer?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>• Explain the steps I followed to solve a problem</li> </ul>	<p>Sum Difference</p>

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## (MATH/3<sup>rd</sup> Grade)

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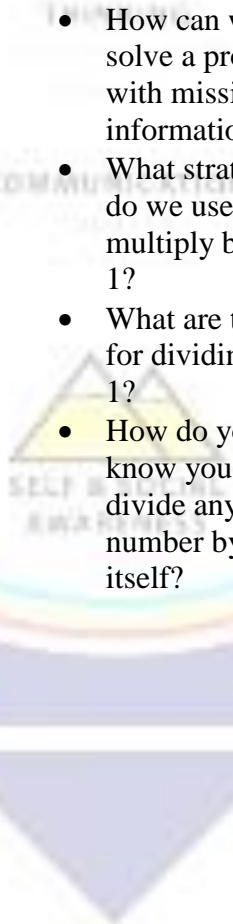
Timeline & Resources	AZ College and Career Readiness Standard	Essential Question (HESS Matrix)	Learning Goal	Vocabulary (Content/Academic)
<p><b>2<sup>nd</sup> QUARTER</b></p> <p>Week 11 October 10</p> <p><b><u>CHAPTER 5</u></b></p> <p>Lesson 1: HANDS ON-MODEL DIVISION</p> <p>Lesson 2: DIVISION AS EQUAL SHARING</p> <p>Lesson3: RELATE DIVISION AND SUBTRACTION</p> <ul style="list-style-type: none"> <li>○ Counters</li> <li>○ Plates</li> <li>○ Number line</li> <li>○ Lesson presentation</li> <li>○ Graphic organizer</li> <li>○ Vocabulary cards</li> </ul>	<p>3.OA.2</p> <p>Interpret whole numbers quotients of whole numbers (interpret <math>56 \div 8</math> 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 shares of 8 objects each.</p>	<ul style="list-style-type: none"> <li>• What does division mean?</li> <li>• How can we explore the meaning of division?</li> <li>• When do we model division as equal sharing?</li> <li>• How do we relate subtraction to division?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Explore two meanings of division</li> <li>* Model division as equal sharing</li> <li>* Use models to relate division and subtraction</li> </ul>	<p><b><u>LESSON 1</u></b></p> <p>Division</p> <p>Divide</p> <p>Partition</p> <p>Division sentence</p> <p><b><u>LESSON 2</u></b></p> <p>Divide</p> <p>Division sentence</p> <p><b><u>LESSON 3</u></b></p> <p>Repeated subtraction</p>



<p><b>2<sup>nd</sup> QUARTER</b></p> <p>Week 12 October 17</p> <p><b><u>CHAPTER 5</u></b></p> <p>Lesson 4: HANDS ON: RELATION DIVISION AND MULTIPLICATION</p> <p>Lesson 5: INVERSE OPERATIONS</p> <p>Lesson 6: PROBLEM-SOLVING INVESTIGATIONS: USE MODELS</p> <ul style="list-style-type: none"> <li>○ Counters</li> <li>○ Connection cubes</li> <li>○ Centimeter cubes</li> <li>○ Lesson presentation</li> </ul>	<p>3.OA.7</p> <p>Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (knowing that <math>8 \times 5 = 40</math>, one knows that <math>40 \div 5 = 8</math>) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.</p>	<ul style="list-style-type: none"> <li>• How can we explore the relationship of division and multiplication?</li> <li>• What facts can we use to solve division?</li> <li>• When do we use models to solve problems?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Explore how division and multiplication are related</li> <li>* Divide related multiplication facts</li> <li>* Use models to solve problems</li> </ul>	<p><b><u>LESSON 4</u></b></p> <p>Dividend Divisor quotient</p> <p><b><u>LESSON 5</u></b></p> <p>Inverse operations Related facts Fact family Dividend Divisor Quotient</p>
<p><b>2<sup>nd</sup> QUARTER</b></p> <p>Week 13 October 24</p> <p><b><u>CHAPTER 6</u></b></p>	<p>3.OA.9</p> <p><b>Identify</b> arithmetic patterns (including <b>patterns in the addition table or multiplication table</b>), and explain them using properties of operations.</p> <p>3.OA.3</p>	<ul style="list-style-type: none"> <li>• What is the importance of patterns in learning multiplication and division?</li> <li>• How can we identify and</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Identify and explain patterns in the multiplication table</li> <li>* Use arrays and drawings, such as bar diagrams, to multiply by 2</li> </ul>	<p>Columns Rows</p> <p>Multiply</p> <p>Multiplication table Pattern</p>

<p>Lesson 1: PATTERNS IN THE MULTIPLICATION TABLE</p> <p>Lesson 2: MULTIPLY BY 2</p> <p>Lesson 3: DIVIDE BY 2</p> <p>Lesson 4: MULTIPLY BY 5</p> <p>Lesson 5: DIVIDE BY 5</p> <ul style="list-style-type: none"> <li>○ number line</li> <li>○ Work Mat 2</li> <li>○ counters</li> <li>○ nickels</li> <li>○ play money</li> <li>○ Lesson presentation</li> <li>○ grid paper</li> </ul>	<p><b>Use multiplication</b> and division <b>within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities</b> (by using drawings and equations with a symbol for the unknown number to represent the problem).</p> <p>3.OA.4 <b>Determine the unknown</b> whole number in a multiplication or <b>division equation</b> relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations <math>8 \times ? = 48</math>, <math>5 = ? \div 3</math>, <math>6 \times 6 = ?</math></p> <p>3.OA.7 Fluently multiply and <b>divide</b> within 100, <b>using strategies such as the relationship between multiplication and division</b> (knowing that <math>8 \times 5 = 40</math>, one knows that <math>40 \div 5 = 8</math>) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.</p>	<p>explain patterns in the multiplication table?</p> <ul style="list-style-type: none"> <li>• What models can we use to multiply by 2?</li> <li>• How can we relate models to multiplication facts divided by 2?</li> </ul>	<ul style="list-style-type: none"> <li>* Use models and relation multiplication facts to divide by 2</li> <li>* Use different strategies, including patterns, to multiply by 5</li> <li>* Use different strategies, including related multiplication facts to divide by 5</li> <li>*</li> </ul>	<p><b><u>LESSON 3</u></b> Partition</p> <p><b><u>LESSON 4</u></b> Skip Count</p> <p><b><u>LESSON 5</u></b> Inverse Operations</p>
<p><b>2<sup>nd</sup> QUARTER</b></p> <p>Week 14 October 31</p>	<p>3.OA.9 <b>Identify arithmetic patterns</b> (including patterns in the addition table or multiplication table), and</p>	<ul style="list-style-type: none"> <li>• How can we solve problems by using a patterns?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Solve problems by looking for a pattern</li> </ul>	<p><b><u>LESSON 7</u></b> Dime</p> <p><b><u>LESSON 8</u></b></p>

<p><b><u>CHAPTER 6</u></b></p> <p>Lesson 6: PROBLEM-SOLVING INVESTIGATION: LOOK FOR A PATTERN</p> <p>Lesson 7: MULTIPLY BY 10</p> <p>Lesson 8: MULTIPLES OF 10</p> <p>Lesson 9" DIVIDE BY 10</p> <ul style="list-style-type: none"> <li>○ Pair Check</li> <li>○ Base 10 blocks</li> <li>○ play money</li> <li>○ Lesson Presentation</li> </ul>	<p>explain them using properties of operations.</p> <p>3.NBT.3 <b>Multiply</b> one-digit-whole <b>numbers by multiples of 10</b> in the range 10-90 (<math>9 \times 80</math>, <math>5 \times 60</math>) <b>using</b> strategies based on <b>place value and properties of operations</b></p> <p>3.OA.7 Fluently multiply and <b>divide</b> within 100, <b>using strategies such as the relationship between multiplication and division</b> (knowing that <math>8 \times 5=40</math>, one knows that <math>40 \div 5=8</math>) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.</p>	<ul style="list-style-type: none"> <li>• What strategies do we use when multiplying by 10?</li> <li>• How can knowing 5's facts help you with your 10's facts?</li> <li>• When you divide by 10, what do you notice about the quotient and the dividend?</li> </ul>	<ul style="list-style-type: none"> <li>* Use different strategies including patterns to multiply by 10</li> <li>* Use basic facts, and patterns to multiply a number by a multiple of 10</li> <li>* Use different strategies including related multiplication facts to divide by 10</li> </ul>	<p>multiple</p> <p><b><u>LESSON 9</u></b> unknown</p>
<p>2<sup>nd</sup> QUARTER</p> <p>Week 15 November 7</p> <p><b><u>CHAPTER 7</u></b></p> <p>Lesson 1: MULTIPLY BY 3</p> <p>Lesson 2: DIVIDE BY 3</p> <p>Lesson 3: HANDS ON: DOUBLE A KNOWN FACT</p> <p>Lesson 4: MULITPLY BY 4</p>	<p>3.OA.3 <b>Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities</b> (by using drawings and equations with a symbol for the unknown number to represent the problem).</p> <p>3.OA.4 <b>Determine the unknown</b> whole</p>	<ul style="list-style-type: none"> <li>• What strategies can be used to learn multiplication and division facts?</li> <li>• How do we use strategies to multiply and divide by 3?</li> <li>• When do we double a known fact?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Use different strategies such as arrays, equal groups, and properties to multiply by 3</li> <li>* Use different strategies including related multiplication facts to divide by 3</li> <li>* Explore how to double a known fact in order to multiply</li> </ul>	<p><b><u>LESSON 1</u></b> Commutative Property</p> <p><b><u>LESSON 2</u></b> Quotient</p> <p><b><u>LESSON 3</u></b> Known fact Decompose</p> <p><b><u>LESSON 4</u></b></p>

<p>Lesson 5: DIVIDE BY 4</p> <ul style="list-style-type: none"> <li>Lesson Presentation</li> <li>Grid Paper</li> <li>counters</li> </ul>	<p>number in a multiplication or <b>division equation</b> relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations <math>8 \times ? = 48</math>, <math>5 = ? \div 3</math>, <math>6 \times 6 = ?</math></p>		<ul style="list-style-type: none"> <li>* Double a known fact to multiply by 4</li> <li>* Use different strategies including related multiplication facts to divide by 4</li> </ul>	<p>Decompose Known Fact</p> <p><b><u>LESSON 5</u></b> Equal Groups</p>
<p><b>2<sup>nd</sup> QUARTER</b></p> <p>Week 16 November 14</p> <p><b><u>CHAPTER 7</u></b></p> <p>Lesson 6: PROBLEM-SOLVING INVESTIGATIONS EXTRA OR MISSING INFORMATION</p> <p>Lesson 7: MULTIPLY BY 0 AND 1</p> <p>Lesson 8: DIVIDE WITH 0 AND 1</p> <ul style="list-style-type: none"> <li>Pair Check</li> <li>Base 10 blocks</li> <li>play money</li> <li>Lesson Presentation</li> </ul>	<p>3.OA.3 <b>Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities</b> (by using drawings and equations with a symbol for the unknown number to represent the problem).</p> <p>3.OA.9 <b>Identify arithmetic patterns</b> (including patterns in the addition table or multiplication table), and explain them using properties of operations.</p> <p>3.OA.2 <b>Interpret whole numbers quotients of whole numbers</b> (interpret <math>56 \div 8</math> 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</p>	 <ul style="list-style-type: none"> <li>How can we solve a problem with missing information?</li> <li>What strategies do we use to multiply by 0 and 1?</li> <li>What are the rules for dividing 0 and 1?</li> <li>How do you know you can divide any number by 1 or itself?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Solve a problem by identifying extra or missing information</li> <li>* Use different strategies such as equal groups, patterns, and properties to multiply by 0 and 1</li> <li>* Use division rules to divide with 0 and 1</li> </ul>	<p>Identify property of multiplication Zero property of Multiplication</p> <p><b><u>LESSON 8</u></b> Dividend Divisor</p>

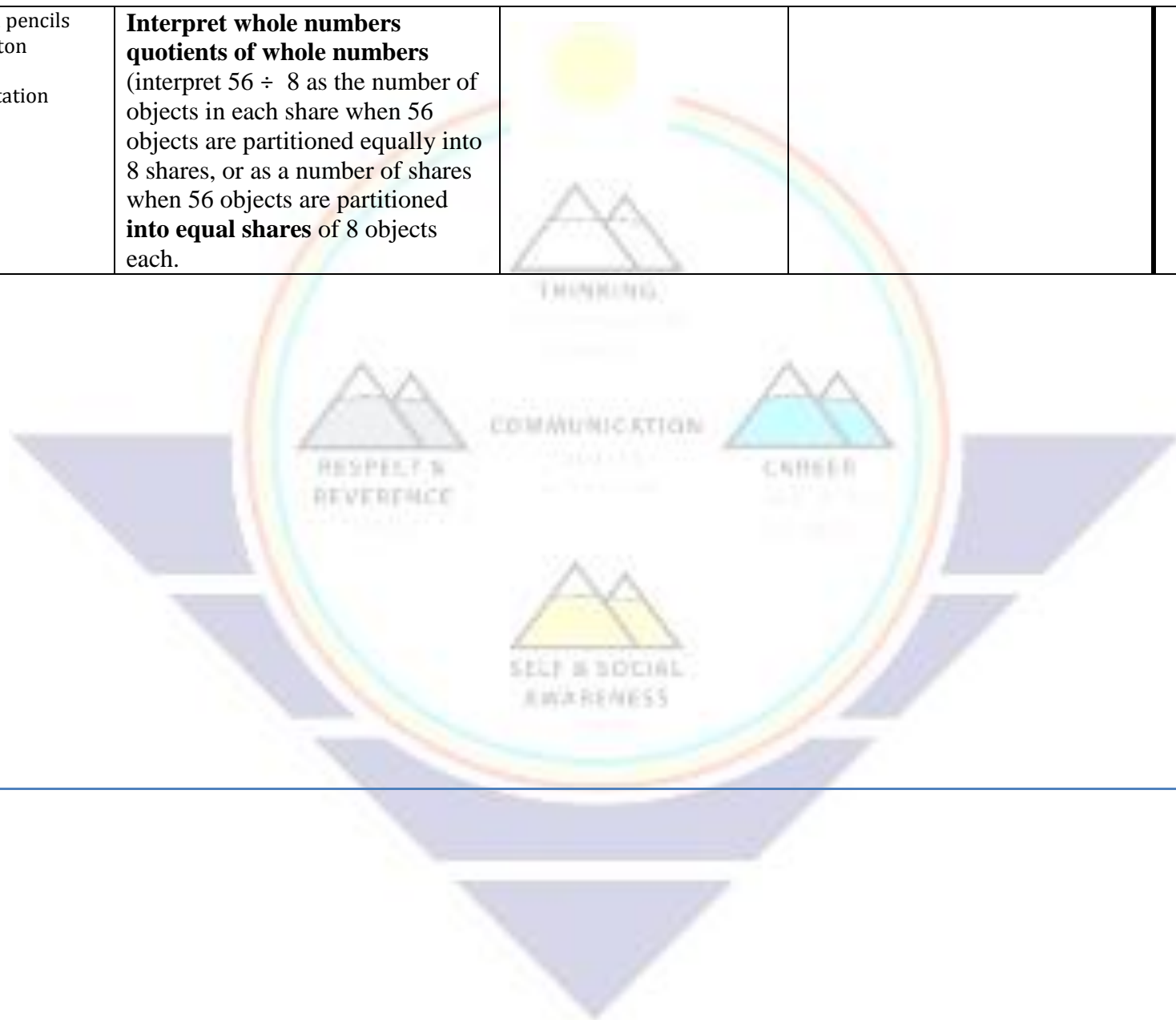


	into equal shares of 8 objects each.			
<p><b>2<sup>nd</sup> QUARTER</b></p> <p>Week 17 November 28</p> <p><b><u>CHAPTER 8</u></b></p> <p>Lesson 1: MULTIPLE BY 6</p> <p>Lesson 2: MULTIPLY BY 7</p> <p>Lesson 3: DIVIDE WITH 6 AND 7</p> <ul style="list-style-type: none"> <li>counters</li> <li>crayons</li> <li>markers</li> <li>colored pencils</li> <li>grid paper</li> <li>Lesson Presentation</li> </ul>	<p>3.OA.3 Use <b>multiplication</b> and division <b>within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities</b> (by using drawings and equations with a symbol for the unknown number to represent the problem).</p> <p>3.OA.9 <b>Identify arithmetic patterns</b> (including patterns in the addition table or multiplication table), and <b>explain them using properties of operations.</b></p> <p>3.OA.7 Fluently multiply and <b>divide</b> within 100, <b>using strategies such as the relationship between multiplication and division</b> (knowing that <math>8 \times 5 = 40</math>, one knows that <math>40 \div 5 = 8</math>) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.</p>	<ul style="list-style-type: none"> <li>How can multiplication and division facts, with smaller numbers be applied to larger numbers?</li> <li>How can we use a strategy for multiplying by 6?</li> <li>How can we use different strategies to multiply and divide by 6 and 7?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>Use different strategies including doubling a known fact to multiply by 6</li> <li>Use different strategies such as properties, arrays, and decomposing factors to multiply by 7</li> <li>Use different strategies including arrays and repeated subtraction to divide by 6 and 7</li> </ul>	<p><b><u>LESSON 1</u></b> Decompose</p> <p><b><u>LESSON 2</u></b> Commutative property</p> <p><b><u>LESSON 3</u></b> Repeated Subtraction</p> <p>Equal Groups</p>
<p><b>2<sup>nd</sup> QUARTER</b></p> <p>Week 18 December 5</p>	<p>3.OA.3 Use multiplication and <b>division within 100 to solve word</b></p>	<ul style="list-style-type: none"> <li>What model can we use to solve known facts of 8?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>Use different strategies such as arrays, drawings,</li> </ul>	<p><b><u>LESSON 4</u></b> Known Fact Pattern</p>



<p><b><u>CHAPTER 8</u></b></p> <p>Lesson 4: MULTIPLY BY 8</p> <p>Lesson 5: MULTIPLY BY 9</p> <p>Lesson 6: DIVIDE WITH 8 AND 9</p> <ul style="list-style-type: none"> <li>○ grid paper</li> <li>○ crayons</li> <li>○ markers</li> <li>○ colored pencils</li> <li>○ egg carton</li> <li>○ Lesson Presentation</li> <li>○ sentence frames</li> <li>○ chart paper</li> </ul>	<p><b>problems in situations involving equal groups, arrays, and measurement quantities</b> (by using drawings and equations with a symbol for the unknown number to represent the problem).</p> <p>3.OA.9 <b>Identify arithmetic patterns</b> (including patterns in the addition table or multiplication table), and <b>explain them using properties</b> of operations.</p>	<ul style="list-style-type: none"> <li>• Why do we use a strategy to multiply and divide by 8 and 9?</li> </ul>	<p>and known facts to multiply by 8</p> <ul style="list-style-type: none"> <li>* Use different strategies such as properties, known facts, or patterns to multiply by 9</li> <li>* Use different strategies such as equal groups, repeated subtraction, and related multiplication facts to divide by 8 and 9</li> </ul>	<p><b><u>LESSON 5</u></b> Inverse Operations</p>
<p>2<sup>nd</sup> QUARTER</p> <p>Week 19 December 12</p> <p><b><u>CHAPTER 8</u></b></p> <p>Lesson 7: PROBLEM-SOLVING INVESTIGATION: MAKE AN ORGANIZED LIST</p> <p>Lesson 8: MULTIPLY BY 11 and 12</p> <p>Lesson 9: DIVIDE WITH 11 AND 12</p> <ul style="list-style-type: none"> <li>○ grid paper</li> <li>○ crayons</li> <li>○ markers</li> </ul>	<p>3.OA.3 <b>Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities</b> (by using drawings and equations with a symbol for the unknown number to represent the problem).</p> <p>3.OA.1 <b>Interpret products of whole numbers.</b> (Interpret <math>5 \times 7</math> as the total number of objects in 5 groups of 7 objects each).</p> <p>3.OA.2</p>	<ul style="list-style-type: none"> <li>• How to create an organized list?</li> <li>• What can we do to solve larger numbers like 11 and 12?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Make an organized list to solve problems</li> <li>* Use different strategies such as patterns, models, and arrays to multiply by 11 and 12</li> <li>* Use different strategies such as equal groups, repeated subtraction, and related facts, to divide by 11 and 12</li> </ul>	<p><b><u>LESSON 8</u></b> decompose</p> <p><b><u>LESSON 9</u></b> Dividend Divisor quotient</p>

<ul style="list-style-type: none"> <li>○ colored pencils</li> <li>○ egg carton</li> <li>○ Lesson Presentation</li> </ul>	<p><b>Interpret whole numbers quotients of whole numbers</b>  (interpret <math>56 \div 8</math> 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 <b>into equal shares</b> of 8 objects each.</p>			
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# Ganado Unified School District

## (MATH/3<sup>rd</sup> Grade)

### PACING Guide SY 2016-2017

Timeline & Resources	AZ College and Career Readiness Standard	Essential Question (HESS Matrix)	Learning Goal	Vocabulary (Content/Academic)
<p><b>3<sup>RD</sup> QUARTER</b></p> <p>Week 20 January 2</p> <p><b><u>CHAPTER 9</u></b></p> <p>Lesson 1: HANDS ON: TAKE APART TO MULTIPLY</p> <p>Lesson 2: THE DISTRIBUTIVE PROPERTY</p> <p>Lesson 3: HANDS ON: MULTIPLY THREE FACTORS</p> <p>Lesson 4: THE ASSOCIATIVE PROPERTY</p> <ul style="list-style-type: none"> <li>○ grid paper</li> <li>○ crayons</li> <li>○ markers</li> <li>○ color tiles</li> <li>○ Lesson Presentation</li> <li>○ counters</li> </ul>	<p>3.OA.5</p> <p><b>Apply properties of operations as strategies to multiply and divide</b></p>	<ul style="list-style-type: none"> <li>* How are properties and equations used to group numbers?</li> <li>* Explain what it means to decompose a number?</li> <li>* Explain how the Associative Property of Multiplication can help you find missing factors?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Explore how to take apart factors to multiply</li> <li>* Apply the distributive property of multiplication to find products</li> <li>* Explore how to find the product of three factors</li> <li>* Apply the associative property of multiplication to find products</li> </ul>	<p><b><u>LESSON 2</u></b></p> <p>Distributive property</p> <p><b><u>LESSON 4</u></b></p> <p>Associative property of Multiplication</p>

<p><b>3<sup>RD</sup> QUARTER</b></p> <p>Week 21 January 9</p> <p><b><u>CHAPTER 9</u></b></p> <p>Lesson 5: WRITE EXPRESSIONS</p> <p>Lesson 6: EVALUATE EXPRESSIONS</p> <p>Lesson 7: WRITE EQUATIONS</p> <ul style="list-style-type: none"> <li>○ counters</li> <li>○ bag</li> <li>○ Lesson Presentation</li> <li>○</li> </ul>	<p>3.OA.5 <b>Apply properties of operations as strategies to multiply and divide</b></p> <p>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.</p>	<ul style="list-style-type: none"> <li>* How do you know what operations to use in solving an expression?</li> <li>* What is the difference between an expression and an equation?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Write expressions using the four operations</li> <li>* Write, then find the value of expressions</li> <li>* Represent one and two-step word problems using equations with a variable</li> </ul>	<p><b><u>LESSON 5</u></b> Expressions Operations</p> <p><b><u>LESSON 6</u></b> Evaluate Variable</p> <p><b><u>LESSON 7</u></b> Equation Number Sentence</p>
<p><b>3<sup>RD</sup> QUARTER</b></p> <p>Week 22 January 16</p> <p><b><u>CHAPTER 9</u></b></p> <p>Lesson 8: SOLVE TWO-STEP WORD PROBLEMS</p> <p>Lesson 9: PROBLEM-SOLVING INVESTIGATIONS: USE LOGICAL REASONING</p> <ul style="list-style-type: none"> <li>○ counters</li> <li>○ bag</li> </ul>	<p>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.</p> <p>3.NF.2 Understand a fraction as a number on the number line; represent fractions on a number line diagram</p> <p>a. represent a fraction <math>\frac{1}{b}</math> on</p>	<ul style="list-style-type: none"> <li>* How could you check an equation for reasonableness?</li> <li>* What steps do I take to solve two-step word problems?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Represent and solve two-step word problems using equations with a variable</li> <li>* Use logical reasoning to solve problems</li> </ul>	<p><b><u>LESSON 8</u></b> Estimate</p> <p><b><u>LESSON 9</u></b> Pattern Table</p>

<ul style="list-style-type: none"> <li>○ Lesson Presentation</li> <li>○ Hands on Activity</li> </ul>	<p>a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into <math>b</math> equal parts. Recognize that each part has size <math>1/b</math> and that the endpoint of the part based at 0 locates the number <math>1/b</math> on the number line.</p> <p>b. Represent a fraction <math>a/b</math> on a number line diagram by marking of a lengths <math>1/b</math> from 0. Recognize that the resulting interval has size <math>a/b</math> and that is endpoint locates the number <math>a/b</math> on the number line.</p>			
<p><b>3<sup>RD</sup> QUARTER</b></p> <p>Week 23 January 23</p> <p><b><u>CHAPTER 9</u></b></p> <p>Lesson 8: SOLVE TWO-STEP WORD PROBLEMS</p> <p>Lesson 9: PROBLEM-SOLVING INVESTIGATIONS: USE LOGICAL REASONING</p> <ul style="list-style-type: none"> <li>○ counters</li> <li>○ bag</li> <li>○ Lesson Presentation</li> <li>○ Hands on Activity</li> </ul>	<p>3.OA.8</p> <p>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.</p>	<ul style="list-style-type: none"> <li>* How could you check an equation for reasonableness?</li> <li>* What steps do I take to solve two-step word problems?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* Represent and solve two-step word problems using equations with a variable</li> <li>* Use logical reasoning to solve problems</li> </ul>	<p><b><u>LESSON 8</u></b></p> <p>Estimate</p> <p><b><u>LESSON 9</u></b></p> <p>Pattern Table</p>



<p><b>3<sup>RD</sup> QUARTER</b></p> <p>Week 24 January 30</p> <p><b><u>CHAPTER 10</u></b></p> <p>Lesson 1: UNIT FRACTIONS</p> <p>Lesson 2: PART OF A WHOLE</p> <p>Lesson 3: PART OF A SET</p> <p>Lesson 4: PROBLEM-SOLVING INVESTIGATION: DRAW A DIAGRAM</p> <ul style="list-style-type: none"> <li>○ graphic organizer</li> <li>○ lesson presentation</li> <li>○ counters</li> <li>○ fraction bars</li> <li>○ concept web</li> <li>○ pair share</li> </ul>	<p>3.NF.1</p> <p>a. Understand a fraction <math>\frac{1}{b}</math> as the quantity formed by 1 part when a whole is partitioned into <math>b</math> equal parts; understand a fraction <math>\frac{a}{b}</math> as the quantity formed by <math>a</math> parts of size <math>\frac{1}{b}</math></p>	<ul style="list-style-type: none"> <li>* How can fractions be used to represent numbers and their parts?</li> <li>* How do I write a fraction as part of a whole?</li> <li>* How do I write a fraction as part of a set?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* use fractions to represent numbers and their parts.</li> <li>* write fractions as part of a whole.</li> <li>* write fractions as part of a set.</li> </ul>	<p><b><u>LESSON 1</u></b> Fraction Unit Fraction</p> <p><b><u>LESSON 2</u></b> Numerator Denominator Equal part</p> <p><b><u>LESSON 3</u></b> Fractional part of a set</p> <p><b><u>LESSON 4</u></b> Draw a Diagram</p>
<p><b>3<sup>RD</sup> QUARTER</b></p> <p>Week 25 February 6</p> <p><b><u>CHAPTER 10</u></b></p> <p>Lesson 5: HANDS ON: FRACTIONS ON A NUMBER LINE</p> <p>Lesson 6: EQUIVALENT FRACTIONS</p> <ul style="list-style-type: none"> <li>○ graphic organizer</li> </ul>	<p>3.NF.1</p> <p>Understand a fraction <math>\frac{1}{b}</math> as the quantity formed by 1 part when a whole is partitioned into <math>b</math> equal parts; understand a fraction <math>\frac{a}{b}</math> as the quantity formed by <math>a</math> parts of size <math>\frac{1}{b}</math></p> <p>3.NF.3</p> <p>Explain equivalence of fractions in special cases, and compares fractions by reasoning about their size</p>	<ul style="list-style-type: none"> <li>* How do I write a fraction as part of a number line?</li> <li>* What is an equivalent fraction?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* write a fraction part of a number line.</li> <li>* compare equivalent fractions.</li> </ul>	<p><b><u>LESSON 5</u></b> Fraction part of a Number Line Halves Thirds Fourths Fifths Sixths Sevenths Eighths</p> <p><b><u>LESSON 6</u></b> Equivalent fractions</p>

<ul style="list-style-type: none"> <li>○ lesson presentation</li> <li>○ counters</li> <li>○ fraction bars</li> <li>○ concept web</li> <li>○ pair share</li> <li>○ definition map</li> <li>○</li> </ul>	<p>a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line</p> <p>b. Recognize and generate simple equivalent fractions (<math>\frac{1}{2} = \frac{2}{4}</math>, <math>\frac{4}{6} = \frac{2}{3}</math>). Explain why the fractions are equivalent by using a visual fraction model.</p>			<p>Whole</p> <p>Equal size</p> <p>Same value</p>
<p><b>3<sup>RD</sup> QUARTER</b></p> <p>Week 26 February 13</p> <p><b><u>CHAPTER 10</u></b></p> <p>Lesson 7: FRACTIONS AS ONE WHOLE</p> <p>Lesson 8: COMPARE FRACTIONS</p> <ul style="list-style-type: none"> <li>○ graphic organizer</li> <li>○ lesson presentation</li> <li>○ counters</li> <li>○ fraction bars</li> <li>○ concept web</li> <li>○ pair share</li> <li>○ definition map</li> <li>○ groups</li> <li>○ pie graph</li> <li>○ horizontal strip</li> </ul>	<p>3.NF.1</p> <p>Understand a fraction <math>\frac{1}{b}</math> as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction <math>\frac{a}{b}</math> as the quantity formed by a parts of size <math>\frac{1}{b}</math></p> <p>3.NF.3</p> <p>Explain equivalence of fractions in special cases, and compares fractions by reasoning about their size</p> <p>c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form <math>3 = \frac{3}{1}</math>; recognize that</p>	<ul style="list-style-type: none"> <li>* How do I relate fraction to whole numbers?</li> <li>* Why do we compare fractions?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* relate fractions to whole numbers.</li> <li>* compare fractions</li> </ul>	<p><b><u>LESSON 7</u></b></p> <p>Fraction as One Whole</p> <p>Equal part of a whole</p> <p><b><u>LESSON 8</u></b></p> <p>Denominator</p> <p>Is equal to (=)</p> <p>Is greater than (&gt;)</p> <p>Is Less Than (&lt;)</p> <p>Numerator</p> <p>Equal part</p> <p>inequality</p>

	<p><math>6/1=6</math>; locate <math>4/4</math> and <math>1</math> at the same point of a number line diagram</p> <p>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 <math>&gt;</math>, <math>=</math>, or <math>&lt;</math>, and justify the conclusions by using a visual fraction model.</p>			
<p><b>3<sup>RD</sup> QUARTER</b></p> <p>Week 27 February 20</p> <p><b><u>CHAPTER 11</u></b></p> <p>Lesson 1: HANDS ON: ESTIMATE AND MEASURE CAPACITY</p> <p>Lesson 2: SOLVE CAPACITY PROBLEMS</p> <ul style="list-style-type: none"> <li>○ graphic organizer</li> <li>○ lesson presentation</li> <li>○ containers</li> <li>○ pitcher</li> <li>○ bucket</li> <li>○ beaker</li> </ul>	<p><b>3.MD.2</b></p> <p>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 volumes that are given in the same units by using drawings to represent the problem.</p>	<ul style="list-style-type: none"> <li>* Why do we measure?</li> <li>* How do you estimate and measure capacity?</li> <li>* What measurement tools are used for capacity?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* estimate capacity</li> <li>* measure capacity</li> <li>* use measurement tools for measuring capacity</li> </ul>	<p><b><u>LESSON 1</u></b></p> <p>Capacity</p> <p>Mass</p> <p>Liquid</p> <p>Measurement</p> <p>Time</p> <p>Volume</p> <p>Milliliters</p> <p>Liters</p> <p>Estimate</p> <p><b><u>LESSON 2</u></b></p> <p>Capacity</p> <p>Liquid volume</p> <p>Liter</p> <p>Milliliter</p> <p>unit</p>

<ul style="list-style-type: none"> <li>○ kettle</li> <li>○ pair share</li> <li>○ glue</li> <li>○ water</li> <li>○ paint</li> </ul>				
<p><b>3<sup>RD</sup> QUARTER</b></p> <p>Week 28 February 27</p> <p><b><u>CHAPTER 11</u></b></p> <p>Lesson 3: HANDS ON: ESTIMATE AND MEASURE MASS</p> <p>Lesson 4: SOLVE MASS PROBLEMS</p> <ul style="list-style-type: none"> <li>○ groups at work</li> <li>○ Lesson Presentation</li> <li>○ paper clip</li> <li>○ visual cards</li> </ul>	<p>3.MD.2</p> <p>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 volumes that are given in the same units by using drawings to represent the problem.</p>	<ul style="list-style-type: none"> <li>* How can I estimate and measure mass?</li> <li>* How do I use mass measurement vocabulary?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* estimate and measure mass</li> <li>* use mass measurement vocabulary</li> </ul>	<p><b><u>LESSON 3</u></b></p> <p>Estimate Mass Measure Greater mass Lesser mass Matter Material</p> <p><b><u>LESSON 4</u></b></p> <p>Gram Kilogram Mass</p>
<p><b>3<sup>RD</sup> QUARTER</b></p> <p>Week 29 March 6</p> <p><b><u>CHAPTER 11</u></b></p> <p>Lesson 5: TELL TIME TO THE MINUTE</p> <p>Lesson 6: TIME INTERVALS</p> <p>Lesson 7: PROBLEM-SOLVING INVESTIGATION: WORK BACKWARD</p>	<p>3.MD.1</p> <p>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.</p> <p>3.MD.2</p> <p>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</p>	<ul style="list-style-type: none"> <li>* How do we tell time using digital and analog clock?</li> <li>* What is time intervals? How can it be explained?</li> <li>* Why do we work backward?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* tell time to the minute using digital and analog clock</li> <li>* understand time intervals</li> <li>* problem solve by working backward</li> </ul>	<p><b><u>LESSON 5</u></b></p> <p>Clock Hour hand Minute hand Analog clock Digital clock</p> <p><b><u>LESSON 6</u></b></p> <p>Time Interval Start time End time Count back One hour</p> <p><b><u>LESSON 7</u></b></p>

<ul style="list-style-type: none"> <li>○ groups at work</li> <li>○ Lesson Presentation</li> <li>○ paper clip</li> <li>○ visual cards</li> <li>○ student clocks</li> <li>○ white board</li> <li>○ calendar</li> <li>○ stop watch</li> </ul>	<p>solve one-step word problems involving masses or volumes that are given in the same units by using drawings to represent the problem.</p>		<p>Backward undo</p>
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# Ganado Unified School District

## (MATH/3<sup>rd</sup> Grade)


### PACING Guide SY 2016-2017

Timeline & Resources	AZ College and Career Readiness Standard	Essential Question (HESS Matrix)	Learning Goal	Vocabulary (Content/Academic)
<p><b>4<sup>TH</sup> QUARTER</b></p> <p>Week 30 March 20</p> <p><b><u>CHAPTER 12</u></b></p> <p>Lesson 1: COLLECT AND RECORD DATA</p> <p>Lesson 2: DRAW SCALED PICTURE GRAPHS</p> <p>Lesson 3: DRAW SCALED BAR GRAPHS</p> <p>Lesson 4: DRAW AND ANALYZE LINE PLOTS</p> <ul style="list-style-type: none"> <li>○ graphic organizers</li> <li>○ concept web</li> <li>○ student pair share</li> <li>○ charts</li> <li>○ anchor chart</li> <li>○ white board</li> <li>○ dry erase markers</li> <li>○ highlights</li> <li>○ grid paper</li> </ul>	<p>3.MD.3</p> <p>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).</p>	<ul style="list-style-type: none"> <li>• How do we obtain useful information from a set of data?</li> <li>• Why do we use scaled picture graphs?</li> <li>• How can we relate bar graphs to scaled picture graphs?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* interpret data that is collected and recorded</li> <li>* use pictographs</li> <li>* use scaled graphs</li> <li>* use bar graphs to relate to scaled picture graphs</li> </ul>	<p><b><u>LESSON 1</u></b></p> <p>Collect</p> <p>Record</p> <p>Data</p> <p>Table</p> <p>Graphs</p> <p>Frequency table</p> <p>Tally chart</p> <p>Tally marks</p> <p>Survey</p> <p>Question</p> <p>Numbers</p> <p><b><u>LESSON 2</u></b></p> <p>Pictograph</p> <p>Compares</p> <p>Pictures</p> <p>Symbols</p> <p>Scaled picture key</p> <p><b><u>LESSON 3</u></b></p> <p>Bar graph</p> <p>Lengths</p>

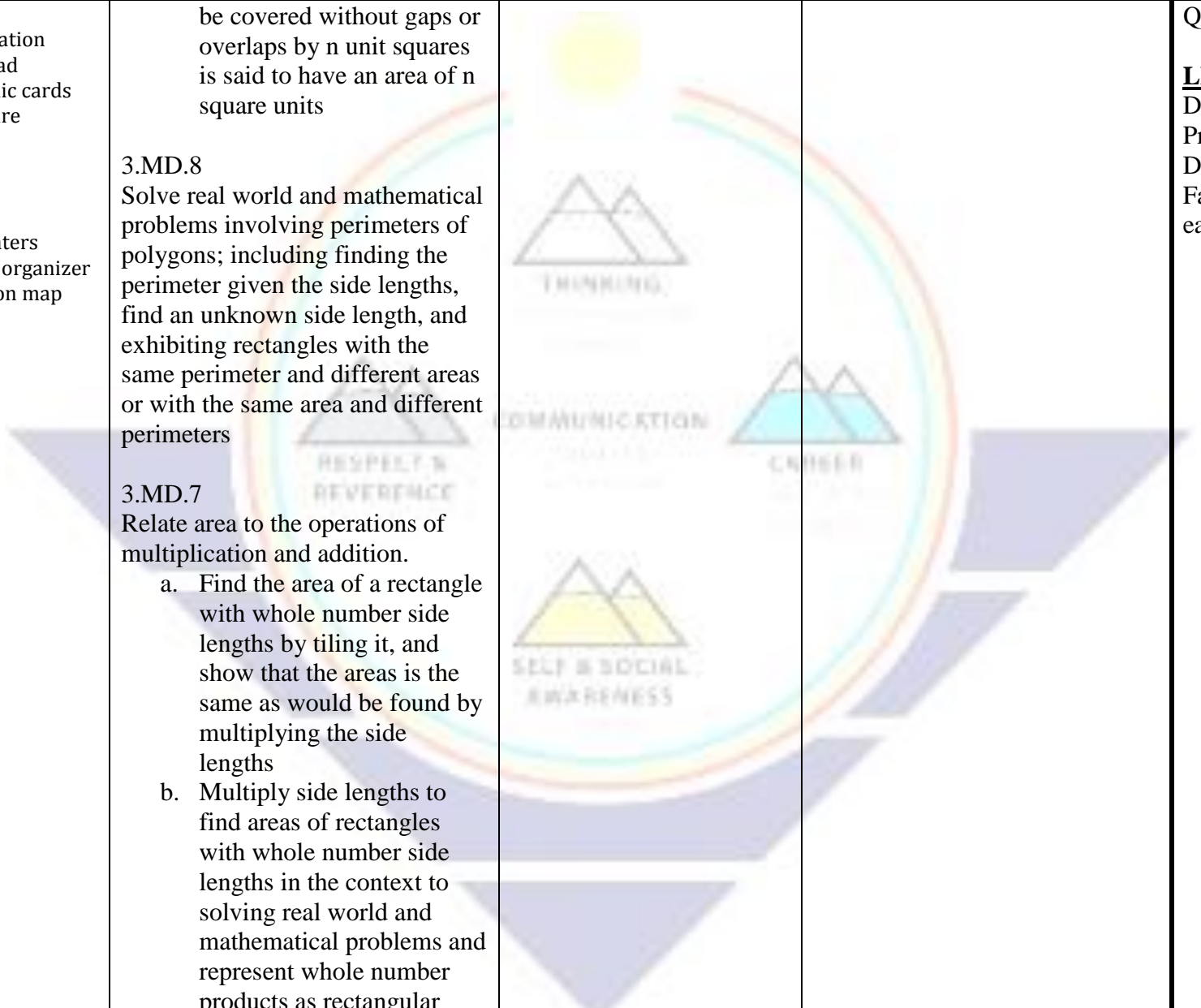
<ul style="list-style-type: none"> <li>○ Lesson Presentation</li> <li>○ data cards</li> </ul>				Heights Value Scale Horizontal vertical  <b><u>LESSON 4</u></b> Bar graph Analyze Pictograph Key Scale
<b>4<sup>TH</sup> QUARTER</b>  Week 31 March 27  <b><u>CHAPTER 12</u></b>  Lesson 6: HANDS ON: MEASURE TO HALVES AND FOURTHS OF AN INCH  Lesson 7: COLLECT AND DISPLAY MEASUREMENT DATA  Lesson 8: PROBLEM-SOLVING INVESTIGATION: SOLVE A SIMPLER PROBLEM  <ul style="list-style-type: none"> <li>○ graphic organizers</li> <li>○ concept web</li> <li>○ student pair share</li> <li>○ charts</li> </ul>	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  3.MD.4 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.	<ul style="list-style-type: none"> <li>• How can I draw and analyze line plots?</li> <li>• How do you measure to halves and fourths of an inch?</li> <li>• Why do we collect and display measurement data?</li> <li>• How can we solve a big problem by solving a smaller problem</li> </ul>	I will be able to: <ul style="list-style-type: none"> <li>* draw and analyze line plots</li> <li>* measure to halves and fourths of an inch</li> <li>* collect and display measurement data</li> <li>* solve a big problem by solving a smaller problem</li> </ul>	<b><u>LESSON 5</u></b> Data Value Analyze Line graph  <b><u>LESSON 6</u></b> Fraction Half Half inch Quarter Quarter inch Rule Whole  <b><u>LESSON 7</u></b> Data Half inch Line plot Quarter inch Tally chart


<ul style="list-style-type: none"> <li>○ anchor chart</li> <li>○ white board</li> <li>○ dry erase markers</li> <li>○ highlights</li> <li>○ grid paper</li> <li>○ Lesson Presentation</li> <li>○ data cards</li> <li>○ index cards</li> <li>○ round table</li> </ul>	<p>3.MD.3</p> <p>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).</p>		<p><b><u>LESSON 8</u></b></p>
<p><b>4<sup>TH</sup> QUARTER</b></p> <p>Week 32 APRIL 3</p> <p><b><u>CHAPTER 13</u></b></p> <p>Lesson 1: HANDS ON: FIND PERIMETER</p> <p>Lesson 2: PERIMETER</p> <ul style="list-style-type: none"> <li>○ Lesson Presentation</li> <li>○ shape game</li> <li>○ white board</li> <li>○ number cube</li> <li>○ ruler</li> <li>○ shapes</li> <li>○ markers</li> <li>○ pencil</li> <li>○ highlighters</li> <li>○ colored pencils</li> <li>○ pair share</li> </ul>	<p>3.MD.8</p> <p>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</p>	<ul style="list-style-type: none"> <li>• How are perimeter and area related and how are they different?</li> <li>• How can I find the perimeter of a shape?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* find the perimeter of a shape</li> <li>* find the area of a shape</li> </ul> <p><b><u>LESSON 1</u></b> Perimeter Area Square unit Distance Outside Inches Length Side Add Centimeter</p> <p><b><u>LESSON 2</u></b> Perimeter Length unit</p>
<p><b>4<sup>TH</sup> QUARTER</b></p>	<p>3.MD.8</p> <p>Solve real world and mathematical</p>	<ul style="list-style-type: none"> <li>• How are perimeter and area related</li> </ul>	<p>I will be able to:</p> <p><b><u>LESSON 1</u></b> Perimeter</p>

<p>Week 32 APRIL 3</p> <p><b><u>CHAPTER 13</u></b></p> <p>Lesson 1: HANDS ON: FIND PERIMETER</p> <p>Lesson 2: PERIMETER</p> <ul style="list-style-type: none"> <li>Lesson</li> <li>Presentation</li> <li>shape game</li> <li>white board</li> <li>number cube</li> <li>ruler</li> <li>shapes</li> <li>markers</li> <li>pencil</li> <li>highlighters</li> <li>colored pencils</li> <li>pair share</li> </ul>	<p>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</p>	<p>and how are they different?</p> <ul style="list-style-type: none"> <li>How can I find the perimeter of a shape?</li> </ul>	<ul style="list-style-type: none"> <li>find the perimeter of a shape</li> <li>find the area of a shape</li> </ul>	<p>Area</p> <p>Square unit</p> <p>Distance</p> <p>Outside</p> <p>Inches</p> <p>Length</p> <p>Side</p> <p>Add</p> <p>Centimeter</p> <p><b><u>LESSON 2</u></b></p> <p>Perimeter</p> <p>Length</p> <p>unit</p>
<p><b>4<sup>TH</sup> QUARTER</b></p> <p>Week 33 APRIL 10</p> <p><b><u>CHAPTER 13</u></b></p> <p>Lesson 3: HANDS ON: UNDERSTAND AREA</p> <p>Lesson 4: MEASURE AREA</p> <ul style="list-style-type: none"> <li>Lesson</li> <li>Presentation</li> <li>grid paper</li> <li>number cube</li> <li>rubber band</li> </ul>	<p>3.MD.8</p> <p>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</p> <p>3.MD.6</p> <p>Measure arrays by counting unit squares (cm, m, in, ft, and improvised units).</p>	<ul style="list-style-type: none"> <li>How do you use unit squares to understand area?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>use unit squares to understand area</li> </ul>	<p><b><u>LESSON 3</u></b></p> <p>figure</p> <p><b><u>LESSON 4</u></b></p> <p>Area</p> <p>Region figure</p> <p>Plane figure</p>



<ul style="list-style-type: none"> <li>○ shapes</li> </ul>	<p>3.MD.5 Recognize area as an attribute of plane figures and understand concepts of area measurement</p> <ol style="list-style-type: none"> <li>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</li> <li>A plane figure which can be covered without gaps or overlaps by <math>n</math> unit squares is said to have an area of <math>n</math> square units</li> </ol> <p>3.MD.7 Relate area to the operations of multiplication and addition.</p>			
<p><b>4<sup>TH</sup> QUARTER</b></p> <p>Week 34 APRIL 17</p> <p><b><u>CHAPTER 13</u></b></p> <p>Lesson 5: HANDS ON: TILE RECTANGLES TO FIND AREA</p> <p>Lesson 6: AREA OF RECTANGLES</p> <p>Lesson 7: HANDS ON: AREA AND THE DISTRIBUTIVE PROPERTY</p>	<p>3.MD.6 Measure arrays by counting unit squares (cm, m, in, ft, and improvised units).</p> <p>3.MD.5 Recognize area as an attribute of plane figures and understand concepts of area measurement</p> <ol style="list-style-type: none"> <li>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</li> <li>A plane figure which can</li> </ol>	<ul style="list-style-type: none"> <li>• How can we use tile rectangles to find area?</li> <li>• How can we find the area of a rectangle?</li> <li>• Why do we use distributive property to find the area?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* use tile rectangles to find the area of a shape</li> <li>* use Distributive property to find the area</li> </ul>	<p><b><u>LESSON 5</u></b></p> <p>Area Array Length Square unit Two points Inside Rows Columns Two points</p> <p><b><u>LESSON 6</u></b></p> <p>Formula Area Plane figure</p>

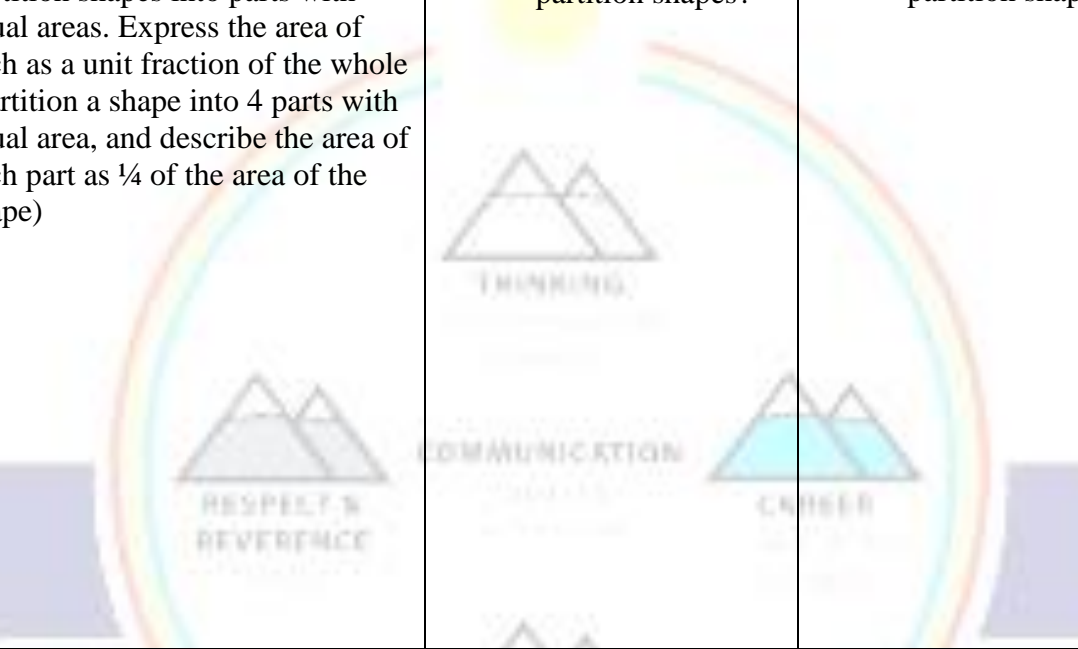


<ul style="list-style-type: none"> <li>○ Lesson Presentation</li> <li>○ Frontload Academic cards</li> <li>○ pair share</li> <li>○ shapes</li> <li>○ marker</li> <li>○ ruler</li> <li>○ pencil</li> <li>○ highlighters</li> <li>○ graphic organizer</li> <li>○ definition map</li> </ul>	<p>be covered without gaps or overlaps by <math>n</math> unit squares is said to have an area of <math>n</math> square units</p> <p>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</p> <p>3.MD.7 Relate area to the operations of multiplication and addition.</p> <ol style="list-style-type: none"> <li>Find the area of a rectangle with whole number side lengths by tiling it, and show that the areas is the same as would be found by multiplying the side lengths</li> <li>Multiply side lengths to find areas of rectangles with whole number side lengths in the context to solving real world and mathematical problems and represent whole number products as rectangular</li> </ol>			<p>Quantities</p> <p><b><u>LESSON 7</u></b> Distributive Property for Area Decompose Factor easier</p>
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	<p>areas in mathematical reasoning</p> <p>c. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths <math>a</math> and <math>b + c</math> is the sum of <math>a \times b</math> and <math>a \times c</math>. Use area models to represent the distributive property in mathematical reasoning</p>			
<p><b>4<sup>TH</sup> QUARTER</b></p> <p>Week 35 APRIL 24</p> <p><b><u>CHAPTER 13</u></b></p> <p>Lesson 8: AREA OF COMPOSITE FIGURES</p> <p>Lesson 9: AREA AND PERIMETER</p> <p>Lesson 10: PROBLEM SOLVING INVESTIGATION: DRAW A DIAGRAM</p> <ul style="list-style-type: none"> <li>○ Lesson Presentation</li> <li>○ Frontload Academic cards</li> <li>○ pair share</li> <li>○ shapes</li> <li>○ marker</li> <li>○ ruler</li> <li>○ pencil</li> <li>○ highlighters</li> <li>○ graphic organizer</li> </ul>	<p>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</p> <p>3.MD.7 Relate area to the operations of multiplication and addition.</p> <p>d. Multiply side lengths to find areas of rectangles with whole number side lengths in the context to solving real world and mathematical problems and represent whole number products as rectangular areas in mathematical</p>	<ul style="list-style-type: none"> <li>• How can we take apart and put together a composite figure?</li> <li>• How do you relate area and perimeter?</li> <li>• How can we use a diagram to solve for area and perimeter?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* decompose a composite figure</li> <li>* relate area to perimeter</li> <li>* draw a diagram to find the area and perimeter of a shape</li> </ul>	<p><b><u>LESSON 8</u></b> Composite figure Decompose Take apart</p> <p><b><u>LESSON 9</u></b></p> <p><b><u>LESSON 10</u></b> Understand Solve Plan Check diagram</p>

○ definition map	reasoning			
<p><b>4<sup>TH</sup> QUARTER</b></p> <p>Week 36 MAY 1</p> <p><b><u>CHAPTER 14</u></b></p> <p>Lesson 1: HANDS ON: ANGLES</p> <p>Lesson 2: POLYGONS</p> <ul style="list-style-type: none"> <li>○ Lesson</li> <li>○ Presentation</li> <li>○ ruler</li> <li>○ shapes</li> <li>○ marker</li> <li>○ highlighter</li> <li>○ pair share</li> <li>○ white board</li> <li>○</li> </ul>	<p>3.G.1</p> <p>Understand that shapes in different categories (rhombuses, rectangles, and others) may share attributes (having four sides) and that the 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</p>	<ul style="list-style-type: none"> <li>• How can geometric shapes help me solve real-world problems?</li> <li>• How do you understand parts of an angle?</li> <li>• What is the difference between a polygon and a quadrilateral?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* use geometric shapes to help solve real world problems</li> <li>* understand the parts of an angle</li> <li>* explain the difference between a polygon and a quadrilateral</li> </ul>	<p><b><u>LESSON 1</u></b></p> <p>Ray</p> <p>Parts</p> <p>Angle</p> <p>Endpoint</p> <p>Vertex</p> <p>Right angle</p> <p>Greater than</p> <p>Less than</p> <p><b><u>LESSON 2</u></b></p> <p>Polygon</p> <p>Quadrilateral</p> <p>Side</p> <p>Tri-</p> <p>Quad-</p> <p>Pent-</p> <p>Hex-</p> <p>Oct-</p> <p>Attribute</p>
<p><b>4<sup>TH</sup> QUARTER</b></p> <p>Week 37 MAY 8</p> <p><b><u>CHAPTER 14</u></b></p> <p>Lesson 3: HANDS ON: TRIANGLES</p> <p>Lesson 4: QUADRILATERALS</p>	<p>3.G.1</p> <p>Understand that shapes in different categories (rhombuses, rectangles, and others) may share attributes (having four sides) and that the 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</p>	<ul style="list-style-type: none"> <li>• What is a triangle?</li> <li>• How can you tell the difference between triangles?</li> <li>• How can we distinguish the different types of quadrilaterals?</li> </ul>	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* explain what a triangle is</li> <li>* elaborate the difference between triangles</li> <li>* distinguish the different types of quadrilaterals</li> </ul>	<p><b><u>LESSON 3</u></b></p> <p>Triangle</p> <p>Right triangle</p> <p>Greater</p> <p>Less</p> <p><b><u>LESSON 4</u></b></p> <p>Parallelogram</p> <p>Rectangle</p> <p>Trapezoid</p> <p>Square</p>

<ul style="list-style-type: none"> <li>Lesson Presentation</li> <li>ruler</li> <li>shapes</li> <li>marker</li> <li>highlighter</li> <li>pair share</li> <li>white board</li> <li>index cards</li> <li>flash cards</li> <li>graphic organizer</li> <li>concept map</li> </ul>	to any of these subcategories			Rhombus Corner Opposite side Parallel attribute
<p><b>4<sup>TH</sup> QUARTER</b></p> <p>Week 38 MAY 15</p> <p><b><u>CHAPTER 14</u></b></p> <p>Lesson 5: SHARED ATTRIBUTES OF QUADRILATERALS</p> <p>Lesson 6: PROBLEM-SOLVING INVESTIGATION: GUESS, CHECK, AND REVISE</p> <ul style="list-style-type: none"> <li>Lesson Presentation</li> <li>ruler</li> <li>shapes</li> <li>marker</li> <li>highlighter</li> <li>pair share</li> <li>white board</li> <li>index cards</li> <li>flash cards</li> <li>graphic organizer</li> <li>concept map</li> </ul>	<p>3.G.1</p> <p>Understand that shapes in different categories (rhombuses, rectangles, and others) may share attributes (having four sides) and that the 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</p>	<ul style="list-style-type: none"> <li>Which attribute of quadrilaterals are shared?</li> <li>How can we guess, check, and revise a problem to solve it?</li> </ul> 	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* create a two-column chart to classify the attribute of shared quadrilaterals</li> <li>* use the problem-solving investigation to solve a problem</li> </ul>	<p><b><u>LESSON 5</u></b></p> <p>Parallelogram          Rectangle          Trapezoid          Square          Rhombus          Corner          Opposite side          Opposite angles          Parallel          Attribute          Sides</p> <p><b><u>LESSON 6</u></b></p> <p>Understand          Solve          Plan          Check          Hexagon          square</p>

<p><b>4<sup>TH</sup> QUARTER</b></p> <p>Week 39 MAY 22</p> <p><b><u>CHAPTER 14</u></b></p> <p>Lesson7: PARTITION SHAPES</p> <ul style="list-style-type: none"> <li>○ Lesson</li> <li>○ Presentation</li> <li>○ ruler</li> <li>○ shapes</li> <li>○ marker</li> <li>○ highlighter</li> <li>○ pair share</li> <li>○ white board</li> <li>○ index cards</li> <li>○ flash cards</li> <li>○ graphic organizer</li> <li>○ concept map</li> <li>○ scissors</li> </ul>	<p>3.G.2</p> <p>Partition shapes into parts with equal areas. Express the area of each as a unit fraction of the whole (partition a shape into 4 parts with equal area, and describe the area of each part as <math>\frac{1}{4}</math> of the area of the shape)</p>	<ul style="list-style-type: none"> <li>• How can we partition shapes?</li> </ul> 	<p>I will be able to:</p> <ul style="list-style-type: none"> <li>* partition shapes</li> </ul>	<p><b><u>LESSON 7</u></b></p> <p>Fraction</p> <p>Partition</p> <p>Unit fraction</p> <p>Break up</p> <p>Part</p> <p>equal</p>
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