

A Correlation of



to the

**Kent County  
Mathematics  
Academic Standards  
Grades K-5**



G/M-212

## INTRODUCTION

This document demonstrates how well *Investigations in Number, Data, and Space*<sup>®</sup> integrates with the Kent County Mathematics Academic Standards. The citations within this correlation provide Investigation Curriculum Unit titles, the Investigation number and Session number or Focus Time/Choice Time title correlated to the Kent County Mathematics Academic Standards. Thus, teachers know exactly where instruction is located to prepare students for mastery of Kent County Mathematics Academic Standards.

*Investigations in Number, Data, and Space*<sup>®</sup> is a Kindergarten through Grade 5 curriculum consisting of a series of Teacher's Editions that focus on major mathematical ideas, content, and pedagogy. Each book emphasizes depth of mathematical thinking over fragmented topics. Students invent strategies and approaches to solving problems and rely less on rote learning stressed in traditional textbooks. The program blends concrete materials with appropriate technology, including calculators in everyday mathematical lessons.

Developed by TERC under a grant from the National Science Foundation, *Investigations in Number, Data, and Space*<sup>®</sup> is comprehensive in its approach to students of diverse cultural, ethnic and language groups. In an effort to give mathematical lessons a broader spectrum, students are encouraged to explore working in groups, individually and as a whole class. By incorporating these methods into everyday learning, students learn to express mathematical thinking through talking, drawing, and writing.

*Investigations in Number, Data and Space*<sup>®</sup> was developed after three years of nationwide field-testing and includes teacher's practical suggestions, student dialogues, and teacher notes.

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**Investigations In Number, Data, & Space  
to the  
Kent County Mathematics Academic Standards  
Kindergarten**

Kent County Academic Standards	Investigations in Number, Data, & Space
<b>NUMBER SENSE AND NUMERATION</b>	
<b>K:1</b> TLW orally count objects within sets of 0-10 members displaying one-to-one correspondence and count forward from any given number.	<p>Mathematical Thinking in Kindergarten  <i>Investigation 1: Focus Time, Choice Time</i>  <i>Investigation 2: Focus Time, Choice Time</i>  <i>Investigation 3: Focus Time, Choice Time</i>  <i>Investigation 4: Focus Time, Choice Time</i></p> <p>Collecting, Counting, and Measuring  <i>Investigation 1: Focus Time, Choice Time</i>  <i>Investigation 2: Focus Time, Choice Time</i>  <i>Investigation 3: Focus Time, Choice Time</i>  <i>Investigation 4: Focus Time, Choice Time</i>  <i>Investigation 5: Focus Time, Choice Time</i></p>
<b>K:2</b> TLW recognize, count and order numbers (forward and backward) and write or select numeral cards to represent sets of objects 0-10.	<p>Mathematical Thinking in Kindergarten  <i>Investigation 1: Focus Time, Choice Time</i>  <i>Investigation 2: Focus Time, Choice Time</i>  <i>Investigation 3: Focus Time, Choice Time</i>  <i>Investigation 4: Focus Time, Choice Time</i></p> <p>Collecting, Counting, and Measuring  <i>Investigation 1: Focus Time, Choice Time</i>  <i>Investigation 2: Focus Time, Choice Time</i>  <i>Investigation 3: Focus Time, Choice Time</i>  <i>Investigation 4: Focus Time, Choice Time</i>  <i>Investigation 5: Focus Time, Choice Time</i></p>
<b>K:3</b> TLW compare and prove which set is greater than, less than, or equal to, when given 2 sets of up to ten objects.	<p>Collecting, Counting, and Measuring  <i>Investigation 3: Focus Time, Choice Time</i>  <i>Investigation 4: Focus Time, Choice Time</i>  <i>Investigation 5: Focus Time, Choice Time</i></p>

Kent County Academic Standards	Investigations in Number, Data, & Space
<b>NUMERICAL &amp; ALGEBRAIC OPERATIONS &amp; ANALYTICAL THINKING</b>	
<p><b>K:4</b> TLW, using a variety of manipulatives, group objects to demonstrate simple addition and subtraction story problems with sets up to 5 including the empty set.</p>	<p>Mathematical Thinking in Kindergarten  <i>Investigation 1: Focus Time, Choice Time</i>  <i>Investigation 2: Focus Time, Choice Time</i>  <i>Investigation 3: Focus Time, Choice Time</i>  <i>Investigation 4: Focus Time, Choice Time</i></p> <p>Collecting, Counting, and Measuring  <i>Investigation 1: Focus Time, Choice Time</i>  <i>Investigation 3: Focus Time, Choice Time</i>  <i>Investigation 5: Focus Time, Choice Time</i></p>
<b>GEOMETRY &amp; MEASUREMENT</b>	
<p><b>K:5</b> TLW measure length of objects (up to 10 units) in non-standard units, identify common measurement tools and determine the purpose for their use (clock, calendar, thermometer, ruler, scale, balance).</p>	<p>Collecting, Counting, and Measuring  <i>Investigation 3: Focus Time, Choice Time</i></p>
<p><b>K:6</b> TLW identify, name, compare, contrast, and classify the following objects within the classroom environment: circles, squares, triangles, and rectangles.</p>	<p>Mathematical Thinking in Kindergarten  <i>Investigation 1: Focus Time, Choice Time</i></p>
<b>PATTERNS, RELATIONSHIPS &amp; FUNCTIONS</b>	
<p><b>K:7</b> TLW recognize, reproduce and extend a pattern using a single attribute of color, shape or size.</p>	<p>Mathematical Thinking in Kindergarten  <i>Investigation 3: Focus Time, Choice Time</i></p> <p>Pattern Trains and Hopscotch Paths  <i>Investigation 1: Focus Time, Choice Time</i>  <i>Investigation 2: Focus Time, Choice Time</i>  <i>Investigation 3: Focus Time, Choice Time</i></p>
<b>DATA ANALYSIS &amp; STATISTICS</b>	
<p><b>K:8</b> TLW verbally interpret real and picture graphs, answer questions and compare data.</p>	<p>Mathematical Thinking in Kindergarten  <i>Investigation 4: Focus Time, Choice Time</i></p>

**Investigations In Number, Data, & Space  
to the  
Kent County Mathematics Academic Standards  
Grade One**

Kent County Academic Standards	Investigations in Number, Data, & Space
<b>NUMBER SENSE AND NUMERATION</b>	
<b>1:1</b> TLW count, write, and order numbers by ones, fives and tens to 100 and by twos to 20 and read numerals to 100.	<p>Mathematical Thinking At Grade 1 <i>Investigation 2: Sessions 1-2</i> <i>Investigation 4: Sessions 1-4, 6</i> <i>Investigation 5, Sessions 1-2</i></p> <p>Building Number Sense <i>Investigation 1: Sessions 2, 7-9</i> <i>Investigation 2: Sessions 1-2</i> <i>Investigation 3: Sessions 1-2, 5-7, 9</i></p> <p>Survey Questions and Secret Rules <i>Investigation 3: Sessions 1-3</i> <i>Investigation 4: Sessions 1-5</i></p> <p>Number Games and Story Problems <i>Investigation 1: Sessions 1-6</i> <i>Investigation 2: Sessions 1-2, 4-12</i></p> <p>Bigger, Taller, Heavier, Smaller <i>Investigation 3: Sessions 2-5</i></p>
<b>1:2</b> TLW, given two numerals through 99, prove which set is greater than, less than, or equal by using place value models.	<p>Mathematical Thinking At Grade 1 <i>Investigation 2: Sessions 1-2</i></p> <p>Building Number Sense <i>Investigation 3: Sessions 3-7</i></p>
<b>See also 1:3, 1:4, 1:5, 1:9</b>	Please see references for 1:3, 1:4, 1:5, 1:9

Kent County Academic Standards	Investigations in Number, Data, & Space
<b>NUMERICAL &amp; ALGEBRAIC OPERATIONS &amp; ANALYTICAL THINKING</b>	
<p><b>1:3</b> TLW use manipulatives to create, complete and record problems involving addition of two and three addends with sums to 10 and related subtraction problems (emphasis on commutative property of addition).</p>	<p>Mathematical Thinking at Grade 1  <i>Investigation 2: Sessions 4-6</i>  <i>Investigation 4: Sessions 2-4, 6</i>  <i>Investigation 5: Sessions 3-4</i></p> <p>Building Number Sense  <i>Investigation 1: Session 2</i>  <i>Investigation 2: Sessions 1-2, 4-9</i></p> <p>Number Games and Story Problems  <i>Investigation 1: Sessions 1-5, 10</i>  <i>Investigation 2: Sessions 4-5, 13</i></p>
<p><b>1:4</b> TLW write a mathematical equation using symbols (+, -, =) to match a specific verbal story problem involving addition of two and three addends with sums to 10 and subtraction problems with number value of 10 or less.</p>	<p>Building Number Sense  <i>Investigation 2: Sessions 1-2, 6-9</i>  <i>Investigation 4: Sessions 1-5, 7-10</i></p>
<p><b>1:5</b> TLW recall addition facts to 10 and related subtraction facts recognizing the identity property of addition.</p>	<p>Building Number Sense  <i>Investigation 4: Sessions 3-9</i></p>
<b>GEOMETRY &amp; MEASUREMENT</b>	
<p><b>1:6</b> TLW measure length of objects in standard units, weigh common objects using a scale, and determine capacity of containers using a measuring cup.</p>	<p>Building Number Sense  <i>Investigation 3: Sessions 3-4</i></p> <p>Bigger, Taller, Heavier, Smaller  <i>Investigation 1: Sessions 1-3</i>  <i>Investigation 2: Sessions 1-7</i></p>

Kent County Academic Standards	Investigations in Number, Data, & Space
<p><b>1:7</b> TLW read and record time to the hour using a digital clock and an analog clock.</p>	<p>Mathematical Thinking at Grade 1 <i>Classroom Routines</i></p> <p>Building Number Sense <i>Classroom Routines</i></p> <p>Survey Questions and Secret Rules <i>Classroom Routines</i></p> <p>Quilt Squares and Block Towns <i>Classroom Routines</i></p> <p>Number Games and Story Problems <i>Classroom Routines</i></p>
<p><b>1:8</b> TLW differentiate between and reproduce geometric shapes (circles, squares, rectangles and triangles).</p>	<p>Mathematical Thinking At Grade 1 <i>Investigation 1: Sessions 2-4</i></p> <p>Quilt Squares and Block Towns <i>Investigation 1: Sessions 1-15</i> <i>Investigation 2: Sessions 1-2</i></p>
<p><b>1:9</b> TLW recognize and state the value of pennies, nickels, dimes, and quarters and will count combinations of said coins up to \$.50.</p>	<p>Number Games and Story Problems <i>Investigation 2: Session 3, 6-8</i></p>
<p><b>PATTERNS, RELATIONSHIPS &amp; FUNCTIONS</b></p>	
<p><b>1:10</b> TLW identify, reproduce, extend, and create patterns using, up to and including, three different elements or attributes.</p>	<p>Mathematical Thinking at Grade 1 <i>Investigation 3: Sessions 1-6</i> <i>Investigation 4: Session 5</i></p> <p>Building Number Sense <i>Investigation 3: Sessions 1-2, 8</i> <i>Investigation 4: Session 10</i></p> <p>Quilt Squares and Block Towns <i>Investigation 1: Sessions 13-15</i></p> <p>Number Games and Story Problems <i>Investigation 2: Sessions 1-2, 6-9</i></p>



Kent County Academic Standards	Investigations in Number, Data, & Space
<b>See also 1:1</b>	Please see references for 1:1
<b>DATA ANALYSIS &amp; STATISTICS</b>	
<b>1:11</b> TLW create, read, and interpret real and picture graphs to determine more, less, and equal amounts.	Mathematical Thinking at Grade 1 <i>Investigation 5: Sessions 3-6</i>  Survey Questions and Secret Rules <i>Investigation 2: Sessions 1-2, 5-6</i> <i>Investigation 4: Sessions 2-3</i>

**Investigations In Number, Data, & Space  
to the  
Kent County Mathematics Academic Standards  
Grade Two**

Kent County Academic Standards	Investigations in Number, Data, & Space
<b>NUMBER SENSE AND NUMERATION</b>	
<b>2:1</b> TLW compare the place value of numbers to 1001, using manipulatives and illustrations, and name or write the corresponding number.	<p>Mathematical Thinking at Grade 2 <i>Investigation 4: Session 1</i> <i>Investigation 5: Sessions 4-5</i></p> <p>Coins, Coupons, and Combinations <i>Investigation 4: Sessions 1-4</i></p> <p>Putting Together and Taking Apart <i>Investigation 2: Sessions 1-3</i> <i>Investigation 4: Session 1</i> <i>Investigation 5: Session 6</i></p>
<b>2:2</b> TLW recognize fractions as being equal parts of a whole or set, use models to identify halves, thirds, fourths, and write the fractional parts.	<p>Shapes, Halves, and Symmetry <i>Investigation 3: Sessions 1-8</i></p>
<b>See also 2:3, 2:4, 2:5, 2:6, 2:9</b>	Please see references for 2:3, 2:4, 2:5, 2:6, 2:9
<b>NUMERICAL &amp; ALGEBRAIC OPERATIONS &amp; ANALYTICAL THINKING</b>	
<b>2:3</b> TLW recall single digit addition facts and solve problems with sums to 18 using the commutative property and the identity property and recall related subtraction facts and solve problems.	<p>Coins, Coupons, and Combinations <i>Investigation 1: Sessions 1-2, 7-10</i> <i>Investigation 3: Sessions 1-5</i> <i>Investigation 4: Choice Time</i></p> <p>Putting Together and Taking Apart <i>Investigation 1: Sessions 1-4</i></p>

Kent County Academic Standards	Investigations in Number, Data, & Space
<p><b>2:4</b> TLW use illustrations and manipulatives to solve 2-digit addition problems with regrouping using the commutative property, identity property and a calculator to check solutions.</p>	<p>Mathematical Thinking at Grade 2 <i>Investigation 4: Sessions 3-4</i></p> <p>Coins, Coupons, and Combinations <i>Investigation 3: Sessions 1-2</i> <i>Investigation 4: Choice Time</i></p> <p>Putting Together and Taking Apart <i>Investigation 1: Sessions 1, 3-6</i> <i>Investigation 3: Sessions 2-5</i> <i>Investigation 4: Sessions 3-4</i> <i>Investigation 5: Sessions 4-6</i></p>
<p><b>2:5</b> TLW use manipulatives to solve 2-digit subtraction problems with renaming, use illustrations to represent solutions to subtraction problems, and use a calculator to check solutions.</p>	<p>Mathematical Thinking at Grade 2 <i>Investigation 4: Sessions 3-4</i></p> <p>Coins, Coupons, and Combinations <i>Investigation 3: Sessions 3-4</i> <i>Investigation 4: Choice Time</i></p> <p>Putting Together and Taking Apart <i>Investigation 1: Sessions 2, 3-6</i> <i>Investigation 3: Sessions 2-5</i> <i>Investigation 5: Session 7</i></p>
<b>GEOMETRY &amp; MEASUREMENT</b>	
<p><b>2:6</b> TLW identify ordinal numbers from first to twelfth and position words to solve real problems, including days of the week and months of the year.</p>	<p>The opportunity to address this objective is available in the following <i>Investigation</i>: Timelines and Rhythm Patterns <i>Investigation 1: Sessions 1-5</i></p>
<p><b>2:7</b> TLW identify symmetry, congruence, and movement of plane figures and estimate the number of figures needed to tile a given figure.</p>	<p>Shapes, Halves, and Symmetry <i>Investigation 1: Session 2-3</i> <i>Investigation 4: Sessions 1-7</i></p>
<p><b>2:8</b> TLW read, record, and relate time to real-life situations to the half-hour using a digital clock and an analog clock.</p>	<p>Opportunities to cover this objective are found in the following <i>Investigation</i>: Timelines and Rhythm Patterns <i>Investigation 1: Sessions 4-5</i></p>

Kent County Academic Standards	Investigations in Number, Data, & Space
<b>2:9</b> TLW recognize and state the value of U.S. currency to \$5 and combine coins to equal given amounts up to \$1 in solving problems with money.	Putting Together and Taking Apart <i>Investigation 1: Sessions 4-5</i>
<b>2:10</b> TLW use metric units to measure lengths of objects in centimeters, measure mass of common objects in grams, and measure capacity of containers in liters.	How Long? How Far? <i>Investigation 5: Session 7</i>
<b>PATTERNS, RELATIONSHIPS &amp; FUNCTIONS</b>	
<b>2:11</b> TLW identify, reproduce, extend, and create number or other patterns, including non-traditional sequences.	Mathematical Thinking at Grade 2 <i>Investigation 4: Session 2</i>  Coins, Coupons, and Combinations <i>Investigation 2: Sessions 1-3</i>  Putting Together and Taking Apart <i>Investigation 2: Sessions 1-2</i>  Timelines and Rhythm Patterns <i>Investigation 2: Sessions 1-5</i>
<b>DATA ANALYSIS &amp; STATISTICS</b>	
<b>2:12</b> TLW interpret data given on a picture graph and bar graph in order to solve addition and subtraction word problems.	Mathematical Thinking at Grade 2 <i>Investigation 5: Session 6</i>  Does It Walk, Crawl, or Swim? <i>Investigation 3: Sessions 2-3</i> <i>Investigation 4: Sessions 2-3</i>  How Many Pockets? How Many Teeth? <i>Investigation 1: Sessions 1-3</i>

**Investigations In Number, Data, & Space  
to the  
Kent County Mathematics Academic Standards  
Grade Three**

Kent County Academic Standards	Investigations in Number, Data, & Space
<b>NUMBER SENSE AND NUMERATION</b>	
<b>3:1</b> TLW explain the meaning of, compare, and order unit fractions to tenths and fractions with like denominators, and use fractions to describe probabilities using manipulatives and illustrations.	<p>Mathematical Thinking at Grade 3 <i>Investigation 4: Session 2</i></p> <p>Fair Shares <i>Investigation 1: Sessions 1-4</i> <i>Investigation 2: Sessions 1-7</i> <i>Investigation 3: Sessions 1-3</i></p>
<b>3:2</b> Using whole numbers through thousands, TLW identify place value, compare numbers as greater than, less than, or equal, and differentiate as odd or even.	<p>Mathematical Thinking at Grade 3 <i>Investigation 1: Sessions 1-3</i> <i>Investigation 2: Sessions 5-7</i> <i>Investigation 4: Sessions 1-3</i></p> <p>Things That Come in Groups <i>Investigation 2: Sessions 3-6</i></p> <p>Landmarks in the Hundreds <i>Investigation 1: Sessions 2-3</i> <i>Investigation 3: Session 1</i></p> <p>Combining and Comparing <i>Investigation 1: Sessions 1-3</i> <i>Investigation 2: Session 2</i> <i>Investigation 4: Sessions 1-2</i></p>
<b>See also 3:3, 3:4, 3:5, 3:6, 3:10</b>	Please see references for 3:3, 3:4, 3:5, 3:6, 3:10
<b>NUMERICAL &amp; ALGEBRAIC OPERATIONS &amp; ANALYTICAL THINKING</b>	
<b>3:3</b> TLW add three 2-digit or two 3-digit numbers (with regrouping in ones and tens place) and subtract two 3-digit numbers (with renaming in the ones and tens place) in word problem format.	<p>Mathematical Thinking at Grade 3 <i>Investigation 2: Session 2</i></p>

Kent County Academic Standards	Investigations in Number, Data, & Space
<p><b>3:4</b> TLW find an estimated solution to an addition or subtraction word problem by rounding to the nearest ten, hundred, and thousand.</p>	<p>The opportunity to address this objective is available in the following <i>Investigation</i>:</p> <p>Mathematical Thinking at Grade 3 <i>Investigation 2: Session 2</i></p>
<p><b>3:5</b> TLW use manipulatives and numbers to demonstrate the concepts of multiplication and division as inverse operations and recall multiplication facts through five times nine.</p>	<p>Things That Come in Groups <i>Investigation 1: Sessions 1-4</i> <i>Investigation 4: Sessions 1-4</i></p> <p>Fair Shares <i>Investigation 3: Sessions 1-3</i></p>
<p><b>3:6</b> TLW solve word problems by multiplying 2-digit and 3-digit by 1-digit numbers with no regrouping and by multiplying 2-digit numbers by multiples of 10 through 50 and 100 through 500 using a calculator to check solutions.</p>	<p>Things That Come in Groups <i>Investigation 5: Sessions 1-2, 4</i></p>
<p><b>GEOMETRY &amp; MEASUREMENT</b></p>	
<p><b>3:7</b> TLW select the appropriate measurement unit from customary and metric systems to estimate, measure, and compare linear measurement, weight/mass, and capacity.</p>	<p>From Paces to Feet <i>Investigation 2: Sessions 3-6</i> <i>Investigation 3: Sessions 1-3</i> <i>Investigation 4: Sessions 1-3</i></p> <p>Combining and Comparing <i>Investigation 2: Sessions 1-2</i></p>
<p><b>3:8</b> TLW estimate, read, and use the concept of temperature to solve real-life problems.</p>	<p>The opportunity to address this objective is available in the following <i>Investigations</i>:</p> <p>Up and Down the Number Line <i>Investigation 1: Sessions 1-8</i> <i>Investigation 2: Sessions 1-4</i></p>
<p><b>3:9</b> TLW determine elapsed and predicted time to the hour and tell time within 1 minute with both digital and analog clocks.</p>	<p>This objective is covered in <i>Investigations in Number, Data, and Space, Grade 2, Timelines and Rhythm Patterns, Investigation 1: Sessions 4-6.</i></p>

Kent County Academic Standards	Investigations in Number, Data, & Space
<b>3:10</b> TLW write and use combinations of U.S. currency up to \$5 to solve real-life problems.	Mathematical Thinking at Grade 3 <i>Investigation 2: Sessions 5-7</i>  Landmarks in the Hundreds <i>Investigation 1: Sessions 6-7</i> <i>Investigation 2: Sessions 1-4</i>
<b>3:11</b> TLW identify the properties of three-dimensional models of cubes, rectangular prisms, pyramids, cylinders, cones, and spheres, and identify nets of cubes, pyramids, cylinders, and cones.	Explore Solids and Boxes <i>Investigation 1: Sessions 1-2</i> <i>Investigation 2: Sessions 2-3</i> <i>Investigation 3: Sessions 1-2</i> <i>Investigation 4: Sessions 1-3</i> <i>Investigation 5: Sessions 1-4</i>
<b>See also 3:12</b>	Please see references for 3:12
<b>PATTERNS, RELATIONSHIPS &amp; FUNCTIONS</b>	
<b>3:12</b> TLW locate and describe an object on a map and on a coordinate graph.	Turtle Paths <i>Investigation 1: Sessions 3-4</i>
<b>3:13</b> TLW recognize, describe, and create patterns and solve problems using number lines, fact families, the hundreds chart, and a calculator.	Mathematical Thinking at Grade 3 <i>Investigation 1: Sessions 2-3</i>  Things That Come in Groups <i>Investigation 2: Sessions 1-2, 5-6</i>  Fair Shares <i>Investigation 3: Sessions 1-2</i>  Up and Down the Number Line <i>Investigation 1: Sessions 1-8</i> <i>Investigation 2: Sessions 1-4</i>
<b>See also 3:8</b>	Please see references for 3:8

**Investigations In Number, Data, & Space  
to the  
Kent County Mathematics Academic Standards  
Grade Four**

Kent County Academic Standards	Investigations in Number, Data, & Space
<b>NUMBER SENSE AND NUMERATION</b>	
<b>4:1</b> TLW read, write, order and compare numbers through seven digits as applied to real-life situations.	Mathematical Thinking at Grade 4 <i>Investigation 1: Sessions 1-3</i>
<b>4:2</b> TLW recall multiplication facts through ten times ten and related division facts.	Arrays and Shares <i>Investigation 1: Session 3</i> <i>Investigation 2: Sessions 1-8</i>  Packages and Groups <i>Investigation 1: Sessions 1-3</i>
<b>4:3</b> TLW round to the nearest ten, hundred, thousand or dollar to estimate sums, differences, products, and quotients in real-life situations.	The opportunity to address this objective is available in the following <i>Investigations</i> :  Mathematical Thinking at Grade 4 <i>Investigation 1: Session 4</i>  Packages and Groups <i>Investigation 2: Sessions 2-3</i>  Packages and Groups <i>Investigation 2: Sessions 7-8</i>
<b>4:4</b> TLW read and write decimals through hundredths as applied to real-life situations.	Mathematical Thinking at Grade 4 <i>Investigation 2: Sessions 1-4</i>  Money, Miles, and Large Numbers <i>Investigation 1: Sessions 1-8</i>
<b>See also 4:5, 4:6, 4:7, 4:11</b>	Please see references for 4:5, 4:6, 4:7, 4:11
<b>NUMERICAL &amp; ALGEBRAIC OPERATIONS &amp; ANALYTICAL THINKING</b>	
<b>4:5</b> TLW estimate and solve word problems by multiplying 3- digit times 1-digit numbers with regrouping using a calculator as a tool.	The opportunity to address this objective is available in the following <i>Investigations</i> :  Arrays and Shares <i>Investigation 3: Sessions 1-5</i>



Kent County Academic Standards	Investigations in Number, Data, & Space
<p><b>4:6</b> TLW estimate and solve word problems involving 1-digit divisors to find 2-digit quotients with and without remainders and check solutions with a calculator.</p>	<p>Packages and Groups <i>Investigation 1: Sessions 1-3, 7-8</i></p>
<p><b>4:7</b> TLW compare and order unit fractions through sixteenths, identify and apply equivalence in real-life situations, and solve word problems requiring the addition and subtraction of fractions with like denominators mentally and in writing.</p>	<p>Different Shapes, Equal Pieces <i>Investigation 1: Sessions 1-5</i> <i>Investigation 2: Sessions 1-3</i></p>
<p><b>4:8</b> Given a number, word and/ or pictorial situation, TLW write and/or draw an illustration of the related algebraic expression involving a single operation.</p>	<p>Arrays and Shares <i>Investigation 3: Sessions 2-4</i></p>
<p><b>GEOMETRY &amp; MEASUREMENT</b></p>	
<p><b>4:9</b> TLW select the appropriate unit and apply linear measurement, weight/mass, and volume (capacity) to the nearest unit within the customary or metric system.</p>	<p>Seeing Solids and Silhouettes <i>Investigation 1: Sessions 1-2</i></p>
<p><b>4:10</b> TLW analyze two-dimensional shapes for congruence, symmetry and similarity, and calculate the perimeter of polygons and determine area of rectangles.</p>	<p>Sunken Ships and Grid Patterns <i>Investigation 2: Sessions 1-4</i> <i>Ten-Minute Math: Lengths and Perimeters</i></p> <p>Money, Miles, and Large Numbers <i>Investigation 2: Sessions 1-4</i></p>
<p><b>4:11</b> TLW read, write and perform computations involving money values up to \$10.00 including calculating change in real-life situations.</p>	<p>Mathematical Thinking at Grade 4 <i>Investigation 2: Sessions 1-4</i></p> <p>Money, Miles and Large Numbers <i>Investigation 1: Sessions 3-8</i></p>

Kent County Academic Standards	Investigations in Number, Data, & Space
<b>PATTERNS, RELATIONSHIPS &amp; FUNCTIONS</b>	
<p><b>4:12</b> TLW predict, collect, organize, display, and analyze data using a frequency table, pictograph, and bar graph to draw conclusions and solve problems.</p>	<p>The Shape of the Data  <i>Investigation 1: Sessions 1-3</i>  <i>Investigation 2: Sessions 1-7</i>  <i>Investigation 3: Sessions 1-2</i></p> <p>Changes Over Time  <i>Investigation 1: Sessions 1-4</i>  <i>Investigation 2: Sessions 1-2</i>  <i>Investigation 3: Sessions 1-8</i></p> <p>Three Out of Four Like Spaghetti  <i>Investigation 1: Sessions 3-4</i>  <i>Investigation 2: Sessions 3-7</i></p>
<b>DATA ANALYSIS &amp; STATISTICS</b>	
<b>See also 4:12</b>	Please see references for 4:12

**Investigations In Number, Data, & Space  
to the  
Kent County Mathematics Academic Standards  
Grade Five**

Kent County Academic Standards	Investigations in Number, Data, & Space
<b>NUMBER SENSE AND NUMERATION</b>	
<b>See also 5:1, 5:2, 5:3, 5:4, 5:5</b>	Please see references for 5:1, 5:2, 5:3, 5:4, 5:5
<b>NUMERICAL &amp; ALGEBRAIC OPERATIONS &amp; ANALYTICAL THINKING</b>	
<b>5:1</b> TLW estimate and solve word problems by multiplying a 2-digit or 3-digit factor by a 2-digit factor.	Mathematical Thinking at Grade 5 <i>Investigation 2: Sessions 2-4</i> <i>Investigation 3: Sessions 1-5</i>
<b>5:2</b> TLW divide by 1-digit divisors to find 3-digit quotients in solving and creating word problems and check the solutions with a calculator using the inverse operation.	The opportunity to address this objective is available in the following <i>Investigations</i> :  Building On Numbers You Know <i>Investigation 2: Sessions 1-7</i> <i>Investigation 5, Sessions 1-2</i>
<b>5:3</b> TLW add/subtract mixed numbers with like denominators and express the sum or difference as a proper fraction or mixed number in lowest terms and apply to real-life situations.	The opportunity to address this objective is available in the following <i>Investigations</i> :  Name That Portion <i>Investigation 2: Sessions 1-2</i>
<b>5:4</b> TLW add/subtract numbers, including decimals, through thousandths, with and without the use of a calculator.	Mathematical Thinking at Grade 5 <i>Investigation 4: Session 1</i>
<b>5:5</b> TLW apply problem-solving strategies to solve multiple-step word problems.	Name That Portion <i>Investigation 1: Session 7</i> <i>Investigation 2: Session 9</i> <i>Investigation 3: Session 7</i>  Building On Numbers You Know <i>Investigation 5: Sessions 3</i>
<b>5:6</b> TLW use manipulatives or visual representation to write and solve equations with one variable.	Building On Numbers You Know <i>Investigation 2: Session 3</i>

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<b>GEOMETRY &amp; MEASUREMENT</b>	
<p><b>5:7</b> TLW apply linear measurement, weight/mass, and volume and make conversions within customary or metric systems.</p>	<p>Measurement Benchmarks <i>Investigation 1: Sessions 1-8</i> <i>Investigation 2: Sessions 1-8</i></p> <p>Containers and Cubes <i>Investigation 1: Sessions 1-4</i> <i>Investigation 2: Sessions 1-5</i> <i>Investigation 3: Sessions 1-4</i></p>
<p><b>5:8</b> TLW calculate the area of polygons and closed figures and apply to real-life situations.</p>	<p>Picturing Polygons <i>Investigation 3: Sessions 4-6</i></p>
<p><b>5:9</b> TLW differentiate between points, lines, segments, rays, and angles on a plane and label appropriately.</p>	<p>Picturing Polygons <i>Investigation 2: Sessions 8-9</i></p>
<p><b>5:10</b> TLW recognize, produce, and classify special triangles and quadrilaterals and identify their lines of symmetry and transformations.</p>	<p>Picturing Polygons <i>Investigation 2: Sessions 1-5</i></p>
<b>PATTERNS, RELATIONSHIPS &amp; FUNCTIONS</b>	
<p><b>See also 5:11</b></p>	<p>Please see references for 5:11</p>
<b>DATA ANALYSIS &amp; STATISTICS</b>	
<p><b>5:11</b> TLW read and interpret data by analyzing and constructing graphs.</p>	<p>Patterns of Change <i>Investigation 1: Sessions 3-4</i> <i>Investigation 2: Sessions 4-5</i> <i>Investigation 3: Sessions 4-5</i></p>
<p><b>5:12</b> TLW read, interpret, determine, and use distributions of data and probability.</p>	<p>Between Never and Always <i>Investigation 1: Sessions 1-7</i> <i>Investigation 2: Sessions 1-5</i></p>