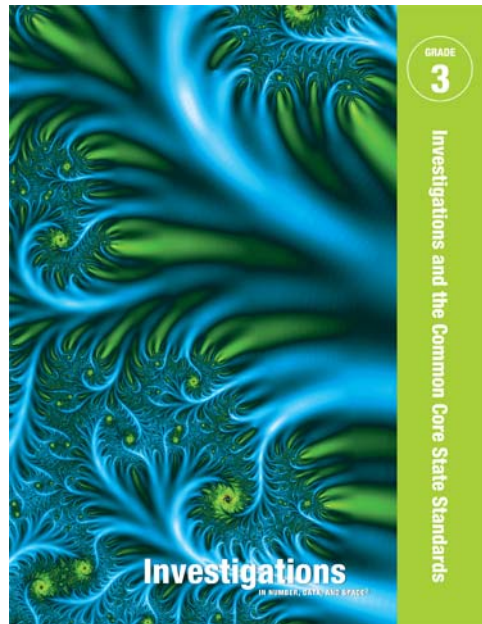


A Correlation of

SCOTT FORESMAN  
**Investigations**  
IN NUMBER, DATA, AND SPACE®

©2012



to the

**Common Core State Standards  
for Mathematics**

**Grade 3**

# **A Correlation of Investigations in Number, Data, and Space, ©2012 to the Common Core State Standards for Mathematics**

## **Introduction**

This document demonstrates how *Investigations in Number, Data, and Space* ©2012 meets the indicators of the Common Core State Standards for Mathematics, Grade 3. Correlation references are to the unit number and are cited at the session level. This correlation includes Classroom Routines but does not include ongoing review in Daily Practice and Homework.

*Investigations in Number, Data, and Space* supports students in making sense of mathematics and becoming mathematical thinkers. The program is designed to help all elementary children understand the fundamental ideas underlying number and arithmetic, geometry, data, measurement, and algebraic thinking. Students are encouraged to reason mathematically, develop problem-solving strategies, and represent their thinking using models, diagrams, and graphs. In addition to engaging the range of math learners, Investigations communicates mathematics content and pedagogy to teachers, offering them greater support built into every lesson, so that all students are successful.

Each grade level consists of a set of units, presented through investigations that involve students in the exploration of major mathematical ideas. Students gain a greater understanding of math, with meaningful practice and review that result in computational fluency. They build a greater foundation for algebra that prepares them for the challenges in middle and high school math courses.

Approaching the mathematics content through investigations helps student develop flexibility and confidence in approaching problems, fluency in using mathematical skills and tools to solve problems, and proficiency in evaluating their solutions. Students also build a repertoire of ways to communicate about their mathematical thinking, while their enjoyment and application of mathematics grows.

### **New to the program for the Common Core State Standards**

INVESTIGATIONS AND THE COMMON CORE STATE STANDARDS Resource Book contains:

- Overview of the Common Core State Standards and Investigations
- Alignment to the Standards for Mathematical Practice
- Correlation to the Standards for Mathematical Content
- Instructional Plan for each Unit
- New Teacher Material for each Unit
- Common Core Student Activity Black Line Masters

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**Curriculum Units**

**Grade 3**

**U1** Trading Stickers, Combining Coins

**U2** Surveys and Line Plots

**U3** Collections and Travel Stories

**U4** Perimeter, Angles, and Area

**U5** Equal Groups

**ICCG:** Investigations and the Common Core State Standards Guidebook

**U6** Stories, Tables, and Graphs

**U7** Finding Fair Shares

**U8** How Many Hundreds? How Many Miles?

**U9** Solids and Boxes

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Common Core State Standards for Mathematics, Grade 3	Investigations in Number, Data, and Space, ©2012 Grade 3
<b>Operations and Algebraic Thinking 3.OA</b>	
<b>Represent and solve problems involving multiplication and division.</b>	
1. Interpret products of whole numbers, e.g., interpret $5 \times 7$ as the total number of objects in 5 groups of 7 objects each. [3.OA.1.]	<b>U5 Sessions:</b> 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 3.1, 3.2, 3.3, 3.4, 3.6, 4.7
2. Interpret whole-number quotients of whole numbers, e.g., interpret $56 \div 8$ as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. [3.OA.2.]	<b>U5 Sessions:</b> 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7
3. Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.1 [3.OA.3.]	<b>U5 Sessions:</b> 1.1, 1.2, 1.3, 1.4, 2.3, 2.4, 2.5, 2.6, 3.1, 3.3, 3.4, 4.1, 4.2, 4.3, 4.5, 4.6, 4.7 <b>U6 Sessions:</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7 <b>U7 Sessions:</b> 1.1, 2.1 <b>U8 Session:</b> 3.5
4. Determine the unknown whole number in a multiplication or division equation relating three whole numbers. [3.OA.4.]	<b>U5 Sessions:</b> 1.3, 1.4, 2.6, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6 <b>U5 ICCG:</b> 3.5A, 3.5B, 3.7A
<b>Understand properties of multiplication and the relationship between multiplication and division.</b>	
5. Apply properties of operations as strategies to multiply and divide. [3.OA.5.]	<b>U5 Sessions:</b> 1.4, 2.2, 2.3, 2.4, 2.5, 2.6, 3.1, 3.2, 3.3, 3.4, 3.6 <b>U5 ICCG:</b> 3.5A, 3.5B, 3.7A <b>U6 Sessions:</b> 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6 <b>U7 Sessions:</b> 1.2, 2.4
6. Understand division as an unknown-factor problem. [3.OA.6.]	<b>U5 Sessions:</b> 4.1, 4.2, 4.3, 4.4, 4.5, 4.6
<b>Multiply and divide within 100.</b>	
7. Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that $8 \times 5 = 40$ , one knows $40 \div 5 = 8$ ) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers. [3.OA.7.]	<b>U5 Sessions:</b> 3.4, 3.6, 4.5, 4.6 <b>U5 ICCG:</b> 3.5A, 3.5B, 3.7A <b>U6 Sessions:</b> 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4 <b>U7 Sessions:</b> 1.2, 2.4 <b>U7 ICCG:</b> 1.4A <b>U8 Session:</b> 1.4

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Common Core State Standards for Mathematics, Grade 3	Investigations in Number, Data, and Space, ©2012 Grade 3
<b>Solve problems involving the four operations, and identify and explain patterns in arithmetic.</b>	
<p>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. <i>(This standard is limited to problems posed with whole numbers and having whole-number answers; students should know how to perform operations in the conventional order when there are no parentheses to specify a particular order (Order of Operations).)</i> [3.OA.8.]</p>	<p><b>U1 Sessions:</b> 1.3, 1.4, 1.6, 1.7, 1.8, 2.3, 2.5, 2.7, 2.8  <b>U3 Sessions:</b> 1.4, 1.5, 2.1, 2.3, 2.4, 3.4, 3.5, 3.6, 3.7, 4.1, 4.2, 4.3, 4.4  <b>U5 Session:</b> 4.5  <b>U6 Sessions:</b> 3.2, 3.3, 3.5, 3.7  <b>U8 Sessions:</b> 1.1, 1.2, 1.3, 1.4, 1.5, 2.3, 3.6, 3.7, 3.8, 3.9  <b>U9 ICCG:</b> 4A.3</p>
<p>9. Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. [3.OA.9.]</p>	<p><b>U1 Sessions:</b> 1.2, 1.4, 1.7, 2.2, 2.3, 2.6  <b>U3 Sessions:</b> 1.1, 1.5, 1.6, 2.3, 2.4, 2.5, 2.6, 2.7, 3.2, 3.3, 4.4  <b>U5 Sessions:</b> 1.3, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 3.1, 3.2, 3.3, 3.4, 4.1  <b>U5 ICCG:</b> 3.5A, 3.5B, 3.6, 3.7A  <b>U6 Sessions:</b> 1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7  <b>U8 Sessions:</b> 1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9</p>
<b>Number and Operations in Base Ten 3.NBT</b>	
<b>Use place value understanding and properties of operations to perform multi-digit arithmetic. (A range of algorithms may be used.)</b>	
<p>1. Use place value understanding to round whole numbers to the nearest 10 or 100. [3.NBT.1.]</p>	<p><b>U3 ICCG:</b> 1.7A  <b>U4 Sessions:</b> 1.1, 1.2, 1.3, 1.4, 1.5, 2.4, 2.5, 3.2, 3.5, 3.6  <b>U4 ICCG:</b> 2.5A  <b>U6 Sessions:</b> 2.2, 3.1, 3.3, 3.4  <b>U7 Sessions:</b> 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4  <b>U7 ICCG:</b> 1.4A, 1.4B,  <b>U9 Sessions:</b> 2.1, 2.2, 2.3  <b>U9 ICCG:</b> 4A.1, 4A.2, 4A.3</p>

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Common Core State Standards for Mathematics, Grade 3	Investigations in Number, Data, and Space, ©2012 Grade 3
<p>2. Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. [3.NBT.2.]</p>	<p><b>U1 Sessions:</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8  <b>U3 Sessions:</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6  <b>U4 Sessions:</b> 1.1, 1.2, 1.3, 1.4, 1.5, 2.4, 2.5, 3.2, 3.5, 3.6  <b>U4 ICCG:</b> 2.5A  <b>U6 Sessions:</b> 1.2, 1.3, 1.4, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4  <b>U7 Sessions:</b> 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4  <b>U7 ICCG:</b> 1.4A, 1.4B  <b>U8 Sessions:</b> 1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9  <b>U9 Sessions:</b> 2.1, 2.2, 2.3  <b>U9 ICCG:</b> 4A.1, 4A.2, 4A.3</p>
<p>3. Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., <math>9 \times 80</math>, <math>5 \times 60</math>) using strategies based on place value and properties of operations. [3.NBT.3.]</p>	<p><b>U5 ICCG:</b> 3.7A</p>
<p><b>Number and Operations—Fractions * 3.NF</b>  <i>*Expectations in this domain are limited to fractions with denominators of 2, 3, 4, 6, and 8; denominators 2, 3, 4, 6, and 8.</i></p>	
<p><b>Develop understanding of fractions as numbers.</b></p>	
<p>1. Understand a fraction <math>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>a/b</math> as the quantity formed by <math>a</math> parts of size <math>1/b</math>. [3.NF.1.]</p>	<p><b>U7 Sessions:</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3, 3.4</p>
<p>2. Understand a fraction as a number on the number line; represent fractions on a number line diagram. [3.NF.2.]</p>	
<p>a. Represent a fraction <math>1/b</math> on 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. [3.NF.2.a.]</p>	<p><b>U7 ICCG:</b> 1.4A, 1.4B</p>
<p>b. Represent a fraction <math>a/b</math> on a number line diagram by marking off <math>a</math> lengths <math>1/b</math> from 0. Recognize that the resulting interval has size <math>a/b</math> and that its endpoint locates the number <math>a/b</math> on the number line. [3.NF.2.b.]</p>	<p><b>U7 ICCG:</b> 1.4A, 1.4B</p>

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3. Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. [3.NF.3.]	
a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. [3.NF.3.a.]	<b>U7 Sessions:</b> 1.1, 1.2, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3, 3.4 <b>U7 ICCG:</b> 1.4A, 1.4B
b. Recognize and generate simple equivalent fractions, e.g., $1/2 = 2/4$ , $4/6 = 2/3$ . Explain why the fractions are equivalent, e.g., by using a visual fraction model. [3.NF.3.b.]	<b>U7 Sessions:</b> 1.5, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3, 3.4
c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. [3.NF.3.c.]	<b>U7 Sessions:</b> 1.3, 2.1, 2.2, 2.3, 2.4, 3.4 <b>U7 ICCG:</b> 1.4A, 1.4B
d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols $>$ , $=$ , or $<$ , and justify the conclusions, e.g., by using a visual fraction model. [3.NF.3.d.]	<b>U7 Sessions:</b> 1.2, 1.3 <b>U7 ICCG:</b> 1.4B
<b>Measurement and Data 3.MD</b>	
<b>Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.</b>	
1. Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram. [3.MD.1.]	<b>U3 Sessions:</b> 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6 <b>U3 ICCG:</b> 1.7A <b>U5 Sessions:</b> 1.1, 1.2, 1.3, 1.4, 3.1, 3.2, 3.3, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7 <b>U5 ICCG:</b> 3.1A <b>U7 Sessions:</b> 1.4, 1.5, 1.6, 3.1, 3.2, 3.3, 3.4

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2. Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. <i>(Excludes compound units such as <math>cm^3</math> and finding the geometric volume of a container. Excludes multiplicative comparison problems (problems involving notions of “times as much”).)</i> [3.MD.2.]	<b>U9 ICCG:</b> 4A.1, 4A.2, 4A.3
<b>Represent and interpret data.</b>	
3. Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. [3.MD.3.]	<b>U2 Sessions:</b> 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 2.1, 2.2, 3.5 <b>U2 ICCG:</b> 2.3A
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. [3.MD.4.]	<b>U2 Sessions:</b> 3.1, 3.2, 3.3, 3.4
<b>Geometric measurement: understand concepts of area and relate area to multiplication and to addition.</b>	
5. Recognize area as an attribute of plane figures and understand concepts of area measurement. [3.MD.5.]	
a. A square with side length 1 unit, called “a unit square,” is said to have “one square unit” of area, and can be used to measure area. [3.MD.5.a.]	<b>U4 Sessions:</b> 2.2, 2.3, 2.4, 2.5, 2.6, 3.6 <b>U4 ICCG:</b> 2.5A
b. A plane figure which can be covered without gaps or overlaps by $n$ unit squares is said to have an area of $n$ square units. [3.MD.5.b.]	<b>U4 Sessions:</b> 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 3.6 <b>U4 ICCG:</b> 2.5A



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<b>Common Core State Standards for Mathematics, Grade 3</b>	<b>Investigations in Number, Data, and Space, ©2012 Grade 3</b>
6. Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units). [3.MD.6.]	<b>U4 Sessions:</b> 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 3.6 <b>U4 ICCG:</b> 2.5A
7. Relate area to the operations of multiplication and addition. [3.MD.7.]	
a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths. [3.MD.7.a.]	<b>U4 Session:</b> 2.4 <b>U5 Sessions:</b> 3.1, 3.2, 3.3, 3.4 <b>U5 ICCG:</b> 3.1A, 3.5A
b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning. [3.MD.7.b.]	<b>U4 Session:</b> 2.4 <b>U5 Sessions:</b> 3.1, 3.3, 3.4, 3.6 <b>U5 ICCG:</b> 3.1A, 3.5A
c. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths $a$ and $b + c$ is the sum of $a \times b$ and $a \times c$ . Use area models to represent the distributive property in mathematical reasoning. [3.MD.7.c.]	<b>U5 Sessions</b> <b>U5 ICCG:</b> 3.1A, 3.5A
d. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems. [3.MD.7.d.]	<b>U4 Sessions:</b> 2.3, 2.4, 2.5A, 2.5 <b>U4 ICCG:</b> 2.5A <b>U5 ICCG:</b> 3.1A, 3.5A
<b>Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.</b>	
8. Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters. [3.MD.8.]	<b>U4 Sessions:</b> 1.2, 1.3, 1.4, 1.5 <b>U4 ICCG:</b> 2.5A

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Common Core State Standards for Mathematics, Grade 3	Investigations in Number, Data, and Space, ©2012 Grade 3
<b>Geometry 3.G</b>	
<b>Reason with shapes and their attributes.</b>	
1. Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories. [3.G.1.]	<b>U4 Sessions:</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6
2. Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. [3.G.2.]	<b>U7 Sessions:</b> 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3, 2.4, 3.1, 3.2, 3.3, 3.4
<b>Math Practices</b>	
1. Make sense of problems and persevere in solving them.	<p>A major goal of <b>Investigations in Number, Data, and Space</b> is to support students to make sense of mathematics and learn that they can become mathematical thinkers. To this end, students create, use, and share contexts and representations to make sense of problems. Classroom discussions highlight different ways of interpreting a problem, solving it, and using representations to communicate the pertinent mathematical ideas. Students persevere in solving problems, by investigating and practicing problem-solving strategies.</p> <p>Please find representative examples from the Grade 3 program:</p> <p><b>U1 Sessions:</b> 2.5, 2.6, 2.7  <b>U3 Sessions:</b> 3.4, 3.5, 3.6, 3.7  <b>U4 Sessions:</b> 1.1, 1.2, 1.3, 1.4, 1.5  <b>U5 Sessions:</b> 4.1, 4.2</p>

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<p align="center"><b>Common Core State Standards for Mathematics, Grade 3</b></p>	<p align="center"><b>Investigations in Number, Data, and Space, ©2012 Grade 3</b></p>
<p>2. Reason abstractly and quantitatively.</p>	<p>Another major goal of <b>Investigations</b> is to provide a curriculum that emphasizes reasoning about mathematical ideas. Students move between concrete examples with specific quantities, objects, or data and generalizations about what works in similar situations. They express these generalizations in words, with variables, and with various representations including contexts, diagrams, and manipulatives. Abstract and quantitative reasoning are reinforced in strategically challenging games as well as Ten-Minute Math (Grades 3–5). Students flexibly use different properties of operations to solve problems.</p> <p>Please find representative examples from the Grade 3 program:</p> <p><b>U1 Sessions:</b> 1.5, 1.6, 1.7  <b>U3 Sessions:</b> 1.4, 1.5, 1.6  <b>U6 Sessions:</b> 3.1, 3.2, 3.3, 3.4  <b>U7 Sessions:</b> 2.2, 2.3, 2.4  <b>U2, U3, U6, U7 Ten-Minute Math:</b> Today's Number</p>
<p>3. Construct viable arguments and critique the reasoning of others.</p>	<p>The program provides ongoing opportunities for students to express and defend mathematical arguments. Students use a variety of representations, contexts, and examples to “prove” their conclusions and provide feedback about the arguments made by their classmates. The program emphasizes that there is often more than one strategy for solving a problem. Students defend their strategies as they listen to and evaluate the choices made by others. Students’ strategies are often recorded on a chart and posted so that all students can analyze, review, and use their classmates’ ideas.</p> <p>Please find representative examples from the Grade 3 program:</p> <p><b>U2 Session:</b> 3.2  <b>U3 Session:</b> 2.4  <b>U6 Sessions:</b> 1.1, 1.2, 1.3  <b>U8 Sessions:</b> 2.3, 2.4, 2.5</p>

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<p>4. Model with mathematics.</p>	<p>Throughout the curriculum, students use representations and contexts to visualize, describe, and analyze mathematical relationships. Using these models allows students to express and further develop their ideas, and to engage in the ideas of others. They develop a repertoire of models they know well and can apply when faced with unfamiliar problem situations. Students use representations and contexts judiciously and with purpose.</p> <p>Please find representative examples from the Grade 3 program:</p> <p><b>U1 Sessions:</b> 1.1, 1.2, 1.3, 1.4  <b>U3 Sessions:</b> 3.4, 3.5, 3.6, 3.7  <b>U4 Sessions:</b> 1.4, 1.5  <b>U5 Sessions:</b> 3.1, 3.2  <b>U6 Sessions:</b> 3.1, 3.2, 3.3, 3.4, 3.5, 3.6</p>
<p>5. Use appropriate tools strategically.</p>	<p>Students have access to an array of tools, such as connecting cubes, pattern blocks, 100 charts, and technology. Students use other tools, such as drawings, the number line, or a rectangular array. Mathematical tools are introduced that are useful for a whole class of problems and can be extended to accommodate more complex problems and/or students' expanding repertoire of numbers. Analysis of the solution to a problem includes consideration of the effectiveness and choice of the tools. During Math Workshops, students continue to use tools to foster mathematical understanding and to practice skills.</p> <p>Please find representative examples from the Grade 3 program:</p> <p><b>U4 Sessions:</b> 1.1, 1.2, 1.3, 1.4, 1.5  <b>U5 Sessions:</b> 3.3, 3.4, 3.6  <b>U6 Sessions:</b> 2.1, 2.2, 2.3  <b>U7 Sessions:</b> 2.1, 2.2, 2.3, 2.4  <b>U8 Sessions:</b> 1.1, 1.2, 1.3</p>

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<p align="center"><b>Common Core State Standards for Mathematics, Grade 3</b></p>	<p align="center"><b>Investigations in Number, Data, and Space, ©2012 Grade 3</b></p>
<p>6. Attend to precision.</p>	<p>Every session requires students to communicate with precision. The Student Math Handbook provides support in this endeavor. Strategies that students use are often named by the mathematics used in order to foster precise communication. Many of the sessions' focal points stress the use of "clear and concise" notation. Students are expected to solve problems efficiently and accurately.</p> <p>Please find representative examples from the Grade 3 program:</p> <p><b>U1 Session:</b> 2.6  <b>U3 Sessions:</b> 2.1, 2.2, 2.7  <b>U5 Sessions:</b> 1.2, 1.3, 1.4  <b>U7 Sessions:</b> 1.1, 1.2, 1.3  <b>U8 Sessions:</b> 2.3, 2.4, 2.5</p>
<p>7. Look for and make use of structure.</p>	<p>In each unit, students work between the concrete to the abstract, from numerical and geometrical patterns to general representations. Students are given opportunities and support to investigate, discover, conjecture, and make use of commonalities among related problems. Students use the structure of carefully chosen contexts and representations that embody important characteristics of mathematical relationships. Ten-Minute Math (Grades 3–5) afford more situations in which students discover and use the various structures of mathematics.</p> <p>Please find representative examples from the Grade 3 program:</p> <p><b>U1 Sessions:</b> 1.1, 1.2, 1.3  <b>U2 Sessions:</b> 2.1, 2.2  <b>U4 Sessions:</b> 2.2, 2.3, 2.4, 2.5, 2.6  <b>U5 Sessions:</b> 2.1, 2.2  <b>U6 Sessions:</b> 2.1, 2.2, 2.3  <b>U1, U4, U9 Ten-Minute Math:</b> Practicing Place Value  <b>U4, U9: Ten-Minute Math:</b> Quick Images</p>

**A Correlation of Investigations in Number, Data, and Space, ©2012  
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<p>8. Look for and express regularity in repeated reasoning.</p>	<p>A hallmark of the <b>Investigations</b> program is its emphasis on helping students become mathematical thinkers as they explore and practice strategies for solving problems. Through repeated application and comparison of various strategies and algorithms, students develop an understanding of which method is efficient for a particular type of problem. Each Investigations unit on numbers and operations includes a focus on reasoning and generalizing about number and operations and highlights what students already notice in regularities about numbers and operations.</p> <p>Please find representative examples from the Grade 3 program:</p> <p><b>U3 Sessions:</b> 2.4, 2.5, 2.6, 2.7  <b>U5 Sessions:</b> 2.1, 2.2, 2.3, 2.4  <b>U7 Sessions:</b> 3.1, 3.2, 3.3  <b>U8 Sessions:</b> 2.1, 2.2, 2.3  <b>U9 Sessions:</b> 3.1, 3.2, 3.3, 3.4, 3.5</p>