

A Correlation of



to the

Louisiana
Department of Education
Mathematics—Grade Level Expectations
Grade Three



C/M-92_3

Book Title: Investigations in Number, Data, & Space **Grade Level:** Three

Publisher: Pearson Scott Foresman

Subject/Course: Mathematics

Grade 3

Number and Number Relations

In problem-solving investigations, students demonstrate an understanding of the real number system and communicate the relationships within that system using a variety of techniques and tools.

Students use estimation, mental arithmetic, number lines, graphs, appropriate models, manipulatives, calculators, and computers as they investigate problems involving whole numbers.

GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
1. Model, read, and write place value in word, standard, and expanded form for numbers through 9999 (N-1-E)	Mathematical Thinking at Grade 3 Investigation 3: Sessions 3–4 Landmarks in the Hundreds Investigation 1: Sessions 1–3 Investigation 4: Sessions 1–4 Up and Down the Number Line Investigation 1: Sessions 3–4, 6–7 Investigation 2: Sessions 1–3 Combining and Comparing Investigation 1: Sessions 1–3 Investigation 2: Sessions 1–2 Investigation 3: Session 1 Investigation 4: Sessions 1–2 Investigation 5: Sessions 1–3 Fair Shares Investigation 2: Session 3
2. Read, write, compare, and order whole numbers through 9999 using symbols (i.e., <, =, >) and models (N-1-E) (N-3-E)	Mathematical Thinking at Grade 3 Investigation 3: Sessions 3–4 Landmarks in the Hundreds Investigation 1: Sessions 1–3 Investigation 4: Sessions 1–4 Up and Down the Number Line Investigation 1: Sessions 3–4, 6–7 Investigation 2: Sessions 1–3

GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
(continued)	Combining and Comparing Investigation 1: Sessions 1–3 Investigation 2: Sessions 1–2 Investigation 3: Session 1 Investigation 4: Sessions 1–2 Investigation 5: Sessions 1–3 Fair Shares Investigation 2: Session 3
3. Use region and set models and symbols to represent, estimate, read, write, and show understanding of fractions through tenths (N-1-E) (N-2-E)	Mathematical Thinking at Grade 3 Investigation 2: Sessions 3–4 Investigation 4: Session 2 Flips, Turns, and Areas Investigation 2: Sessions 1–5 Fair Shares Investigation 1: Sessions 1–4 Investigation 2: Sessions 1–7 Investigation 3: Sessions 1–3
4. Use the concepts of associative and commutative properties of multiplication to simplify computations (N-4-E) (N-7-E)	Things That Come in Groups Investigation 3: Sessions 1–2, 3–4
5. Recognize and model multiplication as a rectangular array or as repeated addition (N-4-E) (N-7-E)	Using Landmarks to Solve Problems Investigation 2: Sessions 5–6 Things That Come in Groups Investigation 1: Session 2 Investigation 2: Session 2 Investigation 3: Sessions 1–5
6. Recognize and model division as separating quantities into equal subsets (fair shares) or as repeated subtraction (N-4-E) (N-7-E)	Using Landmarks to Solve Problems Investigation 2: Sessions 5–6 Things That Come in Groups Investigation 3: Sessions 1, 2, 3 Investigation 4: Sessions 1, 2, 3–4 Investigation 5: Session 1
7. Recognize and apply multiplication and division as inverse operations (N-4-E)	Things That Come in Groups Investigation 1: Session 3 (The Relationship Between Multiplication and Division) Investigation 3: Sessions 3, 4 Investigation 4: Session 1 Investigation 5: Session 4

GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
<p>8. Recognize, select, connect, and use operations, operational words, and symbols (i.e., +, −, ×, ÷) to solve real-life situations (N-5-E) (N-6-E) (N-9-E)</p>	<p>Mathematical Thinking at Grade 3 Investigation 1: Sessions 1, 2–3 Investigation 2: Sessions 1–7 Investigation 3: Sessions 3–4 Investigation 4: Sessions 1, 2</p> <p>Things That Come in Groups Investigation 1: Sessions 1–4 Investigation 2: Sessions 1–5 Investigation 3: Investigation 1–3 Investigation 4: Session 1, 3–4 Investigation 5: Sessions 1, 4 Ten-Minute Math</p> <p>Flip, Turns, and Area Investigation 1: Sessions 2–5 Ten-Minute Math</p> <p>From Paces to Feet Ten-Minute Math: Investigation 1 Sessions 2, 5–6</p> <p>Landmarks in the Hundreds Investigation 1: Sessions 1, 2–3, 6–7 Ten-Minute Math: Investigation 1: Sessions 3–4, 6–7 Investigation 2: Sessions 1–3, 2–4, 5–6 Investigation 3: Sessions 1, 2–3</p> <p>Up and Down the Number Line Investigation 1: Sessions 1–8 Ten-Minute Math: Investigation 1: Sessions 3, 4, 5 Investigation 3: Sessions 1, 2</p> <p>Combining and Comparing Investigation 1: Sessions 1, 2 Investigation 2: Sessions 2 Investigation 3: Sessions 1–3 Investigation 4: Sessions 1–4 Ten-Minute Math: Investigation 4: Sessions 3–4 Investigation 5: Sessions 1, 2–3 Ten-Minute Math: Investigation 5: Sessions 2–3</p>

GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
(continued)	Turtle Paths Investigation 1: Sessions 1, 3–4 Investigation 2: Sessions 5–6 Fair Shares Investigation 1: Sessions 1, 2 Investigation 2: Session 5–7 Investigation 3: Sessions 1, 2, 3
9. Know basic multiplication and division facts [0s, 1s, 2s, 5s, 9s, and turn-arounds (commutative facts), including multiplying by 10s] (N-6-E) (N-4-E)	Things That Come in Groups Investigation 1: Session 4 Investigation 2: Sessions 1, 2, 3–4, 5–6 Investigation 5: Sessions 1, 3
10. Calculate the value of a combination of bills and coins and make change up to \$5.00 (N-6-E) (M-1-E) (M-5-E)	Mathematical Thinking at Grade 3 Investigation 2: Sessions 5–7 Combining and Comparing Investigation 3: Sessions 1–2, 3
11. Add and subtract numbers of 3 digits or less (N-6-E) (N-7-E)	Mathematical Thinking at Grade 3 Investigation 1: Session 1 Investigation 2: Sessions 3–4, 5–7 Investigation 3: Sessions 3–4 Landmarks in the Hundreds Investigation 3: Sessions 2–3 Combining and Comparing Investigation 1: Sessions 1, 3 Investigation 2: Sessions 1, 2 Investigation 3: Sessions 1–2, 3 Investigation 4: Sessions 1–4 Investigation 5: Sessions 1–3 Ten-Minute Math: Estimation and Number Sense Up and Down the Number Line Investigation 1: Sessions 1–8
12. Round to the nearest 1000 and identify situations in which such rounding is appropriate (N-7-E) (N-9-E)	These activities involve concepts that prepare students to round to the nearest 1000. Comparing and Combining Investigation 1: Session 1 Investigation 2: Sessions 1, 2 Investigation 3: Session 1

GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
<p>13. Determine when and how to estimate, and when and how to use mental math, calculators, or paper/pencil strategies to solve addition and subtraction problems (N-8-E) (N-9-E)</p>	<p>Throughout this standards-based program, students select appropriate methods and work flexibly with various tools to solve problems. These are a few of the many examples:</p> <p>Mathematical Thinking at Grade 3 Investigation 4: Session 2</p> <p>From Paces to Feet Investigation 1: Sessions 1–4</p> <p>Ten Minute Math: Estimation and Number Sense</p> <p>Things That Come in Groups: Investigation 1: Session 4 Investigation 2: Sessions 2–4 Investigation 3: Sessions 1–2 Investigation 4: Sessions 3–4 Investigation 5: Session 3</p> <p>Landmarks On the Hundreds Chart Investigation 3: Sessions 2–3</p> <p>Combining and Comparing Investigation 1: Sessions 1–2 Investigation 3: Sessions 1–3 Investigation 4: Sessions 3–4 Investigation 5: Sessions 1–3</p> <p>Ten Minute Math: Counting Around the Class; Calendar Math</p> <p>Turtle Paths Investigation 2: Sessions 1–2 Investigation 3: Sessions 1–2</p>

Algebra

In problem-solving investigations students demonstrate an understanding of concepts and processes that allow them to analyze, represent, and describe relationships among variable quantities and to apply algebraic methods to real-world situations.

Students use manipulatives, models, graphs, tables, technology, number sense, and estimation as they investigate problems involving the concepts and application of algebra.

GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
14. Use the symbols $<$, $>$, and \neq to express inequalities (A-1-E)	This investigation involves related content. Combining and Comparing Investigation 4: Session 1 Landmarks in the Hundreds Investigation 1: Sessions 6–7
15. Use objects, pictures, numbers, symbols, and words to represent multiplication and division problem situations (A-1-E)	Mathematical Thinking at Grade 3 Investigation 2: Sessions 3–4 Things That Come in Groups Investigation 1: Sessions 1–4 Investigation 2: Sessions 1–6 Investigation 3: Sessions 1–5 Investigation 4: Sessions 1–4 Investigation 5: Sessions 1–4 Ten-Minute Math: Counting Around the Class Landmarks in the Hundreds Investigation 1: Sessions 1–7 Investigation 2: Sessions 1–6 Investigation 3: Session 1 Ten-Minute Math: Counting Around the Class
16. Use number sentences to represent real-life problems involving multiplication and division (A-1-E) (N-4-E)	Things That Come in Groups Investigation 1: Sessions 1–4 Investigation 4: Sessions 1–4 Investigation 5: Sessions 1–4 Landmarks in the Hundreds Investigation 2: Sessions 1–6

GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
17. Analyze and describe situations where proportional trades or correspondences are required (e.g., trade 2 pieces of candy for 3 pieces of gum, make equivalent actions on pans to keep balance scale in equilibrium, plan for the number of pieces of bread needed for x sandwiches) (A-1-E)	Related content: Landmarks in the Hundreds Investigation 1: Sessions 6–7 Fair Shares Investigation 1–4
18. Use letters as variables in mathematical statements that represent real-life problems (e.g., $2 \times n = 8$) (A-2-E)	These activities prepare students to use letters as variables. Things That Come in Groups Investigation 1: Sessions 2–4 Investigation 4: Sessions 1–4 Up and Down the Number Line Investigation 1: Sessions 6–7

Measurement

In problem-solving investigations, students demonstrate an understanding of the concepts, processes, and real-life applications of measurement.

Students use number sense, estimation, appropriate manipulatives, tools, and technology as they investigate problems involving measurement.

GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
19. Measure length to the nearest yard, meter, and half-inch (M-1-E)	From Paces to Feet Investigation 2: Sessions 1, 2, 3–4, 5, 6–7 Investigation 3: Sessions, 2–3, Investigation 4: Sessions 1, 2, 3
20. Measure capacity using pints and gallons (M-1-E)	Related content: Exploring Solids and Boxes Investigation 4: Session 1 Investigation 5: Sessions 1–4
21. Measure weight using grams and ounces (M-1-E)	Related content: Combining and Comparing Investigation 2: Sessions 1–2

GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
22. Find the perimeter of a geometric shape given the length of its sides (M-1-E)	Turtle Paths Investigation 1: Sessions 3–4 Investigation 2: Sessions 5–6 Investigation 3: Sessions 1–5 Ten-Minute Math: Length and Perimeter
23. Find the area in square units of a given rectangle (including squares) drawn on a grid or by covering the region with square tiles (M-1-E)	Flips, Turns, and Area Investigation 1: Sessions 1, 2–3, 4–5 Investigation 2: Sessions 2–3, 4–5
24. Find elapsed time involving hours and minutes, without regrouping, and tell time to the nearest minute (M-1-E) (M-5-E)	Combining and Comparing Investigation 3: Session 3
25. Select and use the appropriate standard units of measure, abbreviations, and tools to measure length and perimeter (i.e., in., cm, ft., yd., m), area (square inch, square centimeter), capacity (i.e., cup, pint, quart, gallon, liter), and weight/mass (i.e., oz., lb., g, kg, ton) (M-2-E)	From Paces to Feet Investigation 1: Sessions 1–6 Investigation 2: Sessions 1–7 Investigation 3: Sessions 1–3 Investigation 4: Sessions 1–3 Combining and Comparing Investigation 2: Sessions 1–2 Investigation 3: Session 2 Investigation 5: Sessions 1–3
26. Order a set of measures within the same system (M-3-E)	From Paces to Feet Investigation 2: Sessions 3–4
27. Compare U.S. and metric measurements using approximate reference points without using conversions (e.g., a meter is longer than a yard) (M-3-E) (M-4-E)	Related content: From Paces to Feet Investigation 2: Sessions 6–7 Investigation 3: Sessions 1, 2–3 Investigation 4: Sessions 1–3
28. Estimate length, weight/mass, and capacity (M-3-E)	From Paces to Feet Investigation 2: Sessions 1, 2, 3–4, 5, 6–7 Investigation 3: Sessions, 2–3, Investigation 4: Sessions 1, 2, 3 Combining and Comparing Investigation 2: Sessions 1–2

Geometry

In problem-solving investigations, students demonstrate an understanding of geometric concepts and applications involving one-, two-, and three-dimensional geometry, and justify their findings.

Students use number sense, estimation, models, drawings, manipulatives, and technology as they investigate problems involving geometric concepts.

GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
29. Classify and describe 2- and 3-dimensional objects according to given attributes (triangle vs. quadrilateral, parallelogram vs. prism) (G-2-E) (G-1-E) (G-4-E)	Exploring Solids and Boxes Investigation 1: Sessions 1, 2 Turtle Paths Investigation 2: Sessions 3, 4 Investigation 3: Sessions 1, 2
30. Apply concepts of congruence, similarity, and symmetry in real-life situations (G-2-E)	Mathematical Thinking at Grade 3 Investigation 2: Sessions 1, 3–4 Flip, Turns, and Area Investigation 2: Sessions 2–3, 4–5
31. Draw or reconstruct figures from visual memory or verbal descriptions (G-3-E)	Students use the <i>Geo-Logo</i> computer program and its language to draw a variety of geometric figures. Here are some examples: Turtle Paths Investigation 2: Sessions 5–6 Investigation 3: Sessions 1–2, 3–5
32. Recognize and execute specified flips, turns, and slides of geometric figures using manipulatives and correct terminology (including <i>clockwise</i> and <i>counterclockwise</i>) (G-3-E)	Flip, Turns, and Area Investigation 1: Sessions 1, 2–3, 5 Investigation 2: Sessions 2–3 Turtle Paths Investigation 1: Sessions 1, 3–4 Investigation 2: Sessions 1–2
33. Construct and draw rectangles (including squares) with given dimensions (e.g., grid paper, square tiles) (G-4-E)	Students use the <i>Geo-Logo</i> computer program to study a variety of geometric figures. Here are some examples: Turtle Paths Investigation 2: Sessions 1–2, 3, 4 Investigation 3: Sessions 1–2, 3–5
34. Fold a 2-dimensional net into a 3-dimensional object (G-4-E) (G-1-E)	Exploring Solids and Boxes Investigation 3: Sessions 1, 2 Investigation 4, Sessions 1, 2 Investigation 5: Sessions 1, 2, 3, 4

GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
35. Identify, give properties of, and distinguish among points, lines, line segments, planes, rays, and angles (G-5-E)	Exploring Solids and Boxes Investigation 2: Sessions 1, 2 Students use the <i>Geo-Logo</i> computer program to study a variety of geometric figures. Students explore the components of these figures. Here are some examples: Turtle Paths Investigation 2: Sessions 3, 4 Investigation 3: Sessions 1, 2
36. Identify and draw segments, rays, and lines that are perpendicular, parallel, and intersecting (G-5-E)	Students use the <i>Geo-Logo</i> computer program to study a variety of geometric figures. Students explore the components of these figures. Here are some examples: Turtle Paths Investigation 2: Sessions 3, 4 Investigation 3: Sessions 1, 2
37. Identify, describe, and draw intersecting, horizontal, vertical, parallel, diagonal, and perpendicular lines, rays, and right angles in the real world (G-5-E) (G-6-E)	Students use the <i>Geo-Logo</i> computer program to study a variety of geometric figures. Students explore the components of these figures. Here are some examples: Turtle Paths Investigation 2: Sessions 3, 4 Investigation 3: Sessions 1, 2
38. Find the length of a path (that does not include diagonals) between two points on a grid (G-6-E)	Turtle Paths Investigation 1: Sessions 1, 2, 3, 4

Data Analysis, Probability, and Discrete Math

In problem-solving investigations, students discover trends, formulate conjectures regarding cause-and-effect relationships, and demonstrate critical thinking skills in order to make informed decisions.

Students use collection and organizational techniques, number sense, estimation, manipulatives, and technology as they investigate problems involving data.

GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
39. Identify categories and sort objects based on qualitative (categorical) and quantitative (numerical) characteristics (D-1-E)	Mathematical Thinking at Grade 3 Investigation 3: Sessions 1–2, 3–4 Exploring Solids and Boxes Investigation 1: Session 1
40. Read, describe, and organize a two-circle Venn diagram (D-1-E) (D-2-E)	Venn diagrams are investigated in Grade 1.
41. Explain the word <i>average</i> and use it appropriately in discussing what is “typical” of a data set (D-1-E)	From Paces to Feet Investigation 1: Sessions 5–6 Investigation 2: Session 2
42. Match a data set to a graph, table, or chart and vice versa (D-2-E)	Mathematical Thinking at Grade 3 Investigation 3: Sessions 1–2, 3–4 Investigation 3: Sessions 3–4 TMM From Paces to Feet Investigation 2: Sessions 2, 3–4, 5, 6–7
43. Represent and solve problems using data from a variety of sources (e.g., tables, graphs, maps, advertisements) (D-3-E)	Mathematical Thinking at Grade 3 Investigation 1: Sessions 2–3 Investigation 3: Sessions 1–4 Things That Come in Groups Investigation 1: Session 1 Investigation 2: Sessions 1, 5–6 Investigation 5: Sessions 1–4 From Paces to Feet Investigation 1: Sessions 1–2, 5–6 Investigation 2: Session 2 Landmarks in the Hundreds Investigation 1: Sessions 2–3, 6–7 Investigation 2: Sessions 1–3 Investigation 3: Session 1

GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
(continued)	Up and Down the Number Line Investigation 1: Sessions 1–2 Investigation 2: Sessions 1–4 Combining and Comparing Investigation 1: Session 3 Investigation 4: Session 1 Ten-Minute Math: Exploring Data Fair Shares Investigation 2: Sessions 5–6
44. Discuss chance situations in terms of <i>certain/impossible</i> and <i>equally likely</i> (D-5-E)	Things That Come In Groups Ten-Minute Math: Likely or Unlikely Exploring Solids and Boxes Ten-Minute Math: Likely or Unlikely
45. Use manipulatives to discuss the probability of an event (e.g., number cubes, spinners to determine what is most likely or least likely) (D-5-E)	Things That Come In Groups Ten-Minute Math: Likely or Unlikely Exploring Solids and Boxes Investigation 4: Session 2 (Ten-Minute Math) Investigation 5: Sessions 1–4 (Ten-Minute Math)

Patterns, Relations, and Functions

In problem-solving investigations, students demonstrate an understanding of patterns, relations, and functions that represent and explain real-world situations.

Students use number sense, estimation, manipulatives, drawings, tables, graphs, formulas, and technology as they investigate problems involving patterns, relations, and functions.

GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
46. Identify and model even and odd numbers with objects, pictures, and words (P-1-E)	Mathematical Thinking at Grade 3 Investigation 4: Sessions 1, 2, 3
47. Find patterns to complete tables, state the rule governing the shift between successive terms, and continue the pattern (including growing patterns) (P-1-E) (P-2-E)	Mathematical Thinking at Grade 3 Investigation 1: Sessions 2–3 Things That Come in Groups Investigation 2: Sessions 1–6 Investigation 3: Session 3 Investigation 5: Sessions 1, 4 Landmarks in the Hundreds Ten-Minute Math: Counting Around the Class