A Correlation of

to the

Louisiana Department of Education

Mathematics—Grade Level Expectations

Grade Five

PEARSON
Scott Foresman

C/M-92_5

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

Publisher: Pearson Scott Foresman **Subject/Course:** Mathematics

Grade 5

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 extend their investigations of problems involving rational numbers.

GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
1. Differentiate between the terms *factor* and *multiple*, and *prime* and *composite* (N-1-M)	Mathematical Thinking at Grade 5 Investigation 1: Sessions 1–3, 4–6 Building on Numbers You Know Investigation 4: Sessions 1–2 Investigation 5; Sessions 4–6 Between Never and Always Investigation 1: Sessions 7 Measurement Benchmarks Ten-Minute Math: Guess My Number Name That Portion Ten-Minute Math: Seeing Numbers Picturing Polygons Ten-Minute Math: Multiple and Factor Bingo
2. Recognize, explain, and compute equivalent fractions for common fractions (N-1-M) (N-3-M)	Name That Portion Investigation 1: Sessions 2–8 Investigation 3: Session 8 Data: Kids, Cats, and Ads Investigation 1: Session 1
3. Add and subtract fractions with common denominators and use mental math to determine whether the answer is reasonable (N-2-M)	Name That Portion Investigation 2: Sessions 1–2, 3, 6, 7, 9 Investigation 3: Session 7

GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
4. Compare positive fractions using number sense, symbols (i.e., <, =, >), and number lines (N-2-M)	Name That Portion Investigation 2: Sessions 4–9 Data: Kids, Cats, and Ads Investigation 1: Sessions 1–4 Investigation 2: Sessions 1–3 Investigation 3: Sessions 1–3 Investigation 4: Sessions 1–3 Investigation 5: Sessions 3–5 Measurement Benchmarks Ten-Minute Math: Estimation and Number Sense
5. Read, explain, and write a numerical representation for positive improper fractions, mixed numbers, and decimals from a pictorial representation and vice versa (N-3-M)	Name That Portion Investigation 1: Sessions 3–4, 7 Investigation 2: Sessions 1–9 Investigation 3: Sessions 1–4 Ten-Minute Math: Seeing Numbers
6. Select and discuss the correct operation for a given problem involving positive fractions using appropriate language such as *sum*, *difference*, *numerator*, and *denominator* (N-4-M) (N-5-M)	Name That Portion Investigation 1: Session 7 Investigation 2: Sessions 6, 7–8 Investigation 3: Sessions 5–6, 7 Investigation 4: Session 7
7. Select, sequence, and use appropriate operations to solve multi-step word problems with whole numbers (N-5-M) (N-4-M)	Building on Numbers You Know Investigation 3: Sessions 1–10 Investigation 5: Sessions 4–6 Measurement Benchmarks Investigation 3: Sessions 2, 3
8. Use the whole number system (e.g., computational fluency, place value, etc.) to solve problems in real-life and other content areas (N-5-M)	Mathematical Thinking at Grade 5 Investigation 2: Sessions 2–5 Investigation 3: Sessions 1–5 Investigation 4: Sessions 1–5 Building on Numbers You Know Investigation 1: Sessions 1–8 Investigation 2: Sessions 1–3,5–6 Investigation 3: Sessions 4–10 Investigation 4: Sessions 1–2 Investigation 5: Sessions 1–8 Measurement Benchmarks Investigation 1: Sessions 7–8 Ten-Minute Math: Estimation and Number Sense Data: Kids, Cats and Ads Ten-Minute Math: The Digits Game

GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
9. Use mental math and estimation strategies to predict the results of computations (i.e., whole numbers, addition and subtraction of fractions) and to test the reasonableness of solutions (N-6-M) (N-2-M)	Mathematical Thinking at Grade 5 Investigation 3: Sessions 2–4 Investigation 4: Sessions 1, 2, 3, 4 Building on Numbers You Know Investigation 1: Sessions 2–8 Investigation 2: Sessions 1–7 Investigation 3: Sessions 1–10 Investigation 4: Sessions 1–2 Investigation 5: Sessions 1–8 Measurement Benchmarks Investigation 2: Session 3 Ten-Minute Math: Estimation and Number Sense Between Never and Always Ten-Minute Math: Nearest Answer Patterns of Change Ten-Minute Math: Nearest Answer
10. Determine when an estimate is sufficient and when an exact answer is needed in real-life problems using whole numbers (N-6-M) (N-5-M)	Measurement Benchmarks Investigation 1: Sessions 2–3, 7–8
11. Explain concepts of ratios and equivalent ratios using models and pictures in real-life problems (e.g., understand that 2/3 means 2 divided by 3) (N-8-M) (N-5-M)	Building on Numbers You Know Ten-Minute Math: What Is Likely? Name That Portion Investigation 1: Sessions 1, 2, 3–4 Investigation 2: Sessions 1–2 Investigation 3: Sessions 1, 2

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 extend their investigations of problems involving the concepts and application of algebra.

GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
12. Find unknown quantities in number sentences by using mental math, backward reasoning, inverse operations (i.e., unwrapping), and manipulatives (e.g., tiles, balance scales) (A-2-M) (A-3-M)	Mathematical Thinking at Grade 5 Investigation 2: Sessions 1–4 Investigation 3: Sessions 2–5 Investigation 4: Sessions 1–6 Name that Portion Investigation 2: Sessions 1–9 Investigation 3: Sessions 1–8 Investigation 4: Sessions 1–7 Ten-Minute Math: Seeing Numbers Building on Numbers You Know Investigation 1: Sessions 1, 3–4, 6–8 Investigation 2: Sessions 1–2, 5–6 Investigation 3: Sessions 1–10 Investigation 4: Session 1 Investigation 5: Sessions 4–7
13. Write a number sentence from a given physical model of an equation (e.g., balance scale) (A-2-M) (A-1-M)	Most of these activities address related content. There are many opportunities to investigate algebra topics in Patterns of Change. Mathematical Thinking at Grade 5 Investigation 2: Session 1 Investigation 3: Session 2–5 Investigation 4: Session 1 Name that Portion Ten-Minute Math: Seeing Numbers Building on Numbers You Know Investigation 1: Sessions 1, 3–4, 6–8 Investigation 2: Sessions 1–2, 5–6 Investigation 3: Session 1–10 Investigation 4: Session 1 Investigation 5: Session 4–7

GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
(continued)	Patterns of Change Investigation 1: Sessions 3–4 Investigation 2: Session 1: Ten-Minute Math:
14. Find solutions to one-step inequalities and identify positive solutions on a number line (A-2-M) (A-3-M)	Limits and inequalities can be introduced during this activity. Patterns of Change Investigation 3: Session 1

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 extend their investigations of problems involving measurement.

GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
15. Model, measure, and use the names of all common units in the U.S. and metric systems (M-1-M)	Measurement Benchmarks Investigation 1: Session 1 Investigation 2: Sessions 1–2, 4
16. Apply the concepts of elapsed time in real-life situations and calculate equivalent times across time zones in real-life problems (M-1-M) (M-6-M)	This activity provides the opportunity for students to apply this expectation. Measurement Benchmarks Investigation 3: Session 1 *See also, Grade 3.*
17. Distinguish among the processes of counting, calculating, and measuring and determine which is the most appropriate strategy for a given situation (M-2-M)	Measurement Benchmarks Investigation 1, Sessions 5–6, 7–8 Investigation 2: Session 5 Investigation 3: Sessions 2, 3 Picturing Polygons Investigation 2: Sessions 1–2, 6–9 Investigation 3: Session 1–3 Containers and Cubes Investigation 3: Sessions 1–2, 3, 4
18. Estimate time, temperature, weight/mass, and length in familiar situations and explain the reasonableness of answers (M-2-M)	Measurement Benchmarks Investigation 1: Sessions 5–6, 7–8 Investigation 2: Session 3

GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
19. Compare the relative sizes of common units for time, temperature, weight, mass, and length in real-life situations (M-2-M) (M-4-M)	Measurement Benchmarks Investigation 2: Sessions 7–8
20. Identify appropriate tools and units with which to measure time, mass, weight, temperature, and length (M-3-M)	Measurement Benchmarks Investigation 1: Sessions 1, 3, 4, 5–6, 7 Investigation 2: Sessions 3, 4 Investigation 3: Session 1
21. Measure angles to the nearest degree (M-3-M)	Picturing Polygons Investigation 2: Sessions 1–3, 8 Investigation 3: Sessions 1–3
22. Compare and estimate measurements between the U.S. and metric systems in terms of common reference points (e.g., l vs. qt., m vs. yd.) (M-4-M)	Measurement Benchmarks Investigation 2: Sessions 1–8
23. Convert between units of measurement for length, weight, and time, in U.S. and metric, within the same system (M-5-M)	Measurement Benchmarks Investigation 2: Sessions 1–8

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 extend their investigations of problems involving geometric concepts.

GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
24. Use mathematical terms to classify and describe the properties of 2-dimensional shapes, including circles, triangles, and polygons (G-2-M)	Measurement Benchmarks Ten-Minute Math: Quick Images Picturing Polygons Investigation 1: Session 2 Investigation 2: Sessions 1–5 Investigation 3: Sessions 1–2
25. Identify and use appropriate terminology for transformations (e.g., *translation* as *slide*, *reflection* as *flip*, and *rotation* as *turn*) (G-3-M)	These activities provide opportunities for students to extend this expectation. Picturing Polygons Investigation 2: Sessions 4–5, 9 Investigation 3: Session 3 Investigation 3: Sessions 5–7
26. Identify shapes that have rotational symmetry (G-3-M)	These activities provide opportunities for students to extend this expectation. Picturing Polygons Investigation 2: Sessions 4–5, 9 Investigation 3: Session 3 Investigation 3: Sessions 5–7 See also, Grade 4: Mathematical Thinking at Grade 4, and Sunken Ships and Grid Patterns.
27. Identify and plot points on a coordinate grid in the first quadrant (G-6-M)	Picturing Polygons Investigation 1: Sessions 3–4 Investigation 2: Sessions 4–5

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 extend their investigations of problems involving data.

GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
28. Use various types of charts and graphs, including double bar graphs, to organize, display, and interpret data and discuss patterns verbally and in writing (D-1-M) (D-2-M) (P-3-M) (A-4-M)	Name That Portion Investigation 4: Sessions 1–7 Between Never and Always Investigation 1: Sessions 3–6 Investigation 2: Sessions 1–3 Measurement Benchmarks Investigation 2: Sessions 7–8 Investigation 3: Sessions 1–2 Patterns of Change Investigation 1: Sessions 1–4 Investigation 2: Sessions 1–5 Investigation 3: Sessions 1–6 Ten Minute Math: Graph Stories Data: Kids, Cats, and Ads Investigation 1: Sessions 1–4 Investigation 2: Sessions 1–3 Investigation 3: Sessions 2–4 Investigation 4: Sessions 2–3 Investigation 5: Sessions 2–5
29. Compare and contrast different scales and labels for bar and line graphs (D-1-M)	Patterns of Change Investigation 3: Sessions 5, 6 Data: Kids, Cats, and Ads Investigation 1: Sessions 1 Investigation 5: Sessions 3, 4, 5
30. Organize and display data using spreadsheets, with technology (D-1-M)	In these activities, students use computer technology to enter, analyze, and examine data. Data: Kids, Cats, and Ads Investigation 2: Session 3 Investigation 5: Sessions 3–5

GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
31. Compare and contrast survey data from two groups relative to the same question (D-2-M)	Data: Kids, Cats, and Ads Investigation 1: Sessions 1–4 Investigation 2: Sessions 1–3 Investigation 3: Sessions 1–4 Investigation 4: Sessions 2–3 Investigation 5: Sessions 2–5
32. Represent probabilities as common fractions and recognize that probabilities fall between 0 and 1, inclusive (D-5-M)	Between Never and Always Investigation 1: Sessions 3–4, 5

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 extend their investigations of problems involving patterns, relations, and functions.

GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
33. Fill in missing elements in sequences of designs, number patterns, positioned figures, and quantities of objects (P-1-M)	Patterns of Change Investigation 1: Sessions 1–4