A Correlation of

SCOTT FORESMAN · ADDISON WESLEY

Mathematics

to the

Louisiana
Department of Education
Mathematics—Grade Level Expectations
Grade Four

Book Title: Scott Foresman – Addison Wesley Mathematics   **Grade Level:** Four

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Grade 4

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. Read and write place value in word, standard, and expanded form through 1,000,000 (N-1-E)	4A–4B, 4–7, 8A–8B, 8–9, 10A–10B, 10–11
2. Read, write, compare, and order whole numbers using place value concepts, standard notation, and models through 1,000,000 (N-1-E) (N-3-E) (A-1-E)	16A–16B, 16–19, 26
3. Illustrate with manipulatives when a number is divisible by 2, 3, 5, or 10 (N-1-E)	402A–402B, 402–403
4. Know all basic facts for multiplication and division through 12 x 12 and 144 ÷ 12, and recognize factors of composite numbers less than 50 (N-1-E) (N-6-E) (N-7-E)	122J, 132A–132B, 132–135, 136A–136B, 136–137, 148A–148B, 148–149, 150A–150B, 150–151, 152A–152B, 152–153
5. Read, write, and relate decimals through hundredths and connect them with corresponding decimal fractions (N-1-E)	34A–34B, 34–35, 624A–624B, 624–627, 628A–628B, 628–629
6. Model, read, write, compare, order, and represent fractions with denominators through twelfths using region and set models (N-1-E) (A-1-E)	500A–500B, 500–501, 502A–502B, 502–503, 504A–504B, 504–507, 522A–522B, 522–523, 524A–524B, 524–527
7. Give decimal equivalents of halves, fourths, and tenths (N-2-E) (N-1-E)	624A–624B, 624–627

GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
8. Use common equivalent reference points for percents (i.e., ¼, ½, ¾, and 1 whole) (N-2-E)	*The Enrichment feature on this page provides the opportunity to introduce this expectation.* 533
9. Estimate fractional amounts through twelfths, using pictures, models, and diagrams (N-2-E)	508A–508B, 508–509
10. Solve multiplication and division number sentences including interpreting remainders (N-4-E) (A-3-E)	166A–166B, 166–167, 396A–396B, 396–401, 690A–690B, 690–691
11. Multiply 3-digit by 1-digit numbers, 2-digit by 2-digit numbers, and divide 3-digit numbers by 1-digit numbers, with and without remainders (N-6-E) (N-7-E)	274A–274B, 274–275, 332A–332B, 332–335, 386A–386B, 386–389, 390A–390B, 390–391, 392A–392B, 392–393
12. Count money, determine change, and solve simple word problems involving money amounts using decimal notation (N-6-E) (N-9-E) (M-1-E) (M-5-E)	28A–28B, 28–29, 30A–30B, 30–31, 32A–33B, 32–33, 286A–286B, 286–287, 340A–340B, 340–341, 392A–392B, 392–393
13. Determine when and how to estimate, and when and how to use mental math, calculators, or paper/pencil strategies to solve multiplication and division problems (N-8-E)	254I, 258A–258B, 258–261, 262A–262B, 262–263, 282A–282B, 282–283, 314A–314B, 314–315, 316A–316B, 316–319, 338A–338B, 338–339, 364J, 366A–366B, 366–367, 368A–368B, 368–371, 389, 406A–406B, 406–407, 411, 467, 519, 637, 641
14. Solve real-life problems, including those in which some information is not given (N-9-E)	*These are some of the many examples of real–life problems in Scott Foresman–Addison Wesley Mathematics. Most lessons offer real life application problems as part Reasoning and Problem Solving.* 40–41, 102–103, 168–169, 234–235, 292–293, 344–345, 412–413, 478–479, 540–541, 602–603, 666–667, 716–717

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
15. Write number sentences or formulas containing a variable to represent real-life problems (A-1-E)	100A–100B, 100–101, 166A–166B, 166–167, 396A–396B, 396–401, 464A–464B, 464–467, 468A–468B, 468–469, 476A–476B, 476–477, 690A–690B, 690–691
16. Write a related story problem for a given algebraic sentence (A-1-E)	*This expectation can be introduced during the following lesson.* 94A–94B, 94–95
17. Use manipulatives to represent the distributive property of multiplication over addition to explain multiplying numbers (A-1-E) (A-2-E)	132A–132B, 132–133
18. Identify and create true/false and open/closed number sentences (A-2-E)	This expectation is addressed in Grades 3 and 6.
19. Solve one-step equations with whole number solutions (A-2-E) (N-4-E)	100A–100B, 100–101, 690A–690B, 690–691

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
20. Measure length to the nearest quarter-inch and mm (M-2-E) (M-1-E)	560J, 622J, 590A–590B, 590–591, 652A–652B, 652–653

GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
21. Describe the concept of volume, and measure volume using cubic in. and cubic cm and capacity using fl. oz. and ml (M-2-E) (M-3-E)	476A–476B, 476–477, 592A–592B, 592–593, 596A–596B, 596–599, 654A–654B, 654–655, 661
22. Select and use the appropriate standard units of measure, abbreviations, and tools to measure length and perimeter (i.e., in., cm, ft., yd., mile, m, km), area (i.e., square inch, square foot, square centimeter), capacity (i.e., fl. oz., cup, pt., qt., gal., l, ml), weight/mass (i.e., oz., lb., g, kg, ton), and volume (i.e., cubic cm, cubic in.) (M-2-E) (M-1-E)	468A–468B, 468–471, 588A–588B, 588–589, 590A–590B, 590–591, 592A–592B, 592–593, 594A–594B, 594–595, 596A–596B, 596–598, 652A–652B, 652–653, 654A–654B, 654–655, 656A–656B, 656–657, 658A–658B, 658–661, 664A–664B, 664–665
23. Set up, solve, and interpret elapsed time problems (M-2-E) (M-5-E)	196A–196B, 196–197
24. Recognize the attributes to be measured in a real-life situation (M-2-E) (M-5-E)	466, 470, 472–473, 474–475
25. Use estimates and measurements to calculate perimeter and area of rectangular objects (including squares) in U.S. (including square feet) and metric units (M-3-E)	464A–464B, 464–467, 468A–468B, 468–471
26. Estimate the area of an irregular shape drawn on a unit grid (M-3-E)	468A–468B, 468–471
27. Use unit conversions within the same system to solve real-life problems (e.g., 60 sec. = 1 min., 12 objects = 1 dozen, 12 in. = 1 ft., 100 cm = 1 m, 1 pt. = 2 cups) (M-4-E) (N-2-E) (M-5-E)	560J, 596A–596B, 596–598, 658A–658B, 658–661

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
28. Identify the top, bottom, or side view of a given 3-dimensional object (G-1-E) (G-3-E)	*These pages provide opportunities to apply this expectation.* 434A–434B, 434–437
29. Identify, describe the properties of, and draw circles and polygons (triangle, quadrilateral, parallelogram, trapezoid, rectangle, square, rhombus, pentagon, hexagon, octagon, and decagon) (G-2-E)	438A–438B 438–439, 444A–444B, 444–447, 448A–448B, 448–449
30. Make and test predictions regarding transformations (i.e., slides, flips, and turns) of plane geometric shapes (G-3-E)	452A–452B, 452–455
31. Identify, manipulate, and predict the results of rotations of 90, 180, 270, and 360 degrees on a given figure (G-3-E)	Rotational symmetry is introduced in Grade 6.
32. Draw, identify, and classify angles that are acute, right, and obtuse (G-5-E) (G-1-E)	332A–332B, 332–334
33. Specify locations of points in the first quadrant of coordinate systems and describe paths on maps (G-6-E)	212A–212B, 212–215

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
34. Summarize information and relationships revealed by patterns or trends in a graph, and use the information to make predictions (D-1-E)	216A–216B, 216–219, 692A–692B, 692–694
35. Find and interpret the meaning of mean, mode, and median of a small set of numbers (using concrete objects) when the answer is a whole number (D-1-E)	226A–226B, 226–229
36. Analyze, describe, interpret, and construct various types of charts and graphs using appropriate titles, axis labels, scales, and legends (D-2-E) (D-1-E)	204A–204B, 204–205, 206A–206B, 206–207, 208A–208B, 208–211, 212A–212B, 212–215, 216A–216B, 216–219, 222A–222B, 222–223, 208A–208B, 208–211, 216A–216B, 216–219, 536A–536B, 536–537
37. Determine which type of graph best represents a given set of discrete data (D-2-E) (D-1-E)	222A–222B, 222–223
38. Solve problems involving simple deductive reasoning (D-3-E)	218, 227, 228, 229, 230, 213, 405, 693, 705, 706, 707, 711
39. Use lists, tables, and tree diagrams to generate and record all possible combinations for 2 sets of 3 or fewer objects (e.g., combinations of pants and shirts, days and games) and for given experiments (D-3-E) (D-4-E)	704A–704B, 704–705
40. Determine the total number of possible outcomes for a given experiment using lists, tables, and tree diagrams (e.g., spinning a spinner, tossing 2 coins) (D-4-E) (D-5-E)	704A–704B, 704–705

GRADE LEVEL EXPECTATIONS	CORRELATION NOTATIONS
41. Apply appropriate probabilistic reasoning in real-life contexts using games and other activities (e.g., examining fair and unfair situations) (D-5-E) (D-6-E)	700B, 701, 706B, 709

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
42. Find and describe patterns resulting from operations involving even and odd numbers (such as even + even = even) (P-1-E)	402A–402B, 402–403
43. Identify missing elements in a number pattern (P-1-E)	90A–90B, 90–91, 99, 128, 140A–140B, 140–142, 164A–164B, 164–165, 366A–366B, 366–367
44. Represent the relationship in an input-output situation using a simple equation, graph, table, or word description (P-2-E)	164A–164B, 164–165