

A Correlation of

SCOTT FORESMAN • ADDISON WESLEY

Mathematics

© 2005

to the

**Rhode Island
Tri-State New England (TSNE)
Mathematics Grade Level
Expectations
Grades 2-6**



O/M-156

Introduction

This document demonstrates the high degree of success students will achieve when using **Scott Foresman – Addison Wesley Mathematics** in meeting the objectives of the Rhode Island, Tri-State New England Mathematics Grade Level Expectations. Correlation page references are to the Teacher’s Edition, which contains facsimile Student Edition pages.

Scott Foresman – Addison Wesley Mathematics was carefully developed to reflect the specific needs of students and teachers at every grade level, while maintaining an overall primary goal: to have math make sense from every perspective. This program is based on scientific research that describes how children learn mathematics well and on classroom-based evidence that validates proven reliability.

● Reaching All Learners

Scott Foresman – Addison Wesley Mathematics addresses the needs of every student through structured instruction that makes concepts easier for students to grasp. Lessons provide step-by-step examples that show students how to think about and solve the problem. Built-in leveled practice in every lesson allows the teacher to customize instruction to match students’ abilities. Reaching All Learners, featured in the Teacher Edition, helps teachers meet the diverse needs of the classroom with fun and stimulating activities that are easy to incorporate directly into the lesson plan.

● Test Prep

Scott Foresman - Addison Wesley Mathematics builds understanding through connections to prior knowledge, math strands, other subjects and the real world. It provides practice for maximum results and offers assessment in a variety of ways. Besides carefully placed reviews at the end of each Section, an important Test Prep strand runs throughout the program. Writing exercises prepare students for open-ended and short-or extended-response questions on state and national tests. Spiral review in a test format help students keep their test-taking skills sharp.

● Priority on problem solving:

Problem-solving instruction is systematic and explicit. Reading connections help children with problem-solving skills and strategies for math. Reading for Math Success encourages students to use the reading skills and strategies they already know to solve math problems.

● Instructional Support

In the Teacher Edition, the Lesson Planner provides an easy, at-a-glance planning tool. It identifies objectives, math understandings, focus questions, vocabulary, and resources for each lesson in the chapter. Professional Development at the beginning of each chapter in the Teacher Edition includes a Skills Trace as well as Math Background and Teaching Tips for each section in the chapter.

Ancillaries help to reach all learners with practice, problem solving, hands-on math, language support, assessment and teacher support. Technology resources for both the student and the teacher provide a whole new dimension to math instruction by helping to create motivating and engaging lessons.

Table of Contents

Grade Two.....	1
Grade Three.....	5
Grade Four.....	8
Grade Five.....	12
Grade Six.....	16

**Scott Foresman – Addison Wesley Mathematics
to the
Tri-State New England (TSNE)
Mathematics Grade Level Expectations (GLEs)**

Grade Two

NUMBER AND OPERATIONS

M– N& O– 2– 1 Demonstrates conceptual understanding of rational numbers with respect to:

whole numbers from 0 to 199 using place value, by applying the concepts of equivalency in composing or decomposing numbers (e. g., $34 = 17 + 17$; $34 = 29 + 5$); and in expanded notation (e. g., $141 = 1 \text{ hundred} + 4 \text{ tens} + 1 \text{ one}$ or $141 = 100 + 40 + 1$) using models, explanations, or other representations; and 83A–83B, 83–84, 85A–85B, 85–86, 91–92, 96, 389I, 391A–391B, 391–392, 393A–393B, 393–394, 395A–395B, 395–396, 397A–397B, 397–398

positive fractional numbers (benchmark fractions: $a/2$, $a/3$, or $a/4$, where a is a whole number greater than 0 and less than or equal to the denominator) as a part to whole relationship in area and set models where the denominator is equal to the number of parts in the whole using models, explanations, or other representations.

245J, 269A–269B, 269–270, 271A–271B, 273A–273B, 273–274, 276, 277A–277B, 277–278

M– N& O– 2– 2 Demonstrates understanding of the relative magnitude of numbers from 0 to 199 by ordering whole numbers; by comparing whole numbers to each other or to benchmark numbers (10, 25, 50, 100, or 200); by demonstrating an understanding of the relation of inequality when comparing whole numbers by using “1 more”, “1 less”, “10 more”, “10 less”, “100 more”, or “100 less”; or by connecting number words and numerals to the quantities they represent using models, representations, or number lines.

(IMPORTANT: *Applies number parameters consistent with M– N& O– 2– 1.*)

47A–47B, 47–48, 91A–91B, 91–92, 97A–97B, 97–98, 105–106, 180, 399A–399B, 399–400, 405–406, 407A–407B, 407–408, 409A–409B, 409–410, 419

M– N& O– 2– 3 Demonstrates conceptual understanding of mathematical operations involving addition and subtraction of whole numbers by solving problems involving situations in which one adds to; takes from; puts together; takes apart; and compares two numbers (compare more, compare less); and addition or subtraction of multiple one- digit whole numbers. (Carpenter, Fenema, Peterson, Chiang, and Loef (1989) cited in Gutstein, E., Rhomberg, Teaching Children, to Add and Subtract, Journal of Mathematical Behavior, (14) 283 – 286)
3A–3B, 3–4, 5A–5B, 5–6, 13A–13B, 13–14, 29A–29B, 29–30, 49A–49B, 49–50, 51A–51B, 51–52, 53A–53B, 53–54, 59, 65A–65B, 65–66, 67A–67B, 67–68, 69A–69B, 69–70, 73, 83, 91A–91B, 91–92, 93A–93B, 93–94, 95A–95B, 95–96, 97A–97B, 97–98, 99A–99B, 99–100, 101, 103A–103B, 103–104, 105A–105B, 105–106, 107A–107B, 107–108, 115, 125A–125B, 125–126, 127A–127B, 127–128, 129A–129B, 129–130, 133A–133B, 133–134, 135, 137A–137B, 137–138, 139A–139B, 139–140, 141A–141B, 141–142, 143A–143B, 143–144, 145A–145B, 145–146, 147, 221A–221B, 221–222, 227A–227B, 227–228, 417A–417B, 417–418, 419A–419B, 419–420, 421A–421B, 421–422, 423A–423B, 423–424, 425A–425B, 425–426, 433, 435A–435B, 435–436, 437A–437B, 437–438, 439A–439B, 439–440, 441A–441B, 441–442, 443A–443B, 443–444, 445A–445B, 445–446, 447A–447B, 447–448, 459A–459B, 459–460, 461A–461B, 461–462, 463A–463B, 463–464, 465A–465B, 465–466, 469, 471A–471B, 471–472, 473A–473B, 473–474, 475A–475B, 475–476, 477A–477B, 477–478, 483A–483B, 483–484, 487

M– N& O– 2– 5 Demonstrates understanding of monetary value by adding coins together to a value no greater than \$1.99 and representing the result in dollar notation; making change from \$1.00; or less, or recognizing equivalent coin representations of the same value (values up to \$1.99).
109A–109B, 109–110, 111A–111B, 111–112, 113A–113B, 113–114, 115A–115B, 115–116, 117A–117B, 117–118, 119A–119B, 119–120, 121A–121B, 121–122

GEOMETRY AND MEASUREMENT

M– G& M– 2– 1 Uses properties, attributes, composition, or decomposition to sort or classify polygons or objects by a combination of two or more non-measurable or measurable attributes.
247A–247B, 247–248, 251A–251B, 251–252

M– G& M– 2– 6 Demonstrates conceptual understanding of perimeter and area by using models or manipulatives to surround and cover polygons.
351A–351B, 351–352, 384

M– G& M– 2– 7 Selects or uses appropriate systems of measure (English and non- customary) to determine length, time, temperature for a situation, and identifies or uses equivalences (12 inches in 1 foot, 60 minutes in 1 hour).

(TSNE) Benchmarks in Development

336, 343A–343B, 343–344, 345A–345B, 345–346, 347A–347B, 347–348, 351A–351B, 351–352, 355A–355B, 355–356, 357A–357B, 357–358, 361, 369A–369B, 369–370, 384

FUNCTIONS AND ALGEBRA

M–F&A–2–1 Identifies and extends to specific cases a variety of patterns (linear and non-numeric) represented in models, tables, or sequences by extending the pattern to the next element, or finding a missing element (e. g., 2, 4, 6, ____, 10).

412, 413B, 467A–467B, 469A–469B, 467–470

M–F&A–2–4 Demonstrates conceptual understanding of equality by showing equivalence between two expressions using models or different representations of the expressions; or by finding the value that will make an open sentence true (e.g., $2 + \square = 7$). (limited to one operation and limited to use addition or subtraction)

4, 5A–5B, 5–6, 7, 8, 9A–9B, 9–10, 17A–17B, 17–18, 19A–19B, 19–20, 25A–25B, 25–26, 29A–29B, 29–30, 31–32, 35, 57A–57B, 57–58, 199–200, 221A–221B, 221–222, 320, 330, 401B, 401, 443A–443B, 443–444, 489, 490

DATA, STATISTICS, AND PROBABILITY

M– DSP– 2– 1 Interprets a given representation (pictographs with one- to- one correspondence, line plots, tally charts, or tables) to answer questions related to the data, or to analyze the data to formulate conclusions. (IMPORTANT:

Analyzes data consistent with concepts and skills in M– DSP– 2– 2.)

There are many examples of data representation embedded in the content of the lessons. These are a few of the many examples.

105A–105B, 105–106, 117A–117B, 117–118, 189A–189B, 189–190, 309–310, 311A–311B, 311–312, 313A–313B, 313–314, 315A–315B, 316, 319A–319B, 319–320, 321–322, 323A–323B, 323–324, 327A–327B, 327–328, 334, 336, 405A–405B, 405–406, 439–440

M– DSP– 2– 2 Analyzes patterns, trends, or distributions in data in a variety of contexts by determining or using more, less, or equal.

312, 313A–313B, 313–314, 315A–315B, 315–316, 319A–319B, 319–320, 321A–321B, 321–322, 323A–323B, 323–324, 327–328

M– DSP– 2– 4 Uses counting techniques to solve problems involving combinations using a variety of strategies (e. g., student diagrams, organized lists, tables, tree diagrams, or sc others); (e. g., How many ways can you make 50 cents using nickels, dimes, and quarters?)

117A–117B, 117–118

**Scott Foresman – Addison Wesley Mathematics
to the
Tri-State New England (TSNE)
Mathematics Grade Level Expectations (GLEs)**

Grade Three

NUMBER AND OPERATIONS

M– N& O– 3– 1 Demonstrates conceptual understanding of rational numbers with respect to:

whole numbers from 0 to 999 through equivalency, composition, decomposition, or place value using models, explanations, or other representations; and

2I–2J, 6A–6B, 6–7, 8A–8B, 8–9, 10A–10B, 10–11, 12A–12B, 12–13, 128A–128B, 128–131, 146A–146B, 146–147, 150A–150B, 150–151

positive fractional numbers (benchmark fractions: $a/2$, $a/3$, $a/4$, $a/6$, or $a/8$, where a is a whole number greater than 0 and less than or equal to the denominator) as a part to whole relationship in area and set models where the number of parts in the whole is equal to the denominator; and decimals (within a context of money) as a part of 100 using models, explanations, or other representations.

506A–506B, 506–509, 516A–516B, 516–517, 518A–518B, 518–519, 562I, 564A–564B, 564–565, 566A–566B, 566–567, 568A–568B, 568–571

M– N& O– 3– 2 Demonstrates understanding of the relative magnitude of numbers from 0 to 999 by ordering whole numbers; by comparing whole numbers to benchmark whole numbers (100, 250, 500, 1000); or by comparing whole numbers to each other; and comparing fractions ($a/2$, $a/3$, $a/4$ where a is a whole number greater than 0 and less than or equal to the denominator) using models or explanations. (IMPORTANT: *Applies number parameters consistent with M– N& O– 3– 1.*)

6A–6B, 6–7, 10A–10B, 10–11, 12A–12B, 12–13, 18A–18B, 18–21, 22A–22B, 22–23, 498A–498B, 498–501, 502A–502B, 502–503, 506A–560B, 506–509

M– N& O– 3– 3 Demonstrates conceptual understanding of mathematical operations by describing or illustrating the inverse relationship between addition and subtraction of whole numbers; and the relationship between repeated addition and multiplication using models, number lines, or explanations.

70–71, 258J, 260A–260B, 260–261, 262A–262B, 262–265, 266A–266B, 266–267, 316

M– N& O– 3– 4 Accurately solves problems involving addition and subtraction with regrouping; the concept of multiplication; and addition or subtraction of decimals (in the context of money).

80A–80B, 80–81, 82A–82B, 82–85, 94A–94B, 94–95, 96A–96B, 96–97, 260A–260B, 260–261, 262A–262B, 262–265, 276A–276B, 276–279, 280A–280B, 280–281, 282A–282B, 282–283, 286A–286B, 286–287, 288A–288B, 288–291, 314J, 316A–316B, 316–317, 318A–318B, 318–319, 320A–320B, 320–323, 324A–324B, 324–327

GEOMETRY AND MEASUREMENT

M– G& M– 3– 1 Uses properties or attributes of angles (number of angles) or sides (number of sides or length of sides) or composition or decomposition of shapes to identify, describe, or distinguish among triangles, squares, rectangles, rhombi, trapezoids, hexagons, or circles.

450A–450B, 450–452, 454A–454B, 454–455

M– G& M– 3– 6 Demonstrates conceptual understanding of perimeter of polygons, and the area of rectangles on grids using a variety of models or manipulatives. Expresses all measures using appropriate units .

464A–464B, 464–466, 468A–468B, 468–471

M– G& M– 3– 7 Selects or uses appropriate systems of measure (English and metric) to determine length, time, temperature, capacity, mass, or weight ; or makes simple conversions within systems.

(TSNE) Benchmarks in Development

426J, 464–466, 468A–468B, 468–470, 496J, 532A–532B, 532–533, 534A–534B, 534–535, 536A–536B, 536–537, 538A–538B, 538–539, 544–545, 547, 582A–582B, 584A–584B, 584–587, 592–593, 678I, 680A–680B, 680–683, 684A–684B, 684–685, 690A–690B, 690–693, 694A–694B, 694–695, 696A–696B, 696–697

FUNCTIONS AND ALGEBRA

M– F&A– 3–1 Identifies and extends to specific cases a variety of patterns (linear and non-numeric) represented in models, tables, or sequences by extending the pattern to the next one, two, or three elements, or finding missing elements.

24A–24B, 24–27, 72A–72B, 72–73, 258J, 344A–344B, 344–345, 695

M– F&A– 3–4 Demonstrates conceptual understanding of equality by showing equivalence between two expressions using models or different representations of the expressions; or by finding the value that will make an open sentence true (e.g., $2 + \square = 7$). (limited to one operation and limited to use addition, subtraction, or multiplication)

76A–76B, 76–77, 89, 96A–96B, 96–97, 168A–168B, 168–169, 260A–260B, 260–261, 264A–264B, 264–265, 286A–286B, 286–287, 293, 316, 338A–338B, 338–339, 385, 397, 612, 614, 618, 629, 651, 655

DATA, STATISTICS, AND PROBABILITY

M– DSP– 3– 1 Interprets a given representation (line plots, tally charts, tables, or bar graphs) to answer questions related to the data, to analyze the data to formulate conclusions, or to make predictions . (IMPORTANT: *Analyzes data consistent with concepts and skills in M– DSP– 3– 2.*)

204A–204B, 204–207, 208A–208B, 208–210, 212A–212B, 212–215, 216A–216B, 216–217, 222A–222B, 222–223, 226A–226B, 226–227, 228A–228B, 228–231, 232A–232B, 232–235, 236A–236B, 236–237, 270A–270B, 270–273

M– DSP– 3– 2 Analyzes patterns, trends, or distributions in data in a variety of contexts by determining or using most frequent (mode), least frequent, largest, or smallest.

208A–208B, 208–210, 211

M– DSP– 3– 3 Organizes and displays data using bar graphs, tables or line plots to answer questions related to the data, to analyze the data to formulate conclusions or to make predictions; or identifies representations or elements of representations that best display a given set of data or situation, consistent with the representations required in M– DSP– 3– 1. (IMPORTANT: *Analyzes data consistent with concepts and skills in M– DSP– 3– 2.*)

204A–204B, 204–207, 208A–208B, 208–210, 226A–226B, 226–227, 228A–228B, 228–231, 232A–232B, 232–235, 236A–236B, 236–237

M– DSP– 3– 5 For a probability event in which the sample space may or may not contain equally likely outcomes, determines the likelihood of the occurrence of an event (using “more likely”, “less likely”, or “equally likely”).

678J, 700A–700B, 700–701, 702A–702B, 702–703

**Scott Foresman – Addison Wesley Mathematics
to the
Tri-State New England (TSNE)
Mathematics Grade Level Expectations (GLEs)**

Grade Four

NUMBER AND OPERATIONS

M– N& O– 4– 1 Demonstrates conceptual understanding of rational numbers with respect to:

whole numbers from 0 to 99,999 through equivalency, composition, decomposition, or place value using models, explanations, or other representations; and

4A–4B, 4–7, 8A, 10A–10B, 10–11, 15

positive fractional numbers (benchmark fractions: $a/2$, $a/3$, $a/4$, $a/5$, $a/6$, $a/8$, or $a/10$, where a is a whole number greater than 0 and less than or equal to the denominator) as a part to whole relationship in area, set, or linear models where the number of parts in the whole are equal to, and a multiple or factor of the denominator; and decimals as 100 th within the context of money, or 10 th within the context of metric measurements (e. g., 2.3 cm) using models, explanations, or other representations.

34A–34B, 34–35, 502A–502B, 502–503, 624A–624B, 624–627, 627B, 628A–628B, 628–629

M– N& O– 4– 2 Demonstrates understanding of the relative magnitude of numbers from 0 to 99, 999 by ordering or comparing whole numbers; and ordering or comparing proper positive fractional numbers ; or decimals using models or number lines. (IMPORTANT: *Applies number parameters consistent with M– N& O– 4– 1.*)

16A–16B, 16–19, 22B, 22, 26–27, 522A–522B, 522–523, 524A–524B, 524–527, 622I, 624A–624B, 624–627, 630A–630B, 630–631

M– N& O– 4– 3 Demonstrates conceptual understanding of mathematical operations by describing or illustrating the relationship between repeated subtraction and division (no remainders); the inverse relationship between multiplication and division of whole numbers; or the addition or subtraction of positive fractional numbers with like denominators using models, number lines, or explanations.

148A–148B, 148–149

M– N& O– 4– 4 Accurately solves problems involving multiple operations on whole numbers or the use of the properties of factors and multiples; and addition or subtraction of decimals and positive proper fractions with like denominators . (Multiplication limited to 2 digits by 2 digits, and division limited to 1 digit divisors.) (IMPORTANT: Applies the conventions of order of operations where the left to right computations are modified only by the use of parentheses.)
36A–36B, 36–37, 77–79, 81, 83–85, 86, 124, 137, 145, 148–149, 150A–150B, 150–152, 154A–154B, 154–155, 158–159, 256A–256B, 256–257, 262B, 263, 269–270, 280–281, 285, 287, 295, 320, 331–334, 336–338, 340–341, 347, 368–370, 372A–372B, 372–374, 379, 380B, 380, 384B, 382–386, 388–389, 391, 392B, 392–393, 400–401, 403, 407–408, 415, 564A–564B, 564–567, 568A–568B, 568–573, 574A–574B, 574–577, 578A–578B, 578–581, 638A–638B, 638–641, 642A–642B, 642–645

GEOMETRY AND MEASUREMENT

M– G& M– 4– 1 Uses properties or attributes of angles (number of angles) or sides (number of sides, length of sides, parallelism, or perpendicularity) to identify, describe, or distinguish among triangles, squares, rectangles, rhombi, trapezoids, hexagons, or octagons; or classify angles relative to 90 o .
438A–438B 438–439, 444A–444B, 444–447, 448A–448B, 448–449

M– G& M– 4– 3 Uses properties or attributes (shape of bases or number of lateral faces) to identify, compare, or describe three- dimensional shapes (rectangular prisms, triangular prisms, cylinders, or spheres).
32I, 434A–434B, 434–437

M– G& M– 4– 5 Demonstrates conceptual understanding of similarity by applying scales on maps, or applying characteristics of similar figures (same shape but different proportional size) to identify similar figures, or to solve problems involving similar figures. Describes relationships using models or sc explanations.
458A–458B, 458–459

M– G& M– 4– 6 Demonstrates conceptual understanding of perimeter of polygons, and the area of rectangles, polygons or irregular shapes on grids using a variety of models, manipulatives, or formulas . Expresses all measures using appropriate units.
432J, 464A–464B, 464–467, 468A–468B, 468–471

M– G& M– 4– 7 Selects or uses appropriate systems of measure (English and metric) to determine length, time, temperature, capacity, mass, weight; or makes simple conversions within systems in problem situations.

(TSNE) Benchmarks in Development

190A–190B, 190–191, 560J, 588A–588B, 588–589, 590A–590B, 590–591, 594A–594B, 594–595, 596A–596B, 596–598, 652A–652B, 652–653, 658A–658B, 658–661, 664A–664B, 664–665

M– F&A– 4–1 Identifies and extends to specific cases a variety of patterns (linear and nonlinear) represented in models, tables or sequences; and writes a rule in words or^{sc} symbols to find the next case.

90A–90B, 90–91, 99, 128, 136, 140A–140B, 140–142, 164A–164B, 164–165, 256, 364E, 366A–366B, 366–367, 402A–402B, 402–403, 406A–406B, 406, 641

M– F & A– 4–3 Demonstrates conceptual understanding of algebraic expressions by using letters or symbols to represent unknown quantities to write simple linear algebraic expressions involving any one of the four operations; or by evaluating simple linear algebraic expressions using whole numbers.

9, 60J, 98A–98B, 98–99, 100A–100B, 100–101, 130, 140A–140B, 140–142, 166A–166B, 166–167, 191, 195, 263, 373, 383, 389, 396A–396B, 396–400, 688A–688B, 688–689, 690A–690B, 690–691, 692A–692B, 692–695

M– F& A– 4–4 Demonstrates conceptual understanding of equality by showing equivalence between two expressions using models or different representations of the expressions, by simplifying numerical expressions where left to right computations may be modified only by the use of parentheses [e. g., $14 - (2 \times 5)$] (expressions consistent with the parameters of M– F& A– 4–3), and by solving one-step linear equations of the form $ax = c$, $x \pm b = c$, where b , and c are whole numbers with $a \neq 0$.

96A–96B, 96–97, 98A–98B, 98–99, 100A–100B, 100–101, 166A–166B, 166–167, 335, 337, 391, 396A–396B, 396–400, 566, 581, 689, 690A–690B, 690–691, 692

DATA, STATISTICS, AND PROBABILITY

M– DSP– 4– 1 Interprets a given representation (line plots, tables, bar graphs, pictographs, or circle graphs) to answer questions related to the data, to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems . (IMPORTANT: *Analyzes data consistent with concepts and skills in M– DSP– 4– 2.*)

188J, 204A–204B, 204–205, 206A–206B, 206–207, 208A–208B, 208–211, 216A–216B, 216–219, 220–221, 222A–222B, 222–223, 226A–226B, 226–229, 230A–230B, 230–231, 232A–232B, 232–233, 405

M– DSP– 4– 2 Analyzes patterns, trends, or distributions in data in a variety of contexts by determining or using measures of central tendency (median or mode), or range.

226A–226B, 226–229

M– DSP– 4– 4 Uses counting techniques to solve problems in context involving combinations or simple permutations (e. g., Given a map – How many different ways can you go from point A to point B.) using a variety of strategies (e. g., organized lists, tables, tree diagrams, or ^{sc} others).

704A–704B, 704–705

M– DSP– 4– 5 For a probability event in which the sample space may or may not contain equally likely outcomes, determines the theoretical probability of an event and expresses the result as part to whole (e. g., two out of five).

706A–706B, 706–709

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Grade Five

NUMBER AND OPERATIONS

M–N&O–5–1 Demonstrates conceptual understanding of rational numbers with respect to:

**whole numbers from 0 to 9, 999, 999 through equivalency, composition, decomposition, or place value using models, explanations, or other representations; and
6A–6B, 6–7**

positive fractional numbers (proper, mixed number, and improper) (halves, fourths, eighths, thirds, sixths, twelfths, fifths, or powers of ten (10, 100, 1000)), decimals (to thousandths), or benchmark percents (10%, 25%, 50%, 75% or 100%) as a part to whole relationship in area, set, or linear models where the number of parts in the whole are equal to, a multiple or factor of the denominator for fractions, where the number of parts in the whole are equal to, a multiple or factor of 100 for percents, where the number of parts in the whole are equal to, a multiple or factor of the denominator of the fractional equivalent of the decimal and a power of ten for decimals; and identifies equivalent representations within the number formats (e. g., $\frac{1}{2} = \frac{3}{6}$, $0.3 = 0.30$) or across number formats for the benchmark percents using models, explanations, or other representations.

12A–12B, 12–13, 400A–400B, 400–401, 668A–668B, 668–669

M–N&O– 5– 2 Demonstrates understanding of the relative magnitude of numbers by ordering or comparing positive fractional numbers, decimals, or benchmark percents within number formats (fractions to fractions, decimals to decimals, or percents to percents); or integers in context using models or number lines.

12A–12B, 12–13, 418A–418B, 418–419, 420A–420B, 420–423

M– N&O– 5– 3 Demonstrates conceptual understanding of mathematical operations by describing or illustrating the meaning of a remainder with respect to division of whole numbers using models, explanations, or solving problems.

152A–152B, 152–155, 168A–168B, 168–169, 214A–214B, 214–217, 224A–224B, 224–225

M– N&O– 5– 4 Accurately solves problems involving multiple operations on whole numbers or the use of the properties of factors, multiples, prime, or composite numbers; and addition or subtraction of fractions (proper) and decimals to the hundredths place. (Division of whole numbers by up to a two- digit divisor.) (IMPORTANT: Applies the conventions of order of operations with and without parentheses.)

2F, 2J, 38B, 38–39, 40–41, 47, 132A–132B, 132–135, 148A–148B, 148–151, 152A–152B, 156A–156B, 154–159, 164A–164B, 164–167, 168A–168B, 168–169, 172A–172B, 172–173, 203, 204A–204B, 205–206, 216–217, 218A, 219–221, 224A, 225, 460A–460B, 460–461, 462A–462B, 462–463, 464A–464B, 464–465, 466A–466B, 466–468, 470–471, 472A–472B, 472–475, 476A–476B, 476–477, 488–489

GEOMETRY AND MEASUREMENT

M– G& M– 5– 1 Uses properties or attributes of angles (right, acute, or obtuse) or sides (number of congruent sides, parallelism, or perpendicularity) to identify, describe, classify, or distinguish among different types of triangles (right, acute, obtuse, equiangular, or equilateral) or quadrilaterals (rectangles, squares, rhombi, trapezoids, or parallelograms).

326J, 332A–332B, 332–335, 340A–340B, 340–341, 342A–342B, 342–345, 346A–346B, 346–349, 356A–356B, 356–357, 372A–372B, 372–373

M– G& M– 5– 3 Uses properties or attributes (shape of bases, number of lateral faces, or number of bases) to identify, compare, or describe three- dimensional shapes (rectangular prisms, triangular prisms, cylinders, spheres, pyramids, or cones).

594A–594B, 594–597

M– G& M– 5– 4 Demonstrates conceptual understanding of congruency by matching congruent figures using reflections, translations, or rotations (flips, slides, or turns), or as the result of composing or decomposing shapes using models or explanations.

360A–360B, 360–363, 364A–364B, 364–367

M– G& M– 5– 5 Demonstrates conceptual understanding of similarity by describing the proportional effect on the linear dimensions of polygons when scaling up or down while preserving the angles of polygons, or by solving related problems (including applying scales on maps). Describes effects using models or ^{sc} explanations.

662A–662B, 662–663

M– G& M– 5– 6 Demonstrates conceptual understanding of perimeter of polygons, and the area of rectangles or right triangles through models, manipulatives, or formulas, the area of polygons or irregular figures on grids, and volume of rectangular prisms (cubes) using a variety of models, manipulatives, or formulas. Expresses all measures using appropriate units.

540A–540B, 540–541, 526I–526J, 548A–548B, 548–549, 552A–552B, 552, 554A–554B, 554, 558, 560–561

M– G& M– 5– 7 Selects or uses appropriate systems of measure (English and metric) to determine length, time, capacity, mass, weight, temperature, or degrees of angles; or makes conversions within systems in problem situations.

(TSNE) Benchmarks in Development

528A–528B, 528–531, 532A–532B, 532–533, 534A–534B, 534–535, 536A–536B, 536–539, 541, 546–547, 614A–614B, 614–615, 616A–616B, 616–619, 620A–620B, 620–621, 622A–622B, 622–623, 628A–628B, 628–629

FUNCTIONS AND ALGEBRA

M– F& A– 5– 1 Identifies and extends to specific cases a variety of patterns (linear and nonlinear) represented in models, tables, sequences, or in problem situations; and writes a rule in words or^{sc} symbols for finding specific cases of a linear relationship.

14A–14B, 14–17, 66A–66B, 66–67, 75, 84A–84B, 84–85, 106A–106B, 106–107, 136A–136B, 136–137, 142–143, 144A–144B, 144–145, 202A–202B, 202–203, 237, 698, 728A–728B, 728–729

M– F& A– 5– 3 Demonstrates conceptual understanding of algebraic expressions by using letters to represent unknown quantities to write linear algebraic expressions involving any two of the four operations; or by evaluating linear algebraic expressions using whole numbers or decimals.

100A–100B, 100–103, 104A–104B, 104–105, 203, 211, 696A–696B, 696–699, 700A–700B, 700–701, 702A–702B, 702–703, 704A–704B, 704–705, 706, 709

M– F& A– 5– 4 Demonstrates conceptual understanding of equality by showing equivalence between two expressions using models or different representations of the expressions (expressions consistent with the parameters of M– F& A– 5– 3), by solving one- step linear equations of the form $ax = c$, $x \pm b = c$, or $x/a = c$, where a , b , and c are whole numbers with $a \neq 0$; or by determining which values of a replacement set make the equation (multi- step of the form $ax \pm b = c$ where a , b , and c are whole numbers with $a \neq 0$) a true statement (e. g., $2x + 3 = 11$, $\{x: x = 2, 3, 4, 5\}$).

100A–100B, 100–103, 104A–104B, 104–105, 108A–108B, 108–109, 700A–700B, 700–701

DATA, STATISTICS, AND PROBABILITY

M– DSP– 5– 1 Interprets a given representation (tables, bar graphs, circle graphs, or line graphs) to answer questions related to the data, to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems.

(IMPORTANT: Analyzes data consistent with concepts and skills in M– DSP– 5– 2.)

260A–260B, 260–261, 262A–262B, 262–265, 266A–266B, 266–269, 270A–270B, 270–273, 274A–274B, 274–275, 276A–276B, 276–279, 286A–286B, 286–287, 288A–288B, 288–291, 652A–652B, 652–653, 660A–660B, 660–661

M– DSP– 5– 2 Analyzes patterns, trends, or distributions in data in a variety of contexts by determining or using measures of central tendency (mean, median, or mode) or range to analyze situations, or to solve problems .

282A–282B, 282–285, 289

M– DSP– 5– 3 Organizes and displays data using bar graphs, or tables to answer questions related to the data, to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems; or identifies

representations or elements of representations that best displays a given set of data or situation, consistent with the representations required in M– DSP– 5– 1.(IMPORTANT: Analyzes data consistent with concepts and skills in M– DSP– 5– 2.)

260A–260B, 260–261, 262A–262B, 262–265, 288A–288B, 288–291, 658A–658B, 658–659

M– DSP– 5– 5 For a probability event in which the sample space may or may not contain equally likely outcomes, determines the experimental or theoretical probability of an event and expresses the result as a ratio.

302A–302B, 302–305

**Scott Foresman – Addison Wesley Mathematics
to the
Tri-State New England (TSNE)
Mathematics Grade Level Expectations (GLEs)**

Grade Six

NUMBER AND OPERATIONS

M– N& O– 6– 1 Demonstrates conceptual understanding of rational numbers with respect to ratios (comparison of two whole numbers by division a/b , $a : b$, and $a \div b$, where $b \neq 0$); equivalence across number formats; and rates (e. g., a out of b , 25%) using models, explanations, or other representations. (IMPORTANT: *Conditions for use of area, set, and linear models at grade 5 apply to all other grades*)

298I–298J, 300A–300B, 300–301, 306–306B, 306–309, 310A–310B, 310–311, 312A–312B, 312–313, 316A–316B, 316–317, 320, 323, 330A–330B, 330–331, 332A–332B, 332–333, 352I, 354A–354B, 354–356, 358A, 358–360

M– N& O– 6– 2 Demonstrates understanding of the relative magnitude of numbers by ordering or comparing numbers with whole number bases and whole number exponents, integers, or rational numbers within number formats; and comparing multiples of 10% and 25% up to and including 100% across number formats using number lines or equality and inequality symbols.

78A–78B, –79, 84, 141, 164A–164B, 164–167, 176A–176B, 176–178, 184, 358A–358B, 358–361, 408A–408B, 408–409, 410A–410B, 410–411, 451

M– N& O– 6– 3 Demonstrates understanding of mathematical operations by describing or illustrating the meaning of a power by showing the relationship between the base (whole number) and the exponent (whole number); and the effect on the magnitude of a whole number when multiplying or dividing it by a whole number, decimal, or fraction.

8A–8B, 8–11

M–N&O– 6– 4 Accurately solves problems involving single or multiple operations on fractions (proper, improper, and mixed) or decimals; and addition or subtraction of integers; percent of a whole; or problems involving greatest common factor or least common multiple. (IMPORTANT: *Applies the conventions of order of operations with and without parentheses.*)

82, 86A–86B, 86–89, 140I, 150A–150B, 150–151, 152A–152B, 152–153, 202I–202J, 204A–204B, 204–205, 206A–206B, 206–209, 214–215, 218A–218B, 218–219, 220A–220B, 220–222, 223, 224A–224B, 224–225, 230–231, 246I, 248A–248B, 248–250, 252A–252B, 252–255, 256–257, 258–261, 266A–266B, 266–268, 270A–270B, 270–273, 354A–354B, 354–357, 370A–370B, 370–371

GEOMETRY AND MEASUREMENT

M– G& M– 6– 1 Uses properties or attributes of angles (right, acute, or obtuse) or sides (number of congruent sides, parallelism, or perpendicularity) to identify, describe, classify, or distinguish among different types of triangles (right, acute, obtuse, equiangular, scalene, isosceles, or equilateral) or quadrilaterals (rectangles, squares, rhombi, trapezoids, or parallelograms).

89, 476A–476B, 477–478, 496A–496B, 496–499, 500A–500B, 500–501

M– G& M– 6– 3 Uses properties or attributes (shape of bases, number of lateral faces, number of bases, number of edges, or number of vertices) to identify, compare, or describe three-dimensional shapes (rectangular prisms, triangular prisms, cylinders, spheres, pyramids, or cones).

586A–586B, 586–589

M– G& M– 6– 5 Demonstrates conceptual understanding of similarity by describing the proportional effect on the linear dimensions of polygons or circles when scaling up or down while preserving the angles of polygons, or by solving related problems (including applying scales on maps). Describes effects using models or ^{sc} explanations.

330A–330B, 330–333, 506

M– G& M– 6– 6 Demonstrates conceptual understanding of perimeter of polygons, and the area of quadrilaterals, or triangles through models, manipulatives, formulas, or solving problems; or the area of polygons or irregular figures on grids, and demonstrates understanding of the relationships of circle measures (radius to diameter and diameter to circumference) by solving related problems. Expresses all measures using appropriate units.

502, 540I, 564A–564B, 564–567, 570A–570B, 570–571, 576A–576B, 576–579, 580A–580B, 580–581

M– G& M– 6– 7 Selects or uses appropriate systems of measure (English and metric) to determine length, time, capacity, mass, weight, temperature, or degrees of angles; or makes conversions within systems in problem situations.

(TSNE) Benchmarks in Development

476A–476B, 476–479, 542A–542B, 542–545, 546A–546B, 546–549, 550A–550B, 550–551, 554A–554B, 554–557, 568–569, 572A–572B, 572–575, 722A–722B, 722–723

FUNCTIONS AND ALGEBRA

M–F&A–6–1 Identifies and extends to specific cases a variety of patterns (linear and nonlinear) represented in models, tables, sequences, graphs, or in problem situations; words or symbols for finding specific cases of a linear relationship; or writes a rule in words or^{sc} symbols for finding specific cases of a nonlinear relationship; and writes an expression or^{sc} equation using words or^{sc} symbols to express the generalization of a linear relationship (e. g., twice the term number plus 1 or^{sc} $2n + 1$).

444A–44B, 444–447, 448A–448B, 448–449, 696I, 716A–716B, 716–717, 718A–718B, 718–720

M–F&A–6–2 Demonstrates conceptual understanding of linear relationships ($y = kx$; $y = mx + b$) as a constant rate of change by constructing or interpreting graphs of real occurrences and describing the slope of linear relationships (faster, slower, greater, or smaller) in a variety of problem situations; and describes how change in the value of one variable relates to change in the value of a second variable in problem situations with constant rates of change.

444A–44B, 444–447, 448A–448B, 448–449, 696I, 716A–716B, 716–717, 718A–718B, 718–720

M–F&A–6–3 Demonstrates conceptual understanding of algebraic expressions by using letters to represent unknown quantities to write linear algebraic expressions involving any of the four operations and consistent with order of operations expected at this grade level; or by evaluating linear algebraic expressions (including those with more than one variable); or by evaluating an expression within an equation (e. g., determine the value of y when $x = 4$ given $y = 3x - 2$).

448A–448B, 448–449, 696J, 698A–698B, 698–699, 700A–700B, 700–703, 712A–712B, 712–715, 716A–716B, 716–717, 718A–718B, 718–721

M–F&A–6–4 Demonstrates conceptual understanding of equality by showing equivalence between two expressions using models or different representations of the expressions (expressions consistent with the parameters of M–F&A–6–3), solving multi-step linear equations of the form $ax \pm b = c$, where a , b , and c are whole numbers with $a \neq 0$.

40A–40B, 40–43, 44A–44B, 44–47, 48A–48B, 48–51, 274A–274B, 274–275, 276A–276B, 276–277, 418A–418B, 418–421, 422A–422B, 422–425, 426A–426B, 426–427, 428A–428B, 428–429, 712A–712B, 712–715

DATA, STATISTICS, AND PROBABILITY

M– DSP– 6– 1 Interprets a given representation (circle graphs, line graphs, or stem- and- leaf plots) to answer questions related to the data, to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems. (IMPORTANT: *Analyzes data consistent with concepts and skills in M– DSP– 6– 2.*)

618I, 632A–632B, 632–633, 636A–636B, 636–637, 638A–638B, 638–641, 642A–642B, 642–645, 645–646, 648A–648B, 648–649, 650B, 650–651, 653, 657

M– DSP– 6– 2 Analyzes patterns, trends or distributions in data in a variety of contexts by determining or using measures of central tendency (mean, median, or mode) or dispersion (range or variation) to analyze situations, or to solve problems.

624A–624B, 624–627, 631, 633

M– DSP– 6– 4 Uses counting techniques to solve problems in context involving combinations or simple permutations using a variety of strategies (e. g., organized lists, tables, tree diagrams, models, Fundamental Counting Principle, or^{sc} others).

618J, 654A–654B, 654–657

M– DSP– 6– 5 For a probability event in which the sample space may or may not contain equally likely outcomes, determines the experimental or theoretical probability of a simple event in a problem- solving situation.

662A–662B, 662–663, 664A–664B, 664–667