

A Correlation of

**SCOTT FORESMAN ■ ADDISON WESLEY**

# **Mathematics**

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to the

## **Connecticut Mastery Test Fourth Generation Grades K - 6**



O/M-167

## 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 *Connecticut Mastery Test Fourth Generation, Concepts/Skills Assessed*. Correlation page references are to the Teacher's Edition. The Teacher's Edition 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.

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**Scott Foresman – Addison Wesley Mathematics  
to the  
Connecticut Mastery Test – Fourth Generation**

**Grades K - 3**

**Numerical and Proportional Reasoning**

**1. Place Value**

**A. Solve problems involving 1 MORE/LESS or 10 MORE/LESS using 2-digit numbers.**

**K:** 223J, 231-232, 233A, 235B, 235-236, 295A, 295B, 295-296

**1:** 279E, 295A, 295B, 295-296, 415E, 419-420, 421-422

**2:** 79E, 79I, 81-84, 91-92, 133E, 135A, 135-136, 137A, 137-138, 389E, 397A, 397-398, 409-410, 447-448

**3:** 5, 19, 23, 25, 64E, 68, 72, 82A, 82-83, 100, 124I, 134, 148A, 148, 154, 209, 218, 220, 227, 233, 258F, 276A, 277, 278, 282A, 283, 329, 533, 535, 539, 585, 610I, 610E, 617, 628, 631, 637, 639, 641, 681, 685, 695, 697

**B. Identify alternative forms of expressing 3-digit whole numbers using expanded notation.**

**K:** 285K, 285M, 289-290, 293-294

**1:** 279E, 279J, 303A, 303-304, 487

**2:** 389E, 389J, 391-392, 393A, 393B, 393-394, 395-396, 399-400, 409-410, 425F, 425J, 431-436, 447-452

**3:** 124E, 124I, 128A, 128-135, 150A, 150-151, 152A, 152-155, 636A, 636-637

**C. Identify alternative forms of expressing 2-digit whole numbers using regrouping.**

**K:** 51J, 69-70, 87-88, 93A, 93-94, 121A, 121B, 121-122, 223K, 223L, 223M, 225-228, 229A, 229-230, 231B, 231-232, 243I, 245-248

**1:** 249, 279E, 283A, 283-284, 285A, 285-286, 287A, 287B, 287-288, 297-298, 301-302, 457E, 457F, 457I, 457J, 459-463, 464-465, 465A, 465B, 471-476, 477A, 477B, 477-478, 483-484

**2:** 79E, 79I, 81A, 81-82, 83A, 83-84, 91-92, 409-410

**3:** 126A, 126-127, 148A, 148-149, 632A, 632-635

**D. Use place value concepts to identify and compare the magnitude and value of digits in 2- and 3-digit numbers.**

**K:** 51J, 69-70, 87-88, 93A, 93-94, 121A, 121B, 121-122, 223K, 223L, 223M, 225-228, 229A, 229-232, 235-236, 243I, 245-248, 285K, 285M, 289-290, 293-294, 295A, 295B, 295-296

**1:** 249, 279E, 279J, 283A, 283-284, 285A, 285-286, 286A, 287B, 287-288, 295A, 295B, 295-296, 297-298, 301-302, 303A, 303-304, 415E, 419-420, 421-422, 457E, 457F, 457I, 457J, 459-464, 465A, 465B, 465, 471-476, 477A, 477B, 477-478, 483-484, 487

**2:** 79E, 79I, 81A, 81-82, 83A, 83-84, 91-92, 133E, 135A, 135-136, 137A, 137-138, 389E, 389J, 391-392, 393A, 393B, 394-396, 397A, 397-398, 399-400, 409-410, 425F, 425J, 431-436, 447-452

**3:** 18-23, 31, 124A, 124E, 124I, 126-127, 128A, 128-129, 130-131, 132A, 132-135, 148A, 148-149, 150A, 150-151, 152A, 152-153, 632A, 632-635, 636A, 636-637

**2. Pictorial Representation of Numbers****A. Relate whole numbers to pictorial representations of base ten blocks and vice versa.**

**K:** 31A, 31-32, 39-40, 47, 249A, 249B, 249-250

**1:** 239E, 251-252, 309-310

**2:** 245E, 245F, 245I, 245J, 247-248, 255-256, 269-272, 277-278, 284, 319A, 319B, 319-320, 479-480

**3:** 6A, 6-7, 8-9, 10-11, 190E, 190F, 190J, 212A, 212-215, 216A, 216-227, 228-231

**B. Identify fractional parts of regions and sets using pictures and vice versa.**

**K:** 31A, 31-32, 47, 199A, 199-200, 209A, 209-210, 215A, 215B, 215-216

**1:** 5A-5F, 155F, 155J, 181-182, 183A, 183-184, 185A, 185-186, 187A, 187-190, 191-192

**2:** 245E, 245F, 245I, 245J, 247-248, 255-256, 269-272, 277-278, 284, 319A, 319B, 319-320, 479-480

**3:** 190E, 190F, 190J, 212A, 212-215, 216A, 216-227, 228-231

**C. Label and/or shade fractional parts of regions and sets.**

**K:** 31A, 31-32, 47, 199A, 199-200, 209A, 209-210, 215A, 215B, 215-216

**1:** 5A-5F, 155F, 155J, 181-182, 183A, 183-184, 185A, 185-186, 187A, 187-190, 191-192

**2:** 245E, 245F, 245I, 245J, 247-248, 255-256, 269-272, 277-278, 284, 319A, 319B, 319-320, 479-480

**3:** 190E, 190F, 190J, 212A, 212-215, 216A, 216-227, 228-231

**3. Equivalent Fractions, Decimals and Percents**

*Not tested*

#### 4. Order, Magnitude and Rounding of Numbers

##### A. Order 2- and 3-digit whole numbers.

**K:** 75J, 91A, 91-92, 145A, 145-146, 169A, 169B, 169-170

**1:** 1E, 1F, 12, 23A, 23B, 23-24, 31-32, 89E, 93-94, 203F, 203J, 219A, 219B, 219-220, 279E, 301A, 301B, 301-304

**2:** 97A, 97-98, 407A, 407-408, 409A, 409-410

**3:** 2E, 2F, 22-31, 124E, 124F, 126A, 126-127, 128A, 128B, 128-131, 132A, 132-135, 148-149, 150-153, 218A, 218-221, 610E, 632A, 632-635, 636-637

##### B. Describe magnitude of 2- and 3-digit whole numbers.

**K:** 297B, 297-298, 301-304

**1:** This is covered extensively in grade 3.

**2:** This is covered extensively in grade 3.

**3:** 18-23, 31, 126-127, 128-135, 148-149, 150-153, 632-635, 636-637

##### C. Round 2-digit whole numbers in context.

**K:** 119A, 119B, 119-120

**1:** 323

**2:** 141-142, 191-192, 275-276, 429-430, 453-454

**3:** 2E, 2F, 28, 29, 31, 98, 126A, 126-127, 148A, 148-149, 572A, 575, 632A, 632-635

##### D. Identify points representing 2- and 3-digit whole numbers on a number line and vice versa.

**K:** 91B, 91, 113-114

**1:** 4A-4F, 89E, 97A, 97B, 97-98, 123E, 123I, 124, 125A, 125B, 125-126, 152, 279E, 299A, 299B, 299-300, 323, 466

**2:** 95-96, 229, 419

**3:** 18, 512A, 512B, 512-513

#### 5. Models for Operations

##### A. Relate multiplication and division facts to rectangular arrays and pictures.

**K:** 31A, 31-32, 47, 199A, 199-200, 209A, 209-210, 215A, 215B, 215-216

**1:** 83, 123F, 139A, 139-140, 415F, 415J, 435-436, 437A, 437B, 437-438, 439-440

**2:** 465F, 465J, 471A, 471B, 471-472, 479

**3:** 190E, 190F, 212-215, 226A, 226-227, 258E, 258F, 258J, 262A, 262B, 262-265, 267, 276-279, 280-281, 282-283, 286A, 286B, 286-287, 288-291, 314E, 314F, 314I, 314J, 316-317, 318-319, 320-323, 324-327, 328-329, 340-341, 368E, 368F, 384A, 384B, 384, 386A, 386B, 386-387, 388A, 388B, 388-389, 390A, 390, 391, 392A, 392-393, 396A, 396-397, 402A, 402-403, 610I, 626-629

**B. Identify the appropriate operation or number sentence to solve a story problem.****K:** 279-280**1:** 43K-43L, 51-52, 89K-89L, 93-94, 415E, 427-428**2:** 1K-1L, 19-20, 23-24, 41K-41L, 49-50, 173K-173L, 187-188, 209K-209L, 227-228, 465K-465L, 473-474, 487-488**3:** 64E, 64K-64L, 70-71, 76-77, 124K-124L, 168-169, 368K-368L, 384-385**C. Write story problems from addition or subtraction number sentences.****K:** 253-254, 255A, 255B, 255-256, 273A, 273-274, 275A, 275-276**1:** 43E, 43K-43L, 49-52, 57-58**2:** 1E, 1K-1L, 5-6, 9-10, 209K-209L, 221-222, 465K-465L, 469-470, 485-486**3:** 64E, 64K-64L, 70-71, 76-77, 124K-124L, 168-169, 368K-368L, 384-385**6. Basic Facts****A. Add and subtract facts to 18.****K:** This is covered in first grade.**1:** 415E, 415F, 415I, 415J, 417-426**2:** 27A, 27B, 27-28, 36, 57A, 57B, 57-58, 61A, 61B, 61-65**3:** 64E, 70A, 70-71**B. Multiply and divide by 2, 5 and 10.****K:** This is covered in third grade.**1:** This is covered in third grade.**2:** This is covered in third grade.**3:** 258F, 276A, 276-279, 280A, 280-281, 282A, 282-283, 368E, 368F, 386-387, 402A, 402-403**7. Computation with Whole Numbers and Decimals****A. Add and subtract 1- and 2-digit whole numbers without regrouping.****K:** 225A, 225-226, 227A, 227-228, 229A, 229-230, 231A, 231-232, 235A, 235-236, 237A, 237-238, 243I, 243J, 243N, 245A, 245B, 245-246, 247A, 247-248, 249-250, 251A, 251-252, 253A, 253-254, 255A, 255-256, 257A, 257-258, 263I, 263J, 265A, 265-266, 267-268, 271A, 271-272, 273A, 273-274, 275-276, 277-278**1:** 43E, 43F, 52, 63-64, 65-66, 67-68, 89E, 93A, 93-94, 95A, 95B, 95-96, 108, 420, 472**2:** 1E, 1I, 5A, 5-6, 139A, 139-140, 227A, 227-228, 397A, 397-398**3:** 258, 562E, 572A, 572B, 572-575

**B. Add 1- and 2-digit whole numbers with regrouping.**

**K:** 225A, 225-226, 227A, 227-228, 229A, 229-230, 231A, 231-232, 235A, 235-236, 237A, 237-238, 243I, 243J, 243N, 245A, 245B, 245-246, 247A, 247-248, 249-250, 251A, 251-252, 253A, 253-254, 255A, 255-256, 257A, 257-258, 263I, 263J, 265A, 265-266, 267-268, 271A, 271-272, 273A, 273-274, 275-276, 277-278

**1:** 457E, 457F, 457J, 464A, 465-466, 477A, 477B, 477-478

**2:** 425E, 431A, 431-432

**3:** 124E, 124F, 124I, 126A, 126, 132-135, 146A, 146-147, 152-153

**8. Computation with Fractions and Integers**

*Not tested*

**9. Solve Word Problems****A. Solve simple story problems involving addition (with/without regrouping) or subtraction (without regrouping).**

**K:** 225A, 225-226, 227A, 227-228, 229A, 229-230, 231A, 231-232, 235A, 235-236, 237A, 237-238, 243I, 243J, 243N, 245A, 245B, 245-246, 247A, 247-248, 249-250, 251A, 251-252, 253A, 253-254, 255A, 255-256, 257A, 257-258, 263I, 263J, 265A, 265-266, 267-268, 271A, 271-272, 273A, 273-274, 275-276, 277-278

**1:** 1K-1L, 14, 22, 34, 43K-43L, 46, 66, 80, 89K, 89L, 114, 123K-123L, 138, 146, 155K-155L, 178, 188, 194, 203K-203L, 220, 230, 239K-239L, 252, 270, 279K-279L, 294, 310, 314, 320, 329K-329L, 340, 354, 359, 363K-363L, 382, 406, 415K-415L, 426, 434, 448, 457K-457L, 465-466, 470, 477-478, 482, 484

**2:** 1K-1L, 5-6, 9-10, 41K-41L, 57-58, 209K-209L, 221-225, 425K-425L, 431-432

**3:** 2K-2L, 33, 43, 45, 64K-64L, 67, 77, 105, 124K-124L, 126, 132-135, 143, 146-147, 152-153, 161, 171, 190K-190L, 236, 238, 258K-258L, 273, 285, 314K-314L, 335, 347, 368K-368L, 381, 405, 426K-426L, 439, 477, 496K-496L, 541, 543, 562K-562L, 591, 610K-610L, 632-633, 657, 659, 678K-678L, 689, 711

**B. Solve simple story problems involving addition (with/without regrouping) or subtraction (without regrouping) with extraneous information.**

**K:** 225A, 225-226, 227A, 227-228, 229A, 229-230, 231A, 231-232, 235A, 235-236, 237A, 237-238, 243I, 243J, 243N, 245A, 245B, 245-246, 247A, 247-248, 249-250, 251A, 251-252, 253A, 253-254, 255A, 255-256, 257A, 257-258, 263I, 263J, 265A, 265-266, 267-268, 271A, 271-272, 273A, 273-274, 275-276, 277-278

**1:** 1K-1L, 14, 22, 34, 43K-43L, 46, 66, 80, 89K, 89L, 114, 123K-123L, 138, 146, 155K-155L, 178, 188, 194, 203K-203L, 220, 230, 239K-239L, 252, 270, 279K-279L, 294, 310, 314, 320, 329K-329L, 340, 354, 359, 363K-363L, 382, 406, 415K-415L, 426, 434, 448, 457K-457L, 465-466, 470, 477-478, 482, 484



- 2: 1K-1L, 5-6, 9-10, 41K-41L, 57-58, 209K-209L, 221-225, 425K-425L, 431-432  
3: 2K-2L, 33, 43, 45, 64K-64L, 67, 77, 105, 124K-124L, 126, 132-135, 143, 146-147, 152-153, 161, 171, 190K-190L, 236, 238, 258K-258L, 273, 285, 314K-314L, 335, 347, 368K-368L, 381, 405, 426K-426L, 439, 477, 496K-496L, 541, 543, 562K-562L, 591, 610K-610L, 632-633, 657, 659, 678K-678L, 689, 711

## 10. Numerical Estimation Strategies

### A. Identify the best expression to find an estimate.

K: 119A, 119B, 119-120, 141-142, 147A, 147-148, 151-152

1: 457E, 467A, 467B, 467-468

2: 114, 133E, 141-142, 149-150, 173F, 191-192, 209F, 229-230, 297-298, 341-342, 425E, 425F, 429-430, 432, 445-446, 452, 453, 480

3: 168, 404A, 404B, 404-405

## 11. Estimating Solutions to Problems

### A. Identify a reasonable estimate to a problem.

K: 119A, 119B, 119-120, 141-142, 147A, 147-148, 151-152

1: 43F, 43J, 62, 168, 224, 363E, 363I, 365-370, 374, 376, 444, 467A, 467, 474

2: 114, 133E, 141-142, 149-150, 173F, 191-192, 209F, 229-230, 297-298, 341-342, 425E, 425F, 429-430, 432, 445-446, 452, 453, 480

3: 14, 25, 28A, 30, 64F, 64I, 80A, 81, 84, 87, 98A, 98B, 99, 197, 209

## 12. Ratios and Proportions

*Not tested*

## 13. Computation with Percents

*Not tested*

## Geometry and Measurement

### 14. Time

#### A. Tell time to the nearest hour, half-hour and quarter-hour using analog and digital clocks.

K: 159J, 171A, 171-172, 173A, 173B, 173-174, 175A, 175B, 175-176

1: 203E, 203I, 205A, 205-206, 207A, 207-208, 209A, 209-210, 211A, 211-212, 213A, 213-216

**2:** 289E, 289I, 291A, 291B, 291-292, 293A, 293-294, 295A, 295B, 295-296, 299-300, 301-302, 305-306

**3:** 190E, 190I, 192A, 192-195, 196A, 196-197, 198A, 198-199

**B. Solve problems involving time, elapsed time (15-minute increments) and calendars.**

**K:** 159J, 171A, 171-172, 173A, 173B, 173-174, 175A, 175B, 175-176

**1:** 203E, 203I, 205A, 205-206, 207A, 207-208, 209A, 209-210, 211A, 211-212, 213A, 213-216

**2:** 289E, 289I, 291A, 291B, 291-292, 293A, 293-294, 295A, 295B, 295-296, 299-300, 301-302, 305-306

**3:** 190E, 190I, 192A, 192-195, 196A, 196-197, 198A, 198-199

## 15. Approximating Measures

**A. Estimate lengths and areas by comparing.**

**K:** 131I, 135A, 135B, 135-136, 141A, 141-142

**1:** 363E, 363I, 365A, 365B, 365-366, 371-376, 379-380

**2:** 339E, 341A, 341-342, 343A, 343-344, 345A, 345-346, 347-348

**3:** 426F, 426J, 468A, 468-471, 532A, 532-539

## 16. Customary and Metric Measures

**A. Measure lengths to the nearest inch or centimeter.**

**K:** 141A, 141-142, 147-148

**1:** 363E, 371A, 371B, 371-374, 375A, 375B, 375-376

**2:** 343A, 343B, 343-344, 345A, 345B, 345-346, 347A, 347B, 347-348

**3:** 532A, 532-539, 562J, 582A, 582-583

**B. Draw lengths to the nearest inch or centimeter.**

**K:** 141A, 141-142, 147-148

**1:** 111-112, 363E, 371A, 371B, 371-374, 375A, 375B, 375-376

**2:** 343A, 343B, 343-344, 345A, 345B, 345-346, 347A, 347B, 347-348

**3:** 532A, 532-539, 562J, 582A, 582-583

**C. Identify appropriate customary or metric units of measure for a given situation (inches, feet, centimeters and meters).**

**K:** 141A, 141-142, 147-148

**1:** 363E, 371A, 371B, 371-372, 373A, 373B, 373-374, 375A, 375B, 375-376, 383-386, 391, 392, 393-394, 395-396

**2:** 339E, 339I, 345-346, 347-348, 355-356, 363E, 367-368, 369-370

**3:** 471, 562F, 562J, 582-583, 584-587, 678E, 684-685, 694-695, 696-697

**17. Geometric Shapes and Properties**

**A. Identify and recognize 2-dimensional geometric shapes and figures, including number of angles and sides of polygons.**

**K:** 201A, 201-202, 203A, 203B, 203-204, 205A, 205B, 205-206

**1:** 155E, 155I, 161A, 161-164, 165A, 165B, 165-166, 167A, 167B, 167-168

**2:** 245E, 249A, 249B, 249-250, 257A, 257B, 257-258

**3:** 426E, 428-431, 444-445, 446-449

**B. Draw 2-dimensional geometric shapes and figures.**

**K:** 201A, 201-202, 203A, 203B, 203-204, 205A, 205B, 205-206

**1:** 155E, 155I, 166, 168, 170, 173A, 173B, 173, 198

**2:** 245E, 249A, 249B, 249-250, 257A, 257B, 257-258

**3:** 426E, 428-431, 444-445, 446-449

**18. Spatial Relationships**

*Not tested*

**Working with Data: Probability and Statistics****19. Tables, Graphs and Charts**

**A. Identify correct information from tables, bar graphs, pictographs and charts.**

**K:** 29A, 29-30, 31A, 31B, 31-32, 33A, 33-34, 47, 53-54, 67A, 67-68, 125-126

**1:** 239E, 251A, 251-252, 279F, 309A, 309B, 309-310, 311A, 311B, 311-312, 315-316, 324, 343A, 425B, 457F, 479-480, 481A, 481-482

**2:** 31B, 69B, 89-90, 101A, 105-106, 117-118, 121B, 123B, 163, 175B, 189-190, 197-198, 309-314, 319-320, 321-322

**3:** 190E, 190F, 190J, 204A, 204-205, 206-207, 208A, 208B, 208-209, 210-211, 212A, 212B, 212-215, 226A, 226B, 226-227, 228A, 228B, 228-231, 258E, 270-273, 314F, 340-341

**B. Create bar graphs and pictographs from data in tables and charts.**

**K:** 31A, 31-32, 33A, 33-34, 47, 53-54

**1:** 251, 252, 309-310, 311, 312, 321, 328

**2:** 31B, 69B, 89-90, 101A, 105-106, 117-118, 121B, 123B, 163, 175B, 189-190, 197-198, 309-314, 319-320, 321-322

**3:** 190E, 190F, 190J, 204A, 204-205, 206-207, 208A, 208B, 208-209, 210-211, 212A, 212B, 212-215, 226A, 226B, 226-227, 228A, 228B, 228-231, 258E, 270-273, 314F, 340-341

**20. Statistics and Data Analysis***Not tested***21. Probability****A. Identify correct solutions to problems involving elementary notions of probability.****K:** 125A, 125B, 125-126**1:** 363F, 363J, 401A, 401B, 401-402, 403A, 403B, 403-404**2:** 339F, 339J, 373A, 373-374, 375A, 375-376**3:** 678F, 678J, 700A, 700-701, 702-703, 704A, 704-705, 706-707**Algebraic Reasoning: Patterns and Functions****22. Patterns****A. Extend or complete patterns, or identify rules using numbers and attributes.****K:** 25J, 35A, 35-36, 37A, 37B, 37-38, 39A, 39B, 39-40, 41A, 41B, 41-42, 43A, 43-44, 45A, 45B, 45-46, 101J, 113A, 113-114, 287A, 287-288, 293A, 293-294, 295-296, 297-299**1:** 1F, 3-4, 5-6, 27A, 27-28, 33-34, 37, 210, 226, 243A, 243-244, 255A, 255B, 255-258, 269, 273, 274, 302**2:** 79E, 99A, 99B, 99-100, 133F, 157B, 157-158, 389F, 413A, 413-414, 420**3:** 2E, 2F, 2I, 8-9, 24A, 24-27, 100, 258F, 277, 282, 288-289, 296, 314E, 314F, 332A, 332B, 332-335, 340A, 340B, 340-341, 344A, 344-345, 368F, 402A, 402B, 402-403, 496E, 505, 685**B. Extend or complete patterns and state rules using numbers and attributes.****K:** 25J, 35A, 35-36, 37A, 37B, 37-38, 39A, 39B, 39-40, 41A, 41B, 41-42, 43A, 43-44, 45A, 45B, 45-46, 101J, 113A, 113-114, 287A, 287-288, 293A, 293-294, 295-296, 297-299**1:** 1F, 3-4, 5-6, 27A, 27-28, 33-34, 37, 210, 226, 243A, 243-244, 255A, 255B, 255-258, 269, 273, 274, 302**2:** 79E, 99A, 99B, 99-100, 133F, 157B, 157-158, 389F, 413A, 413-414, 420**3:** 2E, 2F, 2I, 8-9, 24A, 24-27, 100, 258F, 277, 282, 288-289, 296, 314E, 314F, 332A, 332B, 332-335, 340A, 340B, 340-341, 344A, 344-345, 368F, 402A, 402B, 402-403, 496E, 505, 685**23. Algebraic Concepts***Not tested*

## 24. Classification and Logical Reasoning

### A. Identify objects that are the same or different by one attribute.

**K:** 19-20, 199A, 199-200, 211A, 211B, 211-212

**1:** 157-162, 167-168, 369A, 369-370

**2:** 265A, 265-266, 311-312

**3:** 2E, 2F, 2I, 8-9, 24A, 24-27, 100, 258F, 277, 282, 288-289, 296, 314E, 314F, 332A, 332B, 332-335, 340A, 340B, 340-341, 344A, 344-345, 368F, 402A, 402B, 402-403, 426E, 428-431, 436-439, 444-445, 446-449, 496E, 505, 685

### B. Sort objects into 2 groups by a common attribute.

**K:** 19A, 19B, 19-20, 199A, 199B, 199-200, 211A, 211B, 211-212

**1:** 157-162, 167-168, 369A, 369-370

**2:** 265A, 265-266, 311-312

**3:** 2E, 2F, 2I, 8-9, 24A, 24-27, 100, 258F, 277, 282, 288-289, 296, 314E, 314F, 332A, 332B, 332-335, 340A, 340B, 340-341, 344A, 344-345, 368F, 402A, 402B, 402-403, 426E, 428-431, 436-439, 444-445, 446-449, 496E, 505, 685

## Integrated Understandings

## 25. Mathematical Applications

### A. Solve extended numerical and statistical problems.

**K:** 13-20, 21-22, 29-34, 47-48, 53-54, 67-68, 71-72, 97-98, 127-128, 155-156, 191-192, 219-220, 239-240, 259-260, 281-282, 299-300

**1:** 7-8, 31-32, 40, 159, 167, 175-178, 191-192, 223-224, 234, 251-252, 259-262, 265-266, 270, 275, 307-308, 309-310, 311, 312, 313, 314, 315-316, 317-318, 321, 328, 339-340, 403-404, 429-432, 451-452, 465-466, 477-482

**2:** 31-32, 69-70, 123-124, 163-164, 199-200, 235-236, 279-280, 329-330, 379-380, 415-416, 455-456, 489-490

**3:** 44-45, 104-105, 170-171, 204-211, 328-329, 294-295, 348-349, 406-407, 476-477, 528-529, 542-543, 658-659, 710-711

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**Grade Four**

**Numerical and Proportional Reasoning**

**1. Place Value**

**A. Solve problems involving 10 MORE/LESS or 100 MORE/LESS than a given number.**

**4:** 63, 84, 122E, 134, 136-137, 151, 155, 254E, 256A, 256B, 256-257, 312E, 312I, 314-315

**B. Identify alternative forms of expressing whole numbers <1000 using expanded notation.**

**4:** 4A, 4B, 4-7, 628A, 628B, 628

**C. Identify alternative forms of expressing whole numbers <1000 using regrouping.**

**4:** 16A, 17-18, 60E, 60F, 76A, 76-79, 136A, 136, 137, 153, 254E, 254J, 256, 257, 265-266, 321, 322, 364E, 364J, 369, 370, 375, 376, 382, 391

**D. Use place value concepts to identify and compare the magnitude and value of digits in 2- and 3-digit numbers.**

**4:** 2E, 2F, 4A, 4, 5, 6-7, 8-9, 10A, 10-11, 17-18, 628A, 628B, 628-629

**2. Pictorial Representation of Numbers**

**A. Relate fractions and decimals to pictorial representations and vice versa.**

**4:** 34A, 34B, 34-37, 204A, 204B, 204-205, 536-537

**B. Relate fractions of regions and sets to pictures and vice versa.**

**4:** 498E, 498I, 500A, 500-501, 502A, 502B, 502-503, 508A, 508B, 508-509

**C. Label and/or shade fractional parts of regions and/or sets.**

**4:** 498E, 498I, 500A, 500-501, 502A, 502B, 502-503, 508A, 508B, 508-509

### 3. Equivalent Fractions, Decimals and Percents

#### A. Relate equivalent fractions to pictorial representations.

4: 498E, 498I, 500A, 500-501, 502A, 502B, 502-503, 508A, 508B, 508-509, 516A, 516B, 516-519, 624A, 624B, 624

### 4. Order, Magnitude and Rounding of Numbers

#### A. Order whole numbers <10,000.

4: 16A, 16B, 16-19

#### B. Describe magnitude of 2- and 3-digit whole numbers, fractions, mixed numbers and decimals (tenths).

4: 2E, 2F, 4A, 4, 5, 6-7, 8-9, 10A, 10-11, 17-18, 20-21, 628A, 628B, 628-629

#### C. Round 2- and 3-digit whole numbers in context.

4: 2E, 2F, 4A, 4, 5, 6-7, 8-9, 10A, 10-11, 17-18, 20-21, 68, 628A, 628B, 628-629

#### D. Identify points representing 2- and 3-digit whole numbers, fractions (halves, thirds, fourths) and decimals (tenths) on a number line and vice versa.

4: 126, 498E, 498I, 500A, 500B, 500, 504A, 504B, 504-507, 534A, 534-535, 628A, 628, 688A, 688-689

#### E. Locate points representing 2- and 3-digit whole numbers, fractions (halves, thirds, fourths) and decimals (tenths) on a number line and vice versa.

4: 126, 498E, 498I, 500A, 500B, 500, 504A, 504B, 504-507, 534A, 534-535, 628A, 628, 688A, 688-689

### 5. Models for Operations

#### A. Identify members of multiplication and division fact families from arrays (factors of 2, 3, 4, 5 and 10).

4: 122F, 124, 164A, 164B, 164-167, 312E, 320A, 320B, 320-323

#### B. Identify the appropriate operation or number sentence to solve a story problem (2-digit numbers).

4: 396A, 396B, 396-400

#### C. Write a story problem that matches a given addition, subtraction or multiplication sentence. Use 1- and 2- digit numbers for addition and subtraction. Use 1-digit factors for multiplication.

4: 155, 198A, 198-199, 342A, 342-343, 364E, 364F, 396A, 396-400, 460A, 460-461, 538A, 538-539, 662A, 662-663, 714-715

## 6. Basic Facts

**A. Find the missing product in a multiplication equation where one factor is 2, 3, 4, 5 or 10.**

4: 122E, 122F, 122I, 128A, 128B, 128-131, 132A, 132B, 132-135, 148A, 148B, 148-149, 150A, 150B, 150-151, 256A, 256-257, 312E, 312I, 314-315

**B. Find the missing factor in a division equation where one factor is 2, 3, 4, 5 or 10.**

4: 122E, 122F, 122I, 128A, 128B, 128-131, 132A, 132B, 132-135, 148A, 148B, 148-149, 150A, 150B, 150-151, 256A, 256-257, 312E, 312I, 314-315

## 7. Computation with Whole Numbers and Decimals

**A. Add and subtract 2- and 3-digit whole numbers and money amounts less than \$10 with and without regrouping.**

4: 60E, 60F, 76A, 76B, 76-79, 82A, 82-85

**B. Multiply and divide 2-digit whole numbers by one digit.**

4: 254E, 254F, 270A, 270-273, 274A, 274-275

## 8. Computation with Fractions and Integers

**A. Add and subtract fractions with like denominators.**

4: 498F, 500, 530-533, 560E, 564A, 564B, 564-565

## 9. Solve Word Problems

**A. Solve one-step story problems involving whole numbers and money amounts. Use 2 and 3-digit numbers in addition and subtraction problems. Use 1- and 2-digit numbers in multiplication problems.**

4: 2F, 2J, 28-29, 30-31, 32-33, 76A, 76B, 76-79, 82A, 82B, 82-85, 122I, 128A, 128-131, 392A, 392-393, 640

**B. Solve one-step story problems involving addition or subtraction with extraneous information. Use 2-and 3-digit numbers in addition and subtraction problems.**

4: 2F, 2J, 28-29, 30-31, 32-33, 76A, 76B, 76-79, 82A, 82B, 82-85, 122I, 128A, 128-131, 392A, 392-393, 640



**10. Numerical Estimation Strategies**

**A. Identify the best expression to find an estimate.**

4: 271

**11. Estimating Solutions to Problems**

**A. Identify a reasonable estimate to a problem, including estimating change from \$1, \$5 and \$10.**

4: 2F, 27, 32A, 32B, 32, 33

**12. Ratios and Proportions**

*Not tested*

**13. Computation with Percents**

*Not tested*

**Geometry and Measurement****14. Time**

**A. Solve problems involving time, elapsed time (minutes and hours) and calendars.**

4: 188E, 188I, 190A, 190-191, 192A, 192-195, 196A, 196-197, 198A, 198-199

**B. Solve problems involving conversions of measures of time.**

4: 188E, 188I, 192A, 192B, 192-195

**15. Approximating Measures**

**A. Estimate lengths and areas by comparing.**

4: 258A, 258, 316A, 316, 368A, 368, 468A, 468-471, 560F, 561, 588-589, 622F, 652A, 652-653, 658A, 658-661

**16. Customary and Metric Measures****A. Measure lengths to the nearest inch, half-inch or centimeter.**

4: 258A, 258, 316A, 316, 368A, 368, 468A, 468-471, 560F, 561, 588-589, 622F, 652A, 652-653, 658A, 658-661

**B. Draw lengths to the nearest inch, half-inch or centimeter.**

4: 588A, 588-589, 622F, 622J, 652A, 652-653, 658-660, 661

**C. Identify appropriate customary or metric units of measure for a given situation.**

4: 588A, 588-589, 622F, 622J, 652A, 652-653, 658-660, 661

**17. Geometric Shapes and Properties****A. Identify 2-dimensional geometric shapes, including number of angles and sides of polygons.**

4: 432E, 432I, 438A, 438-439, 440A, 440B, 440-443, 444-447, 448A, 448-449, 468A, 468-471

**B. Identify, describe and draw 2-dimensional geometric shapes and figures.**

4: 432E, 432I, 438A, 438-439, 440A, 440B, 440-443, 444-447, 448A, 448-449, 468A, 468-471

**18. Spatial Relationships**

*Not tested*

**Working with Data: Probability and Statistics****19. Tables, Graphs and Charts****A. Identify correct information from tables, bar graphs, pictographs and charts.**

4: 122E, 140A, 140-143, 188E, 188F, 204A, 204-205, 208A, 208-211, 230-231, 638A, 638-640, 686E, 686I, 692A, 692-695, 704-705

**B. Create bar graphs and pictographs from data in tables and charts.**

4: 122E, 140A, 140-143, 188E, 188F, 204A, 204-205, 208A, 208-211, 230-231, 638A, 638-640, 686E, 686I, 692A, 692-695, 704-705

## 20. Statistics and Data Analysis

**A. Draw and justify reasonable conclusions from data in tables, bar graphs, pictographs, circle graphs and charts.**

**4:** 122E, 140A, 140-143, 188E, 188F, 204A, 204-205, 208A, 208-211, 230-231, 638A, 638-640, 686E, 686I, 692A, 692-695, 704-705

## 21. Probability

**A. Identify correct solutions to problems involving elementary notions of probability.**

**4:** 686F, 686J, 700A, 700, 701, 704A, 704-705, 706A, 706-709, 710A, 710-711

## Algebraic Reasoning: Patterns and Functions

### 22. Patterns

**A. Identify the missing terms in a pattern, or identify rules for a given pattern using whole numbers and attributes.**

**4:** 10, 90A, 90-91, 122E, 122I, 128A, 128-131, 136-137, 216, 254E, 256-257, 312I, 314A, 314-315, 366A, 366-367, 406A, 406-407, 454

**B. Extend or complete patterns and state rules for given patterns using whole numbers and attributes.**

**4:** 10, 90A, 90-91, 122E, 122I, 128A, 128-131, 136-137, 216, 254E, 256-257, 312I, 314A, 314-315, 366A, 366-367, 406A, 406-407, 454

### 23. Algebraic Concepts

**A. Solve simple one-step algebraic equations involving addition, subtraction and fact families.**

**4:** 60E, 60F, 76A, 76-79, 100A, 100-101, 122J, 148, 149, 564A, 564-567, 622E, 622F, 638A, 638-645, 686E, 690A, 690-695

### 24. Classification and Logical Reasoning

**A. Solve logic, counting and classification problems involving the organization of data.**

**4:** 2J, 30-31, 188E, 188F, 188J, 204A, 204-205, 206A, 206-207, 208A, 208-211, 212, 216-219, 226A, 226-229, 230A, 230-231, 312E, 326-329, 404A, 404-405, 584A, 584-585

**B. Sort or classify objects, and draw logical conclusions from data including Venn diagrams and transitive reasoning questions.**

**4:** 2J, 30-31, 188E, 188F, 188J, 204A, 204-205, 206A, 206-207, 208A, 208-211, 212, 216-219, 226A, 226-229, 230A, 230-231, 312E, 326-329, 404A, 404-405, 584A, 584- 585

### **Integrated Understandings**

#### **25. Mathematical Applications**

**A. Solve extended numerical and statistical problems.**

**4:** 2J, 30-31, 188E, 188F, 188J, 204A, 204-205, 206A, 206-207, 208A, 208-211, 212, 216-219, 226A, 226-229, 230A, 230-231, 312E, 326-329, 404A, 404-405, 584A, 584- 585

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**Grade Five**

**Numerical and Proportional Reasoning**

**1. Place Value**

**A. Solve problems involving 100 MORE/LESS or 1,000 MORE/LESS than a given number.**

**5:** 8A, 8B, 8-11, 202

**B. Identify alternative forms of expressing whole numbers <10,000 using expanded notation.**

**5:** 2E, 2F, 6-7, 26-27, 28-31, 36A, 36-37, 64E, 64F, 64J, 72A, 72B, 72-75, 88A, 88B, 88-91, 100A, 100-103, 130E, 130F, 130J, 152A, 152B, 152-155, 200E, 200F, 200I, 204-207, 214-217, 234A, 234-237

**C. Identify alternative forms of expressing whole numbers <10,000 using regrouping.**

**5:** 2E, 2F, 6-7, 26-27, 28-31, 36A, 36-37, 64E, 64F, 64J, 72A, 72B, 72-75, 88A, 88B, 88-91, 100A, 100-103, 130E, 130F, 130J, 152A, 152B, 152-155, 200E, 200F, 200I, 204-207, 214-217, 234A, 234-237

**D. Use place value concepts to identify and compare the magnitude and value of digits in numbers.**

**5:** 2E, 4A, 4-5, 8A, 8B, 8-11, 14A, 14B, 14-17, 221

**2. Pictorial Representation of Numbers**

**A. Relate decimals (0.01-2.99) to pictorial representations and vice versa.**

**5:** 258E, 258F, 267, 270A, 270B, 270, 271-272, 286A, 286B, 286, 288A, 288-291, 558A, 558-559, 592E, 598A, 598-601

**B. Relate fractions and mixed numbers to pictures and vice versa.**

**5:** 258E, 258F, 267, 270A, 270B, 270, 271-272, 286A, 286B, 286, 288A, 288-291, 558A, 558-559, 592E, 598A, 598-601

**C. Identify and/or shade fractional parts of regions, sets or mixed numbers in pictures.**

5: 258E, 258F, 267, 270A, 270B, 270, 271-272, 286A, 286B, 286, 288A, 288-291, 558A, 558-559, 592E, 598A, 598-601

**3. Equivalent Fractions, Decimals and Percents****A. Rename equivalent fractions.**

5: 392E, 410A, 410B, 410-413, 458E, 464A, 464B, 464-465

**B. Rename equivalent mixed numbers as improper fractions and vice versa.**

5: 392E, 392F, 392I, 392J, 400A, 400B, 400-401, 410A, 410B, 410-413, 420A, 420B, 458E, 464A, 464B, 464-465

**4. Order, Magnitude and Rounding of Numbers****A. Order whole numbers <100,000.**

5: 6-7

**B. Order mixed numbers, fractions and decimals.**

5: 392E, 392F, 420A, 420B, 420-423

**C. Describe magnitude of whole numbers <100,000 and decimals.**

5: 2E, 2F, 2I, 2J, 6-7, 26-27, 28-31, 36A, 36B, 36-37, 64E, 64F, 72A, 72B, 72-75, 88A, 88B, 88-91, 100-103, 130E, 130F, 152A, 152-155, 200E, 200F, 204-207, 214A, 214B, 214-217, 234A, 234B, 234-237

**D. Describe magnitude of mixed numbers and fractions.**

5: 28-31, 392E, 392F, 392I, 392J, 400A, 400-401, 404A, 404-405, 410A, 410B, 410-411, 412A, 412-413, 420A, 420-423, 426A, 426B, 426-430, 458E, 458F, 458I, 458J, 460A, 460B, 460-461, 462A, 462B, 462-463, 466A, 466B, 466-469, 472A, 472-473, 474A, 474-475, 476A, 476B, 476-477, 478A, 478B, 478-481, 490A, 490B, 490-493, 500A, 500B, 500-501, 668-669

**E. Round whole numbers in context.**

5: 2E, 2F, 26A, 26-27, 28A, 28-31, 200E, 204-207

**F. Round decimals.**

5: 2E, 2F, 26A, 26-27, 28A, 28-31, 200E, 204-207

**G. Locate points (fractions, decimals and whole numbers) on number lines and scales.**

5: 8A, 8B, 8-11, 392E, 392F, 404A, 404B, 404-405, 430-431, 712-715

## 5. Models for Operations

**A. Identify the appropriate operation or number sentence to solve a story problem.**

5: 2E, 2F, 22A, 22B, 22-25, 64E, 66A, 66-67, 70-71, 76-77, 130E, 133-134, 694E, 694I, 696A, 696-699, 700A, 700B, 700-701, 702A, 702B, 702-703, 704-705, 706A, 706B, 706-709

**B. Write story problems from multiplication or division number sentences, using 1- and 2-digit numbers.**

5: 64E, 72A, 72B, 72-79, 694E, 704A, 704B, 704-705, 706A, 706-709

## 6. Basic Facts

**A. Multiply and divide facts.**

5: 260

## 7. Computation with Whole Numbers and Decimals

**A. Add and subtract 2-, 3- and 4-digit whole numbers and money amounts less than \$100.**

5: 36A, 36B, 36-37, 139

**B. Multiply and divide multiples of 10 and 100 by 10 and 100.**

5: 202A, 202B, 202

**C. Multiply and divide 2- and 3-digit whole numbers and money amounts less than \$10 by 1-digit numbers.**

5: 64E, 72A, 72B, 72-75, 130E, 130F, 148-151, 160A, 160B, 160-161, 200E, 200F, 200I, 204-205, 206-207, 214A, 214B, 214-217, 232A, 232B, 232-233

## 8. Computation with Fractions and Integers

**A. Add and subtract fractions and mixed numbers with like denominators.**

5: 458E, 458F, 458I, 460A, 460B, 460-461, 462A, 462B, 462-463, 466A, 466-469, 472A, 472B, 472-473, 476A, 476B, 476-477

**9. Solve Word Problems**

**A. Solve one-step story problems involving whole numbers and money amounts with or without extraneous information. Use all operations.**

**5:** 108-109, 130E, 130F, 139, 148A, 148-151, 160A, 160B, 160-161, 232A, 232B, 232-233, 694E, 694I, 696A, 696-699, 700A, 700B, 700-701

**B. Solve two-step story problems involving whole numbers and money amounts with or without extraneous information.**

**5:** 108-109, 130E, 130F, 139, 148A, 148-151, 160A, 160B, 160-161, 232A, 232B, 232-233, 694E, 694I, 696A, 696-699, 700A, 700B, 700-701

**10. Numerical Estimation Strategies**

**A. Identify the best expression to find an estimate.**

**5:** 64F, 64I, 68A, 68B, 68-69, 86A, 86B, 86-87, 100A, 100B, 100-105, 130E, 130I, 138A, 138B, 138-141

**B. Identify whether and why a particular strategy will result in an overestimate or an underestimate.**

**5:** 64F, 64I, 68A, 68B, 68-69, 86A, 86B, 86-87, 100A, 100B, 100-105, 130E, 130I, 138A, 138B, 138-141

**11. Estimating Solutions to Problems**

**A. Identify a reasonable estimate to a problem, including estimating change.**

**5:** 28A, 28B, 28-31, 64E, 64F, 64I, 68-69, 86A, 86-87, 88, 94, 130E, 130F, 130I, 138A, 138B, 138-141, 154, 159, 204A, 204B, 204-207, 258E, 258F, 287, 290, 291, 335, 392J, 402A, 402-403, 494A, 494B, 494-495, 526E, 529, 530, 537, 538, 541, 544, 551, 592E, 592F, 603, 613, 615, 617, 621, 672A, 672B, 672-675, 703

**12. Ratios and Proportions**

*Not tested*

**13. Computation with Percents**

*Not tested*



**Geometry and Measurement****14. Time****A. Solve problems involving elapsed time (a.m. and p.m.).**

5: 526F, 564A, 564B, 564-567

**B. Solve problems involving conversions of measures of time (minutes, hours and days).**

5: 526F, 564A, 564B, 564-567

**15. Approximating Measures****A. Estimate lengths and areas.**

5: 526E, 526J, 528A, 528B, 528-531, 534A, 534B, 534-535, 537, 538, 540A, 541, 544, 551, 592E, 592F, 603, 613, 615, 617, 621

**16. Customary and Metric Measures****A. Measure lengths to the nearest quarter-inch or half-centimeter.**

5: 526E, 528A, 528B, 528-531, 534A, 534B, 534-535

**B. Measure and determine perimeters and areas.**

5: 526E, 526F, 526I, 526J, 540A, 540B, 540-541, 548A, 548B, 548-549, 550-551, 552A, 552B, 552-553, 554A, 554B, 554-555, 602-603

**C. Identify appropriate customary or metric units of measure (length, capacity and mass) for a given situation.**

5: 526E, 526F, 526J, 528A, 528B, 528-531, 534A, 534B, 534-535, 614-615, 616A, 616B, 616-617, 620A, 620B, 620-621, 622A, 622B, 622-623

**D. Solve problems involving conversions of measures of length.**

5: 526E, 526F, 528A, 528B, 528-531, 534A, 534B, 534-535, 733

**17. Geometric Shapes and Properties****A. Identify, describe and/or classify 2-dimensional geometric shapes and figures.**

5: 326E, 326F, 326I, 326J, 336A, 336B, 336-337, 340A, 340B, 340-341, 342A, 342B, 342-345, 346A, 346B, 346-349, 361, 365

**B. Draw, describe and/or classify 2-dimensional geometric shapes and figures.**

5: 326E, 326F, 326I, 326J, 336A, 336B, 336-337, 340A, 340B, 340-341, 342A, 342B, 342-345, 346A, 346B, 346-349, 361, 365

**18. Spatial Relationships****A. Identify lines of symmetry.**

5: 326F, 368A, 368B, 368-371

**B. Draw lines of symmetry.**

5: 326F, 368A, 368B, 368-371

**C. Identify congruent figures.**

5: 326F, 360A, 360B, 360-363

**D. Locate points on grids.**

5: 326F, 360A, 360B, 360-363

**Working with Data: Probability and Statistics****19. Tables, Graphs and Charts****A. Identify correct information from tables, bar graphs, pictographs and charts.**

5: 106-107, 176-179, 260-261, 262-265, 288-291, 358-359, 652-653, 658-659, 728-729

**B. Create bar graphs and pictographs from data in tables and charts.**

5: 106-107, 176A, 176B, 176-179, 258E, 260A, 260-261, 262A, 262-265, 288A, 288B, 288-291, 358-359, 644E, 644F, 644I, 644J, 652A, 652-653, 658-659, 728A, 728B, 728-729

**20. Statistics and Data Analysis****A. Draw reasonable conclusions from data in tables, bar graphs, pictographs, circle graphs and charts.**

5: 18, 106-107, 169, 176A, 176B, 176-179, 236, 258E, 260A, 260-261, 262A, 262-265, 288A, 288B, 288-291, 358-359, 558-559, 644E, 644F, 644I, 644J, 652A, 652-653, 658-659, 728A, 728B, 728-729

**B. State a conclusion and explain why a claim is or is not reasonable, based on the data.**

**5:** 18, 169, 236

## **21. Probability**

**A. Identify correct solutions to problems involving elementary notions of probability and fairness.**

**5:** 258F, 258J, 302A, 302B, 302-305

**B. Solve problems involving elementary notions of probability and fairness, including justifying solutions.**

**5:** 258F, 258J, 302A, 302B, 302-305

## **Algebraic Reasoning: Patterns and Functions**

### **22. Patterns**

**A. Identify the missing terms in a pattern, or identify rules for a given pattern using whole numbers and attributes.**

**5:** 2E, 2F, 14A, 14B, 14-17, 66A, 66-67, 75, 84A, 84B, 84-85, 130E, 136A, 136B, 136-137, 142-143, 202A, 202B, 202-203, 492

**B. Extend or complete patterns and state rules for given patterns using whole numbers and attributes.**

**5:** 2E, 2F, 14A, 14B, 14-17, 66A, 66-67, 75, 84A, 84B, 84-85, 130E, 136A, 136B, 136-137, 142-143, 202A, 202B, 202-203, 492

### **23. Algebraic Concepts**

**A. Solve simple one-step algebraic equations involving addition, subtraction, multiplication and fact families.**

**5:** 64E, 64F, 67, 85, 90, 97, 108A, 108B, 108-109, 137, 163, 175, 203, 231, 260A, 260B, 260, 337, 396, 419, 481, 611, 612, 694E, 694F, 700A, 700B, 700-701, 702A, 702B, 702-703, 720

**24. Classification and Logical Reasoning**

**A. Solve logic, counting and classification problems involving the organization of data.**

**5:** 326E, 326F, 326I, 326J, 332A, 332B, 332-335, 340A, 340B, 340-341, 342A, 342B, 342-345, 346A, 346B, 346-349, 361, 392F, 432-433, 434-437

**B. Sort or classify objects and draw logical conclusions from data, including Venn diagrams and transitive reasoning questions.**

**5:** 103, 326E, 326F, 326I, 326J, 332A, 332B, 332-335, 340A, 340B, 340-341, 342A, 342B, 342-345, 346A, 346B, 346-349, 361, 392F, 432-433, 434-437

**Integrated Understandings****25. Mathematical Applications**

**A. Solve extended numerical, statistical and spatial problems.**

**5:** 108A, 108B, 108-109, 260A, 260B, 260-261, 326E, 326F, 350-351, 352-355, 694E, 694I, 696-699, 700-701, 702-703

**Scott Foresman – Addison Wesley Mathematics  
to the  
Connecticut Mastery Test – Fourth Generation**

**Grade Six**

**Numerical and Proportional Reasoning**

**1. Place Value**

**A. Solve problems involving 100, 1,000 or 10,000 MORE/LESS and 0.1 MORE/LESS than a given number.**

**6:** 2E, 4A, 4B, 4-7, 76A, 76B, 76-77, 357

**B. Identify alternative forms of expressing whole numbers <10,000 using expanded notation and regrouping.**

**6:** 8A, 8B, 8, 9, 10, 74F, 106A, 106B, 106-109, 110, 111, 122, 258A, 258B, 258-259

**C. Use place value concepts to identify and compare the magnitude and value of digits in numbers.**

**6:** 76A, 76B, 76-77, 298E, 298F, 318A, 318B, 318-321, 322A, 322B, 322-323, 366A, 366B, 366-367

**2. Pictorial Representation of Numbers**

**A. Relate fractions, mixed numbers, decimals and percents to their pictorial representations and vice versa.**

**6:** 89, 330A, 332, 333, 490A, 491, 631

**B. Identify and/or shade fractional parts of regions or sets, decimals (tenths and hundredths) and mixed numbers in pictures.**

**6:** 89, 330A, 332, 333, 490A, 491, 631

**3. Equivalent Fractions, Decimals and Percents**

**A. Rename equivalent fractions and mixed numbers.**

**6:** 140F, 164A, 164B, 164-167, 172A, 172B, 172-175, 184, 251, 352E, 358A, 358B, 358-361

**B. Rename improper fractions and mixed numbers as equivalent decimals and vice versa.**

**6:** 168A, 168B, 168-169, 184

#### **4. Order, Magnitude and Rounding of Numbers**

**A. Order whole numbers up to 6 digits and decimals (tenths and hundredths).**

**6:** 74E, 78A, 78B, 78-79, 84, 141, 184, 406I, 410A, 410B, 410-411

**B. Order mixed numbers, fractions and decimals.**

**6:** 176A, 176B, 176-179

**C. Describe magnitude of whole numbers up to 6 digits and decimals (tenths and hundredths).**

**6:** 2E, 12A, 12B, 12-13, 14-15, 74E, 74F, 78A, 78B, 78-79, 84, 86A, 86-89, 90A, 90-93, 94A, 94B, 94-97, 104, 141, 470

**D. Describe magnitude of fractions and mixed numbers.**

**6:** 176A, 176B, 176-179

**E. Round whole numbers up to 6 digits, fractions and decimals in context.**

**6:** 14A, 14B, 14-15, 80A, 80B, 80-81

**F. Identify points on number lines and scales, including fractions, decimals and integers.**

**6:** 78A, 78B, 78-79, 330A, 330B, 330-333

**G. Locate points on number lines and scales, including fractions, decimals and integers.**

**6:** 78A, 78B, 78-79, 330A, 330B, 330-333

#### **5. Models for Operations**

**A. Identify the appropriate operation or number sentence to solve a story problem.**

**6:** 2E, 2F, 2J, 21, 23, 24A, 24B, 24-27, 29, 28-29, 30A, 30B, 30-31, 38-39, 44A, 44B, 44-47, 512A, 512B, 512, 513, 700A, 700B, 700, 701

**B. Write story problems from equations involving fractions and decimals, including money amounts, using all operations.**

**6:** 2E, 2F, 2J, 21, 23, 24A, 24B, 24-27, 29, 28-29, 30A, 30B, 30-31, 38-39, 44A, 44B, 44-47, 512A, 512B, 512, 513, 700A, 700B, 700, 701

**6. Basic Facts****A. Multiply and divide facts.**

**6:** 2E, 2F, 2J, 21, 23, 24A, 24B, 24-27, 29, 28-29, 30A, 30B, 30-31, 38-39, 44A, 44B, 44-47, 512A, 512B, 512, 513, 700A, 700B, 700, 701

**7. Computation with Whole Numbers and Decimals****A. Add and subtract 2-, 3- and 4-digit whole numbers, money amounts and decimals.**

**6:** 74E, 74F, 82, 86A, 86B, 86-89, 104, 203, 470

**B. Multiply and divide whole numbers and decimals by 10, 100 and 1,000.**

**6:** 74E, 74F, 74J, 82A, 82B, 82, 90A, 90B, 90-93, 94A, 94B. 94-97, 100A, 100B, 100-103, 104, 106-109, 141, 248A, 248B, 248-251

**C. Multiply and divide 2- and 3-digit whole numbers and money amounts by 1-digit numbers and 1-digit decimals.**

**6:** 74E, 74F, 74J, 82A, 82B, 82, 90A, 90B, 90-93, 94A, 94B. 94-97, 100A, 100B, 100-103, 104, 106-109, 141, 248A, 248B, 248-251

**D. Identify the correct placement of the decimal point in multiplication and division of decimals by one-digit numbers.**

**6:** 74E, 74F, 74J, 76-77, 82A, 82B, 82, 90A, 90B, 90-93, 94A, 94B. 94-97, 100A, 100B, 100-103, 104, 106-109, 141, 248A, 248B, 248-251

**8. Computation with Fractions and Integers****A. Add and subtract fractions and mixed numbers with reasonable and appropriate denominators.**

**6:** 160A, 160B, 160, 202E, 202I, 204A, 204B, 204-205, 206A, 206B, 206-209

**B. Multiply whole numbers and fractions by fractions and mixed numbers.**

**6:** 2E, 2F, 2J, 28A, 28B, 28-29, 44A, 44B, 44-47, 48A, 48B, 48-51, 74E, 74F, 74J, 90A, 90B, 90-93, 104, 106A, 106B, 106-109, 122, 246E, 246F, 246I, 248A, 248B, 248-251, 252A, 252-255, 258-259, 426A, 426-427, 672A, 672B, 672-673, 701

**9. Solve Word Problems****A. Solve one-step story problems involving whole numbers, decimals and money amounts with or without extraneous information.**

**6:** 156A, 157, 213A, 213, 264A, 265, 313, 377, 490A, 491, 706A, 707

**B. Solve two-step story problems involving whole numbers, decimals, fractions and money amounts without extraneous information.**

**6:** 696F, 696J, 712A, 712B, 712-715, 718A, 718B, 718-721

**C. Solve two-step problems involving whole numbers and decimals with extraneous information.**

**6:** 696F, 696J, 712A, 712B, 712-715, 718A, 718B, 718-721

**D. Solve two-step problems involving whole numbers, decimals or money amounts, and explain how the answer was determined.**

**6:** 696F, 696J, 712A, 712B, 712-715, 718A, 718B, 718-721

## 10. Numerical Estimation Strategies

**A. Identify the best expression to find an estimate.**

**6:** 2F, 41, 56

**B. Identify whether and why a particular strategy will result in an overestimate or an underestimate.**

**6:** 18A, 18B, 18

## 11. Estimating Solutions to Problems

**A. Identify a reasonable estimate to a problem, including estimating change.**

**6:** 2E, 2I, 16A, 16, 17, 18A, 18B, 18-19, 170A, 170B, 170, 171, 184, 202F, 216A, 216B, 216-217, 230, 256A, 256B, 256-257, 352E, 352F, 357, 368A, 368B, 368-370

**B. Determine a reasonable estimate, and describe the strategy used to arrive at the estimate.**

**6:** 2E, 2I, 16A, 16, 17, 18A, 18B, 18-19, 170A, 170B, 170, 171, 184, 202F, 216A, 216B, 216-217, 230, 256A, 256B, 256-257, 352E, 352F, 357, 368A, 368B, 368-370

**C. Given an estimate as a solution, judge its reasonableness and justify the decision.**

**6:** 2E, 2I, 16A, 16, 17, 18A, 18B, 18-19, 170A, 170B, 170, 171, 184, 202F, 216A, 216B, 216-217, 230, 256A, 256B, 256-257, 352E, 352F, 357, 368A, 368B, 368-370

## 12. Ratios and Proportions

**A. Solve problems involving simple ratios.**

**6:** 298E, 298F, 298I, 298J, 300A, 300B, 300-301, 302A, 302B, 302-305, 306A, 306B, 306-309, 316A, 316B, 316, 317, 354, 662-663



**13. Computation with Percents***Not tested***Geometry and Measurement****14. Time***Not tested***15. Approximating Measures****A. Estimate lengths, areas and angle measures.****6:** 476A, 476B, 476-479, 540E, 540F, 542, 546, 552A, 552B, 552-553, 570A, 570B, 570-571, 572A, 572B, 572-575, 580A, 580B, 580-581**16. Customary and Metric Measures****A. Measure and determine perimeter, area and volume. Explain or show how the solution was determined.****6:** 540E, 540F, 540I, 540J, 564A, 564B, 564-567, 568A, 568B, 568-569, 570A, 570-571, 572A, 572B, 572-573, 574-575, 576A, 576B, 576-579, 580A, 580, 581, 594A, 594B, 594-597**B. Identify appropriate customary or metric units of measure (length, temperature, capacity, mass) for a given situation.****6:** 540E, 542A, 542B, 542, 543, 546A, 546B, 546, 552A, 552B, 552-553, 722A, 722B, 722-723**C. Identify the correct solution to problems involving the conversions of measures of length, mass, capacity and time.****6:** 540E, 542A, 542B, 542, 543, 546A, 546B, 546, 552A, 552B, 552-553, 722A, 722B, 722-723**D. Solve problems involving conversions of measures of length, mass, capacity and time.****6:** 540E, 542A, 542B, 542, 543, 546A, 546B, 546, 552A, 552B, 552-553, 722A, 722B, 722-723

**17. Geometric Shapes and Properties**

**A. Identify and classify 2- and 3-dimensional geometric shapes and figures.**

**6:** 470E, 470F, 494A, 494B, 494-495, 496A, 496B, 496-499, 500A, 500B, 500-501, 502A, 502B, 502-503, 593

**B. Draw, describe and classify 2-dimensional geometric shapes and figures.**

**6:** 484A, 484B, 484-487, 470E, 470F, 494A, 494B, 494-495, 496A, 496B, 496-499, 500A, 500B, 500-501, 502A, 502B, 502-503, 593

**18. Spatial Relationships**

**A. Identify lines of symmetry.**

**6:** 47, 514A, 514B, 514-515

**B. Draw lines of symmetry.**

**6:** 47, 514A, 514B, 514-515

**C. Identify congruent and similar figures.**

**6:** 506A, 506B, 506

**D. Identify geometric reflections, rotations and translations.**

**6:** 47, 510A, 510, 514A, 514B, 514

**E. Locate and draw points on grids.**

**6:** 406F, 440A, 400B, 440-443, 448A, 448B, 448-449, 632A, 632B, 632-634, 696E, 698A, 698B, 698-699

**Working with Data: Probability and Statistics****19. Tables, Graphs and Charts**

**A. Identify correct information from tables, line graphs, bar graphs, stem-and-leaf plots, and charts.**

**6:** 406F, 444A, 444B, 444-447, 448A, 448B, 448-449, 618E, 618F, 632A, 632B, 632-634, 636A, 636B, 636-637, 638A, 638B, 638-641

**B. Create bar graphs and line graphs from data in tables and charts.**

**6:** 406F, 444A, 444B, 444-447, 448A, 448B, 448-449, 618E, 618F, 628-631, 632A, 632B, 632-634, 636A, 636B, 636-637, 638A, 638B, 638-641

## 20. Statistics and Data Analysis

**A. Draw reasonable conclusions from data in tables, pictographs, line graphs, circle graphs, stem-and-leaf plots, and charts.**

**6:** 19A, 490A, 490B, 490-491, 618E, 618F, 624A, 624B, 624-627, 628A, 628B, 628-631, 632A, 632B, 632-633, 638A, 638B, 638-641, 642A, 642B, 642-645

**B. Solve problems involving means, medians and modes of sets of data.**

**6:** 472, 618E, 624A, 624B, 624-627

## 21. Probability

**A. Identify correct solutions to problems involving elementary notions of probability and fairness.**

**6:** 618E, 618F, 618J, 644, 654A, 654B, 654-657, 658A, 658B, 658-661, 662, 664A, 664B, 664-667, 668A, 668B, 668-671, 672A, 672B, 672, 673

**B. Solve problems involving elementary notions of probability and fairness, including justifying solutions.**

**6:** 618E, 618F, 618J, 644, 654A, 654B, 654-657, 658A, 658B, 658-661, 662, 664A, 664B, 664-667, 668A, 668B, 668-671, 672A, 672B, 672, 673

## Algebraic Reasoning: Patterns and Functions

### 22. Patterns

**A. Identify the missing terms in a pattern, or identify rules for a given pattern using numbers and attributes.**

**6:** 406F, 444A, 444B, 444-447

**B. Extend or complete patterns and state rules for given patterns using numbers and attributes.**

**6:** 406F, 444A, 444B, 444-447

### 23. Algebraic Concepts

**A. Solve simple 1-step algebraic equations.**

**6:** 2F, 48A, 48B, 48-51, 276A, 276B, 276-277, 430A, 430B, 430-431

**B. Evaluate equations, identify fact-family relationships and use formulas provided.**

**6:** 23A, 328A, 328B, 328-329

## 24. Classification and Logical Reasoning

**A. Solve logic, counting and classification problems involving the organization of data.**

**6:** 43, 226A, 226B, 226-227, 560A, 560B, 560-561, 618E, 618F, 620A, 620B, 620-623, 628A, 628B, 628-631, 632A, 632B, 632-633, 636A, 636B, 636-637, 638A, 638B, 638-641, 642A, 642B, 642-645

**B. Sort or classify objects, and draw logical conclusions from data including Venn diagrams and transitive reasoning questions.**

**6:** 24A, 151, 413

## Integrated Understandings

### 25. Mathematical Applications

**A. Solve extended numerical, statistical and spatial problems.**

**6:** 171, 298F, 328A, 328B, 328-329, 330A, 330B, 330-333, 352E, 352F, 374A, 374B, 374-377, 430A, 430B, 430-431, 618E, 618I, 620A, 620B, 620, 621