

A Correlation of

**SCOTT FORESMAN • ADDISON WESLEY**

**Mathematics**

© 2004

to the

**Kyrene School District Standards**

Grades K-5



M/M-119

## Introduction

This document demonstrates how **Scott Foresman – Addison Wesley Mathematics** meets the objectives of the Kyrene School District Standards. 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.

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**Scott Foresman – Addison Wesley Mathematics  
to the  
Kyrene School District Standards  
Kindergarten**

**Strand 1: Numeration and Process Strands**

Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning & Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.

**Concept 1: Number Sense**

Understand and apply numbers, ways of representing numbers, the relationships among numbers and different number systems.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Make a model to represent a given whole number 0 through 20. (e.g., show objects or draws pictures of a given number )</b>	51I, 53A–53B, 53–54, 55A–55B, 55, 57A–57B, 57, 59A–59B, 59, 65A–65B, 65–66, 67A–67B, 67–68, 77A–77B, 77, 79A–79B, 79, 83A–83B, 83, 89A–89B, 89–90, 101I, 103A–103B, 103–104
<b>2 Identify orally a whole number represented by a model with word name and symbol 0 through 20. (Say 3 and write number 3 when presented with three objects)</b>	61A–61B, 61, 77A–77B, 78, 79A–79B, 80, 81A–81B, 81–82, 83A–83B, 84, 85A–85B, 85–86, 97A–97B, 97, 105A–105B, 105–106, 107A–107B, 107–108, 109A–109B, 109–110, 111A–111B, 111–112, 127A–127B, 127
<b>3 Count, aloud, forward, in consecutive order (0-50).</b>	65B, 75I, 77A–77B, 81B, 83B, 84, 103B, 105B, 115A–115B

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>4 Count aloud, backwards, in consecutive order (0 through 20).</b>	81B, 83B, 84
<b>5 Identify/read whole numbers up to 20 in and out of sequential order.</b>	57A–57B, 58, 91A–91B, 91–92, 100
<b>6 Write whole numbers through 20 in and out of sequential order.</b>	55A–55B, 55–56, 59A–59B, 59–60, 61A–61B, 61–62, 63A–63B, 63–64, 65A–65B, 65–66, 71A–71B, 71–72, 81A–81B, 81–82, 85A–85B, 85–86, 87A–87B, 87–88, 91A–91B, 91, 97A–97B, 97, 105A–105B, 105–106, 107A–107B, 107–108, 109A–109B, 109–110, 111A–111B, 111–112, 127A–127B, 127
<b>7 Construct equivalent forms of whole numbers using manipulatives through 10.</b>	225A–225B, 225–226, 227A–227B, 227–228, 229A–229B, 229–230, 231A–231B, 231–232, 233A–233B, 233–234, 241
<b>8 Order three or more non-consecutive whole numbers through 20 (least to greatest and greatest to least).</b>	75J, 75K, 87B, 90, 91A–91B
<b>9 Compare two whole numbers through 20 (more/less).</b>	63A–63B, 63–64, 65A–65B, 65–66, 67A–67B, 67–68, 71A–71B, 71–72, 74, 87A–87B, 87–88, 89A–89B, 89–90, 239A–239B, 239, 269A–269B, 269–270
<b>10 Recognize the ordinal position of numbers through tenth. (e.g., first, second, third, etc.)</b>	51L, 69A–69B, 69–70, 75L, 93A–93B, 93–94
<b>11 Identify penny, nickel, dime, quarter and dollar by using manipulatives or pictures.</b>	179A, 181A, 183A, 187A–187B, 187–188
<b>12 Identify a model/picture that is divided into equal fractional parts (halves).</b>	211A–211B, 211–212, 215A–215B, 222

## Concept 2: Numerical Operations

Understand and apply numerical operations and their relationship to one another.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Model addition through sums of 10 using manipulatives. (e.g., say: <math>2 + 4</math> child shows models problem through use manipulatives)</b>	235A–235B, 235–236, 239A–239B, 239, 245A–245B, 245–246, 247A–247B, 247–248, 249A–249B, 249–250, 251A–251B, 251–252, 253A–253B, 253–254, 255A–255B, 255–256, 259A–259B, 259–260
<b>2 Model subtraction with minuends of 10 using manipulatives. (e.g., <math>4 - 2</math> model through use of manipulatives)</b>	237A–237B, 237–238, 239A–239B, 240, 265A–265B, 265–266, 267A–267B, 267–268, 269A–269B, 269–270, 271A–271B, 271–272, 273A–273B, 273–274, 275A–275B, 275–276, 281A–281B, 281–282
<b>3 <i>Select the operation (+,-) to solve word problem using numbers 0 through 9.</i></b>	279A–279B, 279–280, 284
<b>4 <i>Solve word problems presented orally using addition or subtraction with whole numbers through 9.</i></b>	245A–245B, 245–246, 249A–249B, 249–250, 279A–279B, 279–280
<b>5 Skip count by 10's to 100.</b>	286, 287A–287B, 287–288, 295A–295B, 295–296, 299A–299B, 299–300

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>6 Identify the symbols ( +, −, = ).</b>	251A–251B, 251–252, 253A–253B, 253–254, 255A–255B, 255–256, 259A–259B, 259–260, 271A–271B, 271–272, 273A–273B, 273–274, 275A–275B, 275–276, 279A–279B, 279–280, 281A–281B, 281–282
<b>7 Use grade level appropriate mathematical terminology. (e.g., add, subtract, equals, more, less)</b>	25, 51, 75, 101, 131, 159, 195, 223, 243, 263, 285

**Concept 3: Estimation**  
Use estimation strategies reasonably and fluently.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Solve problems using a variety of mental computations and reasonable estimations. (e.g., About how many unifix cubes could you hold in your hand?)</b>	119A–119B, 119–120, 127A–127B, 128, 129

**Concept 4: Structure and Logic; Algorithms and Algorithmic Thinking**

Use reasoning to solve mathematical problems in contextual situations

**Performance Objectives:**

**Scott Foresman – Addison Wesley Mathematics**

No Kyrene School District Performance Objectives for Concept 4

**Concept 5: Structure and Logic; Logic, Reasoning, Arguments, and Mathematical Proof**

Evaluate situations, select problem-solving strategies, draw logical conclusions, develop and describe solutions and recognize their applications.

**Performance Objectives:**

**Scott Foresman – Addison Wesley Mathematics**

**1 Sort objects according to observable attributes.**

13A–13B, 13–14, 15A–15B, 15–16, 17A–17B, 17–18, 21A–21B, 22, 127A–127B, 127, 197A–197B, 197–198, 199A–199B, 199–200, 201A–201B, 201–202, 259A–259B, 259–260, 281A–281B, 281–282

**2 Provide rationale for classifying objects according to observable attributes (color, size, shape, weight, etc.).**

13A–13B, 15A–15B, 17A–17B, 19A–19B, 19–20, 200, 259A–259B, 259–260



## Strand 2: Statistics, Data Analysis and Probability

Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning & Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.

### Concept 1: Data Analysis (Statistics)

Understand and apply data collection, organization and representation to analyze and sort data.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Formulate questions to collect data in contextual situations. (e.g., What is your favorite color?)</b>	33A–33B, 33–34
<b>2 Interpret a pictograph.</b>	31A–31B, 31–32, 33A–33B, 33–34, 47A–47B, 47, 49
<b>3 Answer questions about a pictograph.</b>	31A–31B, 31, 33A–33B, 33–34, 35A–35B, 35–36, 47A–47B, 47, 49
<b>4 Formulate questions based on data displayed in graphs, charts, and tables.</b>	31B, 32
<b>5 Solve problems based on simple graphs, charts and tables.(e.g., answer questions that require problem solving)</b>	30, 67B, 68

**Concept 2: Probability**

Understand and apply the basic concepts of probability.

**Performance Objectives:**

**Scott Foresman – Addison Wesley Mathematics**

No Kyrene School District Performance Objectives for Concept 2

**Concept 3: Discrete Mathematics - Systematic Listing and Counting**

Understand and apply data collection, organization and representation to analyze and sort data.

**Performance Objectives:**

**Scott Foresman – Addison Wesley Mathematics**

**1 Make arrangements that represent the number of combinations that can be formed by pairing items taken from 2 sets, using manipulatives. (e.g., How many outfits can one make with 2 different color shirts and 2 different pairs of pants?)**

225B, 226, 227B, 228, 229B, 230, 231B, 232, 233A–233B, 233–234, 241

**Concept 4: Discrete Mathematics - Vertex-Edge Graphs/Graph Theory**

Understand and apply vertex-edge graphs.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Color pictures with the least number of colors so that no common edges share the same color. (increased complexity throughout grade levels)</b>	209B

**Strand 3: Patterns, Algebra and Functions**

Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning & Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.

**Concept 1: Patterns**

Identify patterns and apply pattern recognition to reason mathematically.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Communicate orally a teacher given grade level appropriate pattern.</b>	35A–35B, 37B, 39B, 41A–41B, 41, 95A–95B, 95–96
<b>2 Extend simple repetitive patterns using manipulatives.</b>	35A–35B, 35–36, 37A–37B, 37–38, 39A–39B, 39–40, 50, 95A–95B, 95–96, 100
<b>3 Create grade level appropriate patterns. (3 part patterns)</b>	43A–43B, 43–44, 45A–45B, 45–46, 50

**Concept 2: Functions and Relationships**

Describe and model functions and their relationships.

**Performance Objectives:**

**Scott Foresman – Addison Wesley Mathematics**

No Kyrene School District Performance Objectives for Concept 2

**Concept 3: Algebraic Representations**

Represent and analyze mathematical situations and structures using algebraic representations.

**Performance Objectives:**

**Scott Foresman – Addison Wesley Mathematics**

No Kyrene School District Performance Objectives for Concept 3

**Concept 4: Analysis of Change**

Analyze change in a variable over time and in various contexts.

**Performance Objectives:**

**Scott Foresman – Addison Wesley Mathematics**

No Kyrene School District Performance Objectives for Concept 4

## Strand 4: Geometry

Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning & Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.

### Concept 1: Geometric Properties

Analyze the attributes and properties of two and three dimensional shapes and develop mathematical arguments about their relationships.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Identify two-dimensional shapes by attribute. (e.g., size, shape, number of sides, circle, square, triangle and rectangle)</b>	203A–203B, 203–204, 205A–205B, 205–206, 221
<b>2 Identify concepts and terms of positions and size in contextual situations: Inside/outside Above/below/between Smaller/larger Longer/shorter</b>	3A–3B, 3–4, 5A–5B, 5–6, 7A–7B, 7–8, 21A–21B, 21, 23–24
<b>3 Identify shapes in different environments. (e.g., nature, buildings, classroom, circle, square, triangle, rectangle, etc.)</b>	195K, 198, 219A–219B, 219
<b>4 Name common 2-dimensional shapes (square, rectangle, triangle, and circle).</b>	203A–203B, 203–204, 205A–205B, 205–206, 219A–219B, 219

**Concept 2: Geometric Transformation of Shapes**

Apply spatial reasoning to create transformations and use symmetry to analyze mathematical situations.

**Performance Objectives:**

**Scott Foresman – Addison Wesley Mathematics**

No Kyrene School District Performance Objectives for Concept 2

**Concept 3: Coordinate Geometry**

Specify and describe spatial relationships using coordinate geometry and other representational systems.

**Performance Objectives:**

**Scott Foresman – Addison Wesley Mathematics**

No Kyrene School District Performance Objectives for Concept 3

## Strand 5: Measurement

Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning & Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.

### Concept 1: Units of Measure and Geometric Objects

Understand and apply appropriate units of measure, measurement techniques, and formulas to determine measurements.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Verbally compare objects according to observable and measurable attributes. (e.g., length, weight, size)</b>	11A–11B, 13A–13B
<b>2 Communicate orally how different attributes of an object can be measured. (e.g., length weight, size)</b>	139A, 147A, 151A
<b>3 Order objects according to observable and measurable attributes. (e.g., length, weight, size)(largest to smallest and smallest to largest)</b>	133A–133B, 133–134, 135A–135B, 135–136, 137A–137B, 137–138, 145A–145B, 146, 149A–149B, 150, 155A–155B, 155–156

**Concept 2: Estimation**

Use estimation strategies reasonably and fluently.

**Performance Objectives:**

**Scott Foresman – Addison Wesley Mathematics**

No Kyrene School District Performance Objectives for Concept 2



**Scott Foresman – Addison Wesley Mathematics  
to the  
Kyrene School District Standards  
Grade One**

**Strand 1: Numeration and Process Strands**

Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning & Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.

**Concept 1: Number Sense**

Understand and apply numbers, ways of representing numbers, the relationships among numbers and different number systems.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Make model to represent a given whole number 0 through 110.</b>	265–266, 285–286, 287–288, 291–292, 295–296, 326
<b>2 Identify a whole number represented by a model with a word name and symbol 0 through 110.</b>	14, 243–244, 251–252, 281–282, 283–284, 306, 322, 327
<b>3 Count aloud, forward, in consecutive order (0 through 200).</b>	1O–1P, 239I, 245A–245B, 245–246, 263–264, 269, 277–278, 319
<b>4 Count aloud, backwards, in consecutive order (0 through 200).</b>	1L, 123K–123L, 124, 125A–125B, 125–126, 127A–127B, 127–128, 245A–245B, 246, 277
<b>5 Identify whole numbers through 200 in and out of sequential order.</b>	239J, 245A–245B, 245–246, 253, 273, 277–278, 294

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>6 Write whole numbers through 300 in and out of sequential order.</b>	245B, 245–246, 253, 273, 277–278
<b>7 Construct equivalent forms of whole numbers using manipulatives or symbols through 99. (e.g., <math>15 + 5 = 10 + 10</math>)</b>	279I, 285A–285B, 285–286, 287A–287B, 287–288, 291A–291B, 291–292, 294, 295A–295B, 295–296
<b>8 State verbally whole numbers, through 100, using correct place value. (e.g., student says, 84 as eight tens four ones)</b>	279I, 281A–281B, 281–282, 283A–283B, 283–284, 306, 322, 327, 328A, 486
<b>9 Order three or more non-consecutive whole numbers through 100 (least to greatest and greatest to least).</b>	31A–31B, 31–32, 36, 39, 42, 82, 294, 299A–299B, 299–300, 320, 328, 360
<b>10 Apply expanded notation to model place value through 99. (e.g., <math>37 + 3 \text{ tens} + 7 \text{ ones}</math>)</b>	285A–285B, 285–286, 287A–287B, 287–288, 289–290, 322, 327, 328B
<b>11 Construct models that represent place value concepts for the ones and tens places.</b>	241A–241B, 241–242, 247A–247B, 247–248, 276, 277, 279K–279L, 280, 284, 285A–285B, 285–286, 287A–287B, 287–288, 326, 327, 342
<b>12 Identify odd and even whole numbers through 100.</b>	265A–265B, 265–266, 269, 278, 306, 354
<b>11 Compare two numbers to 100 using "greater than", or "less than", or "equal to."</b>	1, 29A–29B, 29–30, 36, 39, 42, 102, 322, 326, 354
<b>13 Use ordinal numbers through tenth.</b>	239K–239L, 240, 267A–267B, 267–268, 269, 328A, 382

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>15 Identify one to ten more or less of a number up to 100. (e.g., 10 more than 50 = 60, 3 less than 47 = 44)</b>	25A–25B, 25–26, 27A–27B, 27–28, 36, 40, 42
<b>16 Identify money by name and value; penny, nickel, dime, quarter, and one dollar.</b>	329K–329L, 329, 330, 331–332, 333–334, 335–336, 337–338, 343–344, 345–346, 347–348, 352–353, 356, 357, 358, 359, 360, 361–362, 382, 414A–414B
<b>17 Count money through \$1.00 using coins.</b>	330, 331–332, 333–334, 335–336, 337–338, 343–344, 345–346, 347–348, 352–353, 356, 358, 359, 360, 361–362, 382, 414A–414B, 457K, 470, 492B
<b>18 Identify the value of a collection of coins using the symbols ¢ and \$.</b>	330, 331–332, 333–334, 335–336, 337–338, 343–344, 345–346, 347–348, 352–353, 356, 357, 358, 359, 360, 361–362, 382, 414A–414B, 457K, 470, 492B
<b>19 Make models that represent given fractions (halves).</b>	182, 184, 186, 187A–187B, 188, 189A–189B, 189–190, 194, 202, 328B
<b>20 Identify in symbols and in words a model that is divided into equal fractional parts (halves).</b>	156, 181A–181B, 181–182, 183A–183B, 183–184, 187B, 187–188, 189–190, 202, 232

### Concept 2: Numerical Operations

Understand and apply numerical operations and their relationship to one another.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Demonstrate the process of addition through sums of 20 using manipulatives.</b>	11–12, 13–14, 15–16, 17–18, 20, 21–22, 24, 25–26, 33–34, 45–46, 86
<b>2 Demonstrate the process of subtraction with minuends of 20 using manipulatives.</b>	27–28, 36, 42, 61–62, 63–64, 75–76, 77–78, 85, 229
<b>3 Verbal or written demonstration of accuracy with basic addition and subtraction facts up to 20 (with or without a number line).</b>	103A–103B, 103–104, 105A–105B, 105–106, 107A–107B, 107–108, 113A–113B, 113–114, 117, 129A–129B, 129–130, 137A–137B, 137–138, 139A–139B, 139–140, 141A–141B, 141–142, 452
<b>4 Add 1 and 2- digits whole numbers without regrouping.</b>	25A–25B, 25–26, 47A–47B, 47–48, 49A–49B, 49–50, 53A–53B, 53–54, 55–56, 57A–57B, 57–58, 79A–79B, 79–80, 91A–91B, 91–92, 95A–95B, 95–96, 97A–97B, 97–98, 99A–99B, 99–100, 103A–103B, 103–104, 105A–105B, 105–106, 107A–107B, 107–108, 111A–111B, 111–112, 113A–113B, 113–114, 145, 417–418, 425A–425B, 425–426, 463A–463B, 463–464
<b>5 Subtract 1 and 2-digit whole numbers without regrouping.</b>	27A–27B, 27–28, 63A–63B, 63–64, 65A–65B, 65–66, 67A–67B, 67–68, 69A–69B, 69–70, 77A–77B, 77–78, 80, 125A–125B, 125–126, 127A–127B, 127–128, 129A–129B, 129–130, 131–132, 133A–133B, 133–134, 145A–145B, 145–146, 152, 441A–441B, 441–442, 443A–443B, 443–444, 475A–475B, 475–476

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>6 Select the grade-level appropriate operation to solve word problems.(e.g., + and -)</b>	71A–71B, 71–72, 79–80, 84, 88, 119, 143A–143B, 143–144, 154, 164, 445–446, 447–448, 456
<b>7 Solve word problems using addition and subtraction of 2-digit whole numbers without regrouping.</b>	289–290, 460, 464, 472, 474, 483–484, 489, 490
<b>8 Count by multiples to show the process of multiplication to 110. (e.g., skip count by 2 and 5)</b>	243A–243B, 243–244, 255A–255B, 255–256, 257A–257B, 257–258, 259–260, 261A–261B, 261–262, 269–270, 272, 275, 278, 328B, 451, 486
<b>9 Demonstrate families of equations for addition and subtraction through 18. (e.g., <math>7 + 9 = 16</math>, <math>9 + 7 = 16</math>, <math>16 - 9 = 7</math>, <math>16 - 7 = 9</math>)</b>	123, 139A–139B, 139–140, 141A–141B, 141–142, 154, 154A, 164, 342, 415J, 437A–437B, 437–438, 452, 456, 470, 492A–492B
<b>10 Demonstrate identity and commutative properties through 18.</b>	51A–51B, 51–52, 60, 74, 79, 87, 88B, 93A–93B, 93–94, 102, 116, 122, 154B, 328B
<b>11 Identify addition &amp; subtraction as inverse operations. (e.g., <math>3+4 = 4+3</math>)</b>	123, 137A–137B, 137–138, 139A–139B, 139–140, 141A–141B, 141–142, 153–154, 154A, 164, 196, 435A–435B, 435–436, 439A–439B, 439–440, 455–456, 470, 486, 492B
<b>12 Apply symbols (+, -, =).</b>	49A–49B, 49–50, 51–52, 65A–65B, 65–66, 67A–67B, 67–68, 87, 95A–95B, 95–96, 116
<b>13 Use grade level appropriate mathematical terminology. (e.g., subtraction = greater than or less than)</b>	Key vocabulary words are addressed in every lesson and are highlighted in Teacher Edition notes. For example, see: 27A, 29A, 65A, 93A, 103, 283A, 297A, 297, 301, 435

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>14 Demonstrate addition of fractions with like denominators (halves) using models.</b>	189B
<b>15 Demonstrate subtraction of fractions with like denominators (halves) using models.</b>	189B
<b>16 Add money without regrouping using manipulatives and pencil/paper, through 99¢.</b>	52, 244, 349–350, 351A–351B, 351–352, 360, 362, 392, 457, 458
<b>17 Subtract money without regrouping using manipulatives and pencil/paper, through 99¢.</b>	123, 457, 472

### **Concept 3: Estimation**

Use estimation strategies reasonably and fluently.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Solve problems using a variety of mental computations and reasonable estimations. (e.g., About how many students ordered pizza and hot dogs?)</b>	12, 18, 68, 78, 91A–91B, 91–92, 95A–95B, 95–96, 97A–97B, 97–98, 113A–113B, 113–114, 116, 121, 123K–123L, 125A–125B, 125–126, 127A–127B, 127–128, 148, 151, 153, 154B, 180, 205A–205B, 205–206, 221A–221B, 221–222, 237–238, 238B, 249A–249B, 249–250, 272, 356, 423A–423B, 423–424, 425A–425B, 425–426, 441A–441B, 441–442, 450, 455

**Concept 4: Structure and Logic; Algorithms and Algorithmic Thinking**

Use reasoning to solve mathematical problems in contextual situations.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Create problems based on contextual situations that require addition and subtraction facts through 20.</b>	22, 66, 80, 89, 114, 146, 426, 448

**Concept 5: Structure and Logic; Logic, Reasoning, Arguments, and Mathematical Proof**

Evaluate situations, select problem-solving strategies, draw logical conclusions, develop and describe solutions and recognize their applications.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 List the quantitative components found in word problems.</b>	55–56, 57A–57B, 57–58, 131–132, 360
<b>2 Provide rationale for classifying objects according to observable attributes (color, size, shape, weight, etc.).</b>	167A–167B, 168, 307B, 307–308

## Strand 2: Statistics, Data Analysis and Probability

Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning & Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.

### Concept 1: Data Analysis (Statistics)

Understand and apply data collection, organization and representation to analyze and sort data.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Formulate questions to collect data in contextual situations. (e.g., What pet do you own?)</b>	309B, 309–310, 324, 406
<b>2 Make a simple pictograph or tally chart with appropriate labels from organized data.</b>	309A–309B, 309–310, 313A–313B, 313–314, 320, 324, 364
<b>3 Interpret pictographs using terms such as most, least, equal, more than, less than, and greatest.</b>	251A, 251–252, 277, 309A–309B, 309–310, 356, 414A
<b>4 Answer questions about pictographs using terms such as most, least, equal, more than, less than, and greatest, where each symbol represents single units. (e.g., one to one correspondence)</b>	251A, 251–252, 277, 309A–309B, 309–310, 356, 414A
<b>5 Formulate questions based on graphs, charts, and tables.</b>	252, 310, 314



Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>6 Solve problems using graphs, charts, and tables. (e.g., answer questions that require problem solving)</b>	175–176, 177A–177B, 177–178, 191A–191B, 191–192, 218, 223A–223B, 223–224, 234, 235, 238, 254, 434, 479–480

**Concept 2: Probability**  
Understand and apply the basic concepts of probability.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
No Kyrene School District Performance Objectives for Concept 2	

**Concept 3: Discrete Mathematics - Systematic Listing and Counting**  
Understand and apply data collection, organization and representation to analyze and sort data.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Make arrangements that represent the number of combinations that can be formed by pairing items taken from 2 sets, using manipulatives. (e.g., How many ice cream cones can one make with 2 different types of ice cream and 2 different types of cones?)</b>	177A–177B, 177–178, 430, 431A–431B, 431–432, 456

**Concept 4: Discrete Mathematics - Vertex-Edge Graphs/Graph Theory**

Understand and apply vertex-edge graphs.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Color pictures with the least number of colors so that no common edges share the same color. (increased complexity throughout grade levels)</b>	Can be developed from 375B

**Strand 3: Patterns, Algebra and Functions**

Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning & Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.

**Concept 1: Patterns**

Identify patterns and apply pattern recognition to reason mathematically.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Communicate grade level appropriate pattern. (e.g., ♥,□♥,□ Repeat this pattern with three more shapes)</b>	1I, 3A–3B, 3–4, 5A–5B, 5–6, 7A–7B, 7–8, 10, 24, 33A–33B, 33–34, 36, 41, 88A, 118, 255A–255B, 255–256, 259–260, 261A–261B, 261–262, 273, 274, 275, 278

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>2 Extend a simple grade-level appropriate repetitive pattern. (e.g., ↓,↑,↓,↑, __,__,__)</b>	1I, 3B, 3–4, 6, 7A–7B, 7–8, 33A–33B, 33–34, 36, 37, 41, 54, 74, 106, 150, 154A, 166, 194, 210, 258, 259–260, 263–264, 270, 273, 274, 278
<b>3 Create grade level appropriate patterns. (3 or more part patterns)</b>	1I, 1, 3A–3B, 5A, 5–6, 8, 41

### **Concept 2: Functions and Relationships**

Describe and model functions and their relationships.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
No Kyrene School District Performance Objectives for Concept 2	

### **Concept 3: Algebraic Representations**

Represent and analyze mathematical situations and structures using algebraic representations.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Use variables in grade level appropriate contextual situations.</b>	70, 83, 96, 154A, 180, 242, 306, 328A, 422

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>2 Find missing sum or difference in number sentences for sums and minuends through 9. (e.g., <math>2 + 5 = \square</math>)</b>	49A–49B, 49–50, 53A–53B, 53–54, 55–56, 57A–57B, 57–58, 65A–65B, 65–66, 69A–69B, 69–70, 91A–91B, 91–92, 95A–95B, 95–96, 97A–97B, 97–98, 99A–99B, 99–100, 133A–133B, 133–134, 152, 154, 254

#### Concept 4: Analysis of Change

Analyze change in a variable over time and in various contexts.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Identify the change in a variable over time. (e.g., an object gets taller, colder, heavier)</b>	371B, 395B
<b>2 Make simple predictions based on a variable. (e.g., select next stage of plant growth)</b>	7A–7B, 7–8, 10, 41, 259–260, 313, 349–350

## Strand 4: Geometry

Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning & Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.

### Concept 1: Geometric Properties

Analyze the attributes and properties of two and three dimensional shapes and develop mathematical arguments about their relationships.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Use the words vertex and side when describing simple dimensional shapes.</b>	167A–167B, 167–168, 202, 232
<b>2 Identify two-dimensional shapes by attributes. (e.g., size, shape, number of sides, vertices)</b>	1M, 155I, 167, 202
<b>3 Use concepts and terms of position and size in contextual situations: Inside/outside Above/below/between Smaller/larger Longer/shorter Left/right</b>	1M–1N, 169A–169B, 169–170
<b>4 Draw 2-dimensional shapes (square, rectangle, triangle, circle, oval).</b>	165B, 166, 170, 308
<b>5 Recognize where a line of symmetry divides a two-dimensional shape into mirror images.</b>	171A–171B, 171–172, 199, 202, 382, 414B

**Concept 2: Geometric Transformation of Shapes**

Apply spatial reasoning to create transformations and use symmetry to analyze mathematical situations.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Recognize same shape in different positions (slide/translation).</b>	173A–173B, 173–174, 196, 198, 202, 238B, 492B

**Concept 3: Discrete Mathematics - Systematic Listing and Counting**

Understand and apply data collection, organization and representation to analyze and sort data.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
No Kyrene School District Performance Objectives for Concept 3	

## Strand 5: Measurement

Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning & Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.

<b>Concept 1: Units of Measure and Geometric Objects</b>
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Understand and apply appropriate units of measure, measurement techniques, and formulas to determine measurements.
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Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Compare the measurable characteristics of two objects. (e.g., length, weight, size)</b>	232, 366, 367–368, 369A–369B, 369–370, 374, 375B, 384, 389A–389B, 389–390, 391A–391B, 391
<b>2 Select the appropriate measure of accuracy :</b> -length -inches, feet -capacity/volume -cups, gallons -weight - pounds.	374, 385, 397A–397B, 397–398, 411, 413–414, 414B, 492A
<b>3 Tell time to the hour and half hour using analog and digital clocks.</b>	203K–203L, 204, 207A–207B, 207–208, 209A–209B, 209–210, 211A–211B, 211–212, 213–214, 233, 237, 238A, 306, 322
<b>4 Name the days of the week for yesterday, today and tomorrow. (e.g., If today is Wednesday, what day will it be tomorrow?)</b>	225A–225B, 225, 230

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>5 Name the 12 months of the year in proper order starting with January.</b>	227A–227B, 227–228, 230, 237
<b>6 Name the 7 days of the week in proper order starting with Sunday.</b>	225A–225B, 225–226, 230, 237, 238B, 267, 272, 434
<b>7 Measure a given object using the appropriate unit of measure:</b> - length - inches, feet and yards -capacity/volume - cups, gallons -weight - pounds	371A–371B, 371–372, 373A–373B, 373–374, 383A–383B, 383–384, 400, 409, 413

**Concept 2: Estimation**

Use estimation strategies reasonably and fluently.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Estimate the measurement of an object using U.S. customary standard and non-standard units of measurement.</b>	365A–365B, 365–366, 371A–371B, 371–372, 373A–373B, 373–374, 375A–375B, 375–376, 383A–383B, 383–384, 385A–385B, 385–386, 387A–387B, 387–388, 389A–389B, 389–390, 391A–391B, 391–392, 393A–393B, 393–394, 413–414



**Scott Foresman – Addison Wesley Mathematics  
to the  
Kyrene School District Standards  
Grade Two**

**Strand 1: Numeration and Process Strands**

Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning & Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.

**Concept 1: Number Sense**

Understand and apply numbers, ways of representing numbers, the relationships among numbers and different number systems.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Make a model to represent a given whole number 1 through 999.</b>	83A–83B, 83–84, 89A–89B, 89–90, 131, 391A–391B, 391–392, 423
<b>2 Identify a whole number represented by a model with a word name and symbol 0 through 999.</b>	81A–81B, 81–82, 83A–83B, 83–84, 91, 131, 166, 224, 254, 318, 393A–393B, 393–394, 395–396, 423
<b>3 Count aloud, forward, in consecutive order (0 through 999).</b>	81B, 81, 83A–83B
<b>4 Count aloud, backwards, in consecutive order (0 through 999).</b>	61A–61B, 61
<b>5 Identify whole numbers through 999 in and out of sequential order.</b>	81B, 81–82, 85A–85B, 85–86, 126, 131

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>6 Write whole numbers through 999 in and out of sequential order.</b>	12, 81–82, 85A–85B, 85–86, 131, 407–408, 423–424
<b>7 State equivalent forms of whole numbers using multiples of 10 through 1,000. (e.g., <math>430 + 200 = 600 + 30</math>)</b>	81A–81B, 81–82, 85–86, 126, 131, 172A, 172B, 395–396, 423
<b>8 State verbally whole numbers, through 999, using correct place value (e.g., A student will read <u>528</u> as five hundreds, two tens, and eight ones).</b>	81B, 83B, 85B, 393B, 395B
<b>9 Order three or more non-consecutive whole numbers through 999 (least to greatest and greatest to least).</b>	409A–409B, 409–410, 415B, 419, 423–424
<b>10 Apply expanded notation to model place value through 999. (e.g., <math>378 = 3 \text{ hundreds} + 7 \text{ tens} + 8 \text{ ones}</math>)</b>	81A–81B, 81–82, 131, 395A–395B, 395–396, 423
<b>11 Construct models to represent place value concepts for the ones, tens, and hundreds place.</b>	83, 89A–89B, 89–90, 131, 391A–391B, 391–392, 393A–393B, 393–394, 423
<b>12 Identify odd and even (including 0) whole numbers through 999.</b>	101A–101B, 101–102, 105A–105B, 105–106, 126, 131–132
<b>13 Compare two whole numbers through 999.</b>	12, 91A–91B, 91–92, 108, 115A–115B, 115–116, 124, 131, 172B, 202, 238, 282, 399A–399B, 399–400, 416, 424, 424A, 498A
<b>14 Use ordinal numbers.</b>	34, 103A–103B, 103–104, 132, 244A, 282

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>16 Identify 100 more or less than a number up to 1,000. (e.g., 100 more than 862 = 962, 100 less than 625 = 525)</b>	391–392, 397–398, 415A, 415, 421, 422, 423
<b>17 Compare two decimals using models, illustrations, or symbols with money.</b>	In Grade 2, children compare money amounts written as whole numbers and learn to write money amounts in decimals. 121A–121B, 121–122, 127, 184, 318, 372, 500 Children gain experience comparing decimals in Grade 3.
<b>18 Count money through \$5.00 using manipulatives and pictures of bills and coins.</b>	12, 22, 109A–109B, 109–110, 111A–111B, 111–112, 113A–113B, 113–114, 115A–115B, 115–116, 122, 124, 127, 132, 166, 184, 318, 372, 424A, 442
<b>19 Identify the value of a collection of money using the symbols ¢ and \$ through \$5.00.</b>	109A–109B, 109–110, 111A–111B, 111–112, 113A–113B, 113–114, 127, 132
<b>20 Use decimals in contextual situation using money.</b>	121A, 122, 127, 184, 318, 372
<b>21 Compare two decimals using money, through hundredths, using models, illustrations, or symbols.</b>	In Grade 2, children compare money amounts written as whole numbers and learn to write money amounts in decimals. 121A–121B, 121–122, 127, 184, 318, 372, 500 Children gain experience comparing decimals in Grade 3.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<p><b>22 Distinguish the equivalency among decimals, fractions and percents. (e.g., half-dollar = 50¢ = 50%).</b></p>	<p>In Grade 2, children identify and show fractional parts of a whole or a set</p> <p>12, 269A–269B, 269–270, 271A–271B, 271–272, 274, 275A–275B, 275–276, 288, 332, 372, 404</p> <p>and write money amounts in decimals.</p> <p>121A–121B, 121–122, 127, 184, 318, 372, 500</p> <p>Children gain further experience showing equivalent fractions and decimals in Grades 3–4 and showing equivalent fractions, decimals, and percents in Grade 5.</p>
<p><b>23 Make models that represent given fractions (halves, thirds, fourths).</b></p>	<p>269A–269B, 269–270, 271A–271B, 271–272, 274, 288</p>
<p><b>24 Identify in symbols and words a model that is divided into equal fractional parts (halves, thirds and fourths).</b></p>	<p>12, 269A–269B, 269–270, 271A–271B, 271–272, 274, 275A–275B, 275–276, 288, 332, 372, 404</p>

## Concept 2: Numerical Operations

Understand and apply numerical operations and their relationship to one another.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Demonstrate the process of addition using manipulatives with two 3-digit whole numbers using manipulatives.</b>	3A–3B, 3–4, 9A–9B, 9–10, 22, 29A–29B, 29–30, 39–40, 51A–51B, 51–52, 53A–53B, 53–54, 60, 78A–78B, 79K–79L, 135A–135B, 135–136, 137A–137B, 137–138, 139A–139B, 139–140, 159A–159B, 159–160, 175A–175B, 175–176, 177A–177B, 177–178, 179A–179B, 179–180, 224, 238, 398, 431A–431B, 431–432, 433A–433B, 433–434, 463
<b>2 Demonstrate the process of subtraction using manipulatives with two-digit whole numbers.</b>	13A–13B, 13–14, 15A–15B, 15–16, 17A–17B, 17–18, 39–40, 144, 145A–145B, 145–146, 147A–147B, 147–148, 211A–211B, 211–212, 213A–213B, 213–214, 215A–215B, 215, 243, 244A
<b>3 Verbal or written demonstration with accuracy with basic addition and subtraction facts up to 20.</b>	2, 12, 22, 23–24, 25–26, 27–28, 31–32, 34, 36, 39–40, 41I, 41K–41L, 43A–43B, 43–44, 45A–45B, 45–46, 47A–47B, 47–48, 51A–51B, 51–52
<b>4 Add 1 and 2-digit whole numbers with regrouping.</b>	155A–155B, 155–156, 159A–159B, 159–160, 172, 174, 175A–175B, 175–176, 177A–177B, 177–178, 179A–179B, 179–180, 181A–181B, 181–182, 185A–185B, 185–186, 206, 207
<b>5 Subtract 1 and 2-digit whole numbers with or without regrouping.</b>	209I–209J, 209K–209L, 209, 210, 211A–211B, 211–212, 213A–213B, 213–214, 215A–215B, 215–216, 217A–217B, 217–218, 225A–225B, 225–226, 227A–227B, 227–228, 229A–229B, 229–230, 231A–231B, 231–232, 235A–235B, 235–236, 240, 241
<b>6 Add three 1 or 2-digit addends.</b>	49A–49B, 49–50, 57B, 57–58, 87, 108, 152, 187A–187B, 187–188, 200, 202, 205, 208, 224, 268, 424B, 490

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>7 Select the grade-level appropriate operation to solve word problems.</b>	19A–19B, 19–20, 31–32, 40, 69–70, 129, 163, 199–200, 235, 330, 377–378, 487A–487B, 487–488
<b>8 Solve word problems using addition and subtraction of two 2-digit numbers with regrouping AND two 3-digit whole numbers without regrouping.</b>	186, 189–190, 199, 221–222, 235–236, 243–244, 244B
<b>9 Count by multiples of three.</b>	100, 467A, 467–468
<b>10 State multiplication facts ( 2s,5s,10s).</b>	469A–469B, 469–470, 471A–471B, 471–472, 473A–473B, 473–474, 475A–475B, 475–476, 479A–479B, 479–480, 490, 496, 497
<b>11 Demonstrate the associative property of addition. [e.g., <math>(3 + 5) + 4 = 3 + (5 + 4)</math>]</b>	49A–49B, 49–50, 57–58, 60, 77, 208, 224
<b>12 Apply grade-level appropriate properties to assist in computation; Associative, Commutative</b>	60, 69–70, 123–124, 164, 231–232
<b>13 Apply symbols ( + , - , x , / , ÷ , &lt; , &gt; , % , ≠ ).</b>	5A–5B, 5–6, 9A–9B, 9–10, 12, 17A–17B, 17–18, 19A–19B, 19–20, 115A–115B, 115–116, 399A–399B, 399–400, 424A, 469A–469B, 469–470, 471A–471B, 471–472, 473A–473B, 473–474, 475A–475B, 475–476, 479A–479B, 479–480, 485A–485B, 485–486, 487A–487B, 487–488, 489A–489B, 489–490

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>14 Use grade-level appropriate mathematical terminology.</b>	<p>Specific terminology is introduced and practiced in every lesson. New math words are listed at the beginning of each chapter.</p> <p>41, 79, 173, 209, 289, 339, 389, 425, 465</p>
<b>15 Demonstrate addition of fractions with like denominators (halves and fourths) using models.</b>	<p>In Grade 2, children learn to identify and show fractional parts of a whole or a set.</p> <p>12, 269A–269B, 269–270, 271A–271B, 271–272, 274, 275A–275B, 275–276, 288, 332, 372, 404</p> <p>In Grade 3, children gain further experience adding fractions with like denominators.</p>
<b>16 Demonstrate subtraction of fractions with like denominators (halves and fourths) using models.</b>	<p>In Grade 2, children learn to identify and show fractional parts of a whole or a set.</p> <p>12, 269A–269B, 269–270, 271A–271B, 271–272, 274, 275A–275B, 275–276, 288, 332, 372, 404</p> <p>In Grade 3, children gain further experience subtracting fractions with like denominators.</p>
<b>17 Add money without regrouping using manipulatives and paper and pencil, through \$5.00.</b>	185A–185B, 185–186, 238, 254, 459
<b>18 Subtract money without regrouping using manipulatives and paper and pencil, through \$5.00.</b>	225A–225B, 225–226, 254, 459

### Concept 3: Estimation

Use estimation strategies reasonably and fluently.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Solve problems using a variety of mental computations and reasonable estimation. (e.g., About how many fingers combined do we have in this class?)</b>	141A–141B, 141–142, 149A–149B, 149–150, 169, 170, 171–172, 191A–191B, 191–192, 229A–229B, 229–230, 236, 244, 244B, 297A–297B, 297–298, 362
<b>2 Evaluate the reasonableness of an estimate.</b>	275A–275B, 275–276, 288, 382

### Concept 4: Structure and Logic; Algorithms and Algorithmic Thinking

Use reasoning to solve mathematical problems in contextual situations.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Create contextual problems that require addition or subtraction with one or 2-digit numbers.</b>	5, 16, 17–18, 32, 56, 78B, 94, 152, 189, 199–200, 244B, 458, 498B



**Concept 5: Structure and Logic; Logic, Reasoning, Arguments, and Mathematical Proof**

Evaluate situations, select problem-solving strategies, draw logical conclusions, develop and describe solutions and recognize their applications.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Identify the concepts <i>some</i>, <i>every</i> and <i>many</i> within the context of logical reasoning.</b>	In Grade 2, children use set theory concepts similar to “some,” “every” and “many” to identify aspects of groups within the context of logical reasoning and Venn diagrams. 315A–315B, 315–316, 317–318, 319A–319B, 319–320 In Grades 3–6, children gain further experience using logical reasoning to solve problems and draw conclusions.
<b>2 Identify the concepts <i>all</i> and <i>none</i> within the context of logical reasoning.</b>	In Grade 2, children use set theory concepts similar to “all” or “none” to identify aspects of groups within the context of logical reasoning and Venn diagrams. 315A–315B, 315–316, 317–318, 319A–319B, 319–320 In Grades 3–6, children gain further experience using logical reasoning to solve problems and draw conclusions.

## Strand 2: Statistics, Data Analysis and Probability

Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning & Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.

### **Concept 1: Data Analysis (Statistics)**

Understand and apply data collection, organization and representation to analyze and sort data.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Formulate questions to collect data in contextual situations.</b>	313A, 313–314, 322
<b>2 Make a simple pictograph or tally chart with appropriate labels from organized data.</b>	38, 117A–117B, 117–118, 132, 311A–311B, 311–312, 313A–313B, 313, 322, 386
<b>3 Interpret pictographs, bar graphs, and Venn diagram using terms such as most, least, equal, more than, less than, and greatest.</b>	319A, 319–320, 338
<b>4 Answer questions about a pictograph using terms such as most, least, equal, more than, less than, and greatest, where each symbol may represent more than one. (e.g., one ☺ = 2)</b>	319A, 319–320, 338
<b>5 Formulate questions based on graphs, charts, and tables.</b>	313, 321B
<b>6 Solve problems using graphs, charts, and tables.(e.g., answer questions that require problem solving)</b>	89A–89B, 89–90, 189A–189B, 189–190, 208, 309, 311A–311B, 311–312, 313A–313B, 313–314, 321A–321B, 321–322, 327A–327B, 327–328, 335, 337–338, 405A–405B, 405–406, 463, 492

## Concept 2: Probability

Understand and apply the basic concepts of probability.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Name the possible outcomes for a probability experiment.</b>	In Grade 2, children predict outcomes of simple probability experiments, and record and analyze the results. They use the terms more likely, less likely, equally likely, certain, and impossible to describe probabilities. 340, 373A–373B, 373–374, 375, 388 Children name outcomes and describe probabilities in Grade 3. In Grade 4, they use tree diagrams to list all possible outcomes for a situation.
<b>2 Predict the most likely or least likely outcome in probability experiments. (e.g., Predict the chance of spinning one of the 2 colors in a 2 - colored spinner)</b>	340, 373A–373B, 373–374, 388
<b>3 Predict the outcome of a grade level appropriate probability experiment.</b>	340, 375A–375B, 375–376, 388
<b>4 Record the data from performing a grade level appropriate probability experiment.</b>	340, 375
<b>5 Compare the outcome of an experiment to predictions made prior to performing the experiment.</b>	340, 373A–373B, 373

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>6 Compare the results of two repetitions of the same grade level appropriate probability experiment (toss a two-colored counter 10 times and record the data: toss a two- color counter 20 times, and record the data; compare the results to the expected outcome (1 out of 2).</b>	376

**Concept 3: Discrete Mathematics - Systematic Listing and Counting**

Understand and apply data collection, organization and representation to analyze and sort data.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Make arrangements that represent the number of combinations that can be formed by pairing items taken from 2 sets, using manipulatives. (e.g., How many ice cream cones can one make with 2 different types of ice cream and 2 different types of cones?)</b>	89A–89B, 89–90, 93, 131

**Concept 4: Discrete Mathematics - Vertex-Edge Graphs/Graph Theory**

Understand and apply vertex-edge graphs.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Color pictures with least number of colors so that no common edges share the same color. (increased complexity throughout grade levels)</b>	Children practice coloring strategy including “no common edges share the same color” using a map in Grade 4. See Grade 4 text page 326

**Strand 3: Patterns, Algebra and Functions**

Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning & Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.

**Concept 1: Patterns**

Identify patterns and apply pattern recognition to reason mathematically.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Communicate a grade level appropriate pattern using symbols or numbers. (e.g., ►►Δ►►, __, __, __)</b>	157A–157B, 157–158, 167, 172, 244A, 412, 420
<b>2 Extend a grade level appropriate repetitive pattern. (e.g., 12,22,32, __, __, __)</b>	152, 157B, 157–158, 172, 408, 411, 413A–413B, 413–414, 417
<b>3 Create grade- level appropriate patterns.</b>	157, 413A–413B, 413

### Concept 2: Functions and Relationships

Describe and model functions and their relationships.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
1 Describe the rule used in a simple grade level appropriate function. (e.g., T-chart, input/output model)	167

### Concept 3: Algebraic Representations

Represent and analyze mathematical situations and structures using algebraic representations.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
1 Use variables in grade level appropriate contextual situations.	25A–25B, 25–26, 29A–29B, 29–30, 35, 40, 65A–65B, 65–66, 67A–67B, 67–68, 72, 78, 78A–78B, 159A–159B, 159–160, 166, 171
2 Find the missing elements. (addend, subtrahend, minuend, sum, and difference) in addition and subtraction number sentences for sums through 18 and minuends through 9. (e.g., $13 - \square = 8$ )	29A–29B, 29–30, 36, 40, 65B, 65–66, 67A–67B, 67–68, 69–70, 72, 73, 78, 78B, 94, 108, 166, 254, 338A–338B

### Concept 4: Analysis of Change

Analyze change in a variable over time and in various contexts.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
1 Identify the change in a variable over time. (e.g., an object gets taller, colder, heavier)	329–330
2 Make simple predictions based on a variable. (e.g., a child's height from year to year)	153–154

### Strand 4: Geometry

Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning & Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.

### Concept 1: Geometric Properties

Analyze the attributes and properties of two and three dimensional shapes and develop mathematical arguments about their relationships.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
1 Compare attributes of two-dimensional shapes. (e.g., square, rectangle, triangle, circle, oval parallelogram, rhombus, trapezoid, hexagon)	249B, 265A–265B, 265–266

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>2 Recognize congruent shapes.</b>	257A–257B, 257–258, 266, 287, 308, 362, 424B
<b>3 Recognize line(s) of symmetry for a two-dimensional shape.</b>	261A–261B, 261, 332

**Concept 2: Geometric Transformation of Shapes**

Apply spatial reasoning to create transformations and use symmetry to analyze mathematical situations.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Recognize same shape in different positions (flip/reflections).</b>	259A–259B, 259–260, 338A, 424A

**Concept 3: Coordinate Geometry**

Specify and describe spatial relationships using coordinate geometry and other representational systems.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
No Kyrene School District Performance Objective for Concept 3	



## Strand 5: Measurement

Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning & Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.

### Concept 1: Units of Measure and Geometric Objects

Understand and apply appropriate units of measure, measurement techniques, and formulas to determine measurements.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Identify the type of measure (e.g., weight, height, and time) for each attribute of an object.</b>	380, 383
<b>2 Select the appropriate U.S. customary measure of accuracy: -length - inches, feet; yards, miles - capacity/volume - pints, quarts -weight - ounces.</b>	344, 346
<b>3 Tell time to the nearest five minutes using analog and digital clocks. (e.g., skip counting by 5's) (include terminology... quarter to and quarter after)</b>	34, 289K–289L, 291A–291B, 291–292, 293A–293B, 293–294, 295A–295B, 295–296, 306, 318, 337, 458
<b>4 Determine the passage of time using units of days and weeks, within a month, using a calendar.</b>	303A–303B, 303–304

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>5 Select the appropriate tool to measure the given characteristic of an object.</b>	341A–341B, 341–342, 383
<b>6 Measure a given object using the appropriate unit of measure:</b> <ul style="list-style-type: none"> <li>- length</li> <li>- inches, miles</li> <li>- capacity/volume</li> <li>- pints, quarts</li> <li>- weight - ounces</li> </ul>	242, 343A–343B, 343–344, 345A–345B, 345–346, 379, 386
<b>7 State equivalent relationships:</b> <ul style="list-style-type: none"> <li>12 inches = 1 foot</li> <li>60 minutes = 1 hour</li> <li>24 hours = 1 day</li> <li>7 days = 1 week</li> <li>12 months = 1 year</li> <li>100 pennies = 1 dollar</li> <li>10 dimes = 1 dollar</li> <li>4 quarters = 1 dollar</li> </ul>	121A–121B, 121–122, 128, 130, 132, 133K–133L, 305, 337, 355A–355B, 355–356

**Concept 2: Estimation**

Use estimation strategies reasonably and fluently.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Estimate the measurement of an object using U.S. customary standard and non-standard units of measurement.</b>	341A–341B, 341–342, 343A–343B, 343–344, 345A–345B, 345–346, 363A–363B, 363–364, 365A–365B, 365–366, 367A–367B, 367–368, 379–380, 387, 418
<b>3 Compare an estimate to the actual measure.</b>	343A–343B, 343–344, 345A, 345–346, 347–348, 353, 363A, 363, 379, 387

**Scott Foresman – Addison Wesley Mathematics  
to the  
Kyrene School District Standards  
Grade Three**

**Strand 1: Numeration and Process Strands**

Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning & Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.

**Concept 1: Number Sense**

Understand and apply numbers, ways of representing numbers, the relationships among numbers and different number systems.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Read whole numbers in contextual situations (through 6-digit numbers).</b>	12–13, 44, 104–105
<b>2 Identify/read whole numbers in contextual situations (through 6-digit numbers).</b>	12A–12B, 12–13, 16, 44, 104–105
<b>3 Write whole numbers through 6-digit numbers in and out of sequential order.</b>	6A–6B, 6–7, 10A–10B, 10–11, 12A–12B, 12–13, 16, 56–57, 60, 617
<b>4 State whole numbers, through six-digits, with correct place value, by using models, illustrations, symbols, or expanded notation (e.g., <math>53,941 = 50,000 + 3,000 + 900 + 40 + 1</math>).</b>	21, 6–7, 8–9, 10B, 10–11, 12B, 12–13, 44, 50, 52, 56–57, 146A–146B, 146–147, 151, 304

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>5 Order three or more whole numbers through six-digit numbers (least to greatest, or greatest to least).</b>	22A–22B, 22–23, 27, 31, 34, 48, 50, 53, 54, 58, 62, 71, 239, 294, 471, 552, 720
<b>6 Apply expanded notation to model place value through 9,999 using numbers and words. (e.g., <math>5,378 = 5,000 + 300 + 70 + 8</math> and 5 thousand + 3 hundred + 7 tens + 8 ones)</b>	6A–6B, 6–7, 9, 10A–10B, 10–11, 12–13, 21, 28, 44, 50, 52–53, 56–57, 60–61, 114, 167, 304
<b>7 Represent place value of whole numbers using concrete or illustrated models. (ones, tens, hundreds, and thousands).</b>	8, 147
<b>8 Sort whole numbers into sets containing only odd numbers or only even numbers.</b>	24, 333, 709
<b>9 Compare two whole numbers, through six-digits.</b>	18A–18B, 18–21, 23, 34, 45, 50, 53, 57, 61, 88, 91, 97, 210, 248, 445
<b>11 Identify whole-number factors and/or pairs of factors for a given whole number through 24.</b>	384A–384B, 384–385, 395
<b>12 Determine multiples of a given whole number with products through 24 (skip counting).</b>	276A–276B, 277, 280A–280B, 280–281, 302
<b>13 Identify multiplication and division as inverse operations.</b>	384A–384B, 384–385, 387, 393, 394, 415, 416, 419, 423, 487
<b>14 Compare two decimals through hundredths, using models, illustrations, or symbols.</b>	568A–568B, 568–570, 580, 599, 603, 607

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>15 Count amounts of money through \$20.00 using pictures or actual bills and coins.</b>	36A–36B, 36–39, 41, 46, 49, 52, 59, 435, 521
<b>16 Read decimals in contextual situations through hundredths.</b>	36A–36B, 36–39, 40A–40B, 40–41, 49, 55, 564A–564B, 564–565, 566A–566B, 566–567, 568A–568B, 568–571
<b>17 Write decimals in contextual situations through hundredths.(e.g., money and base 10 blocks)</b>	36–39, 40–41, 55, 564A–564B, 564–565, 566A–566B, 566–567, 568–571
<b>18 Compare two decimals, through hundredths, using models, illustrations, or symbols.</b>	568B, 568–570, 580, 598–599, 603, 607
<b>19 Order three or more decimals, through hundredths, using models, illustrations, or symbols.</b>	568A–568B, 568–570, 575, 580, 598, 603, 607
<b>20 Determine the equivalency among decimals, fractions, and percents. (e.g., <math>1/4 = 0.25 = 25\%</math>)</b>	564A–564B, 564–565, 566A–566B, 566–567, 568, 570, 571, 575, 580, 589, 598–599, 602, 606, 615, 623
<b>21 Make models that represent proper fractions (halves, thirds, fourths, eighths, and tenths).</b>	498A–498B, 498–500, 502A–502B, 502–503, 516A–516B, 516–517, 551, 559
<b>22 Identify symbols, words, or models that represent proper fractions (halves, thirds, fourths, eighths and tenths).</b>	502A–502B, 502–503, 505, 508, 512A–512B, 512–513, 514, 516A–516B, 516–517, 522, 530, 550, 552, 554–555, 558–559, 564
<b>23 Use proper fractions in contextual situations.</b>	502A–502B, 502–503, 508, 512A–512B, 512–513, 516A–516B, 516–517, 519, 530, 542A, 542, 547, 550, 552, 555, 559
<b>24 Compare two proper fractions with like denominators.</b>	506B, 506–507, 552, 704

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>25 Order three or more proper fractions with like denominators (halves, thirds, fourths, eighths, and tenths).</b>	512B, 512–513, 551

### Concept 2: Numerical Operations

Understand and apply numerical operations and their relationship to one another.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Demonstrate the process of subtraction using three-digit whole numbers.</b>	150A–150B, 150–151, 158, 184
<b>2 Add two 3-digit whole numbers with regrouping.</b>	25–26, 62, 85, 128A–128B, 128–131, 132A–132B, 132–135, 144, 179, 182–184, 631
<b>3 Subtract two 3-digit whole numbers, with regrouping.</b>	25–26, 62, 152A–152B, 152–155, 156A–156B, 156–157, 158, 179, 184
<b>4 Add a column of 3-digit numbers.</b>	132A–132B, 134, 137, 144, 182, 186, 248, 358, 401, 453, 567
<b>5 Select the grade-level appropriate operation to solve word problems.</b>	14A–14B, 14–15, 16, 21, 75, 76A–76B, 76–77, 78, 81, 112, 115, 117, 121, 181, 217, 273, 319, 346A–346B, 346–347, 350, 357, 363, 367, 404A–404B, 404–405, 414–415, 421, 425, 431, 439, 473, 487, 721

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<p><b>6 Solve word problems using grade-level appropriate operations and numbers.</b></p>	<p>Most lessons in Grade 3 include word problems that require the use of grade level appropriate operations and numbers.</p> <p>14A–14B, 14–15, 104–105, 128–131, 132, 134, 140A–140B, 140–143, 152B, 152, 154–155, 160B, 160–161, 276B, 276, 278–279, 284A–284B, 284–285, 290–291, 294B, 294–295, 318B, 319, 320–323, 324A–324B, 324–327, 338–339, 346A–346B, 346–347</p>
<p><b>7 Demonstrate the process of multiplication as repeatedly adding the same number, counting by multiples, combining equal sets, and making arrays.</b></p>	<p>260A–260B, 260–261, 262A–262B, 262–265, 266A–266B, 266–267, 273, 274, 276A–276B, 276–279, 280A–280B, 280–281, 292A–292B, 292–293, 316A–316B, 316–317, 318A–318B, 318–319, 320A–320B, 320–323, 327, 329, 357, 377, 401, 475, 487, 663</p>
<p><b>8 Demonstrate the process of division with one-digit divisors (separating elements of a set into smaller equal sets, sharing equally, or repeatedly subtracting the same number).</b></p>	<p>370A–370B, 370–371, 372A–372B, 372–373, 374A–374B, 374–377, 382, 393, 394, 401, 412, 414–415, 416–417, 418, 422, 435, 440</p>
<p><b>9 Demonstrate families of equations for multiplication and division through 10s. (i.e., fact families)</b></p>	<p>384A–384B, 384–385, 387, 389, 391, 394, 414–415, 416, 423, 486</p>



Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>10 State multiplication and division facts through 10's.</b>	276A–276B, 276–279, 280A–280B, 280–281, 286A–286B, 286–287, 288A–288B, 288–291, 292A–292B, 292–293, 294A–294B, 294–295, 316A–316B, 316–317, 318A–318B, 318–319, 320A–320B, 320–323, 324A–324B, 324–327, 328A–328B, 328–329, 338A–338B, 338–339, 340A–340B, 340–341, 348A–348B, 348–349, 377, 386A–386B, 386–387, 388A–388B, 388–389, 390A–390B, 390–391, 392A–392B, 392–393
<b>11 Demonstrate the commutative and identity properties of multiplication.</b>	262A–262B, 262–265, 274, 278, 286A–286B, 286–287, 296, 310–311, 321, 553, 601
<b>12 Identify multiplication and division as inverse operations.</b>	384A–384B, 384–385, 387, 393, 394, 415, 416, 419, 423, 487
<b>13 Apply grade-level appropriate properties to assist in computation; Associative, Commutative, Identity</b>	66A–66B, 66–69, 82–85, 92, 112, 117, 121, 137, 286A–286B, 286–287
<b>14 Apply the symbols <math>\times</math>, <math>\div</math>, <math>/</math>, <math>*</math>, <math>\%</math> and the grouping symbols ( ) and " , " .</b>	12A–12B, 66B, 66–69, 116, 120
<b>15 Use grade-level appropriate mathematical terminology.</b>	Specific terminology is introduced and practiced in every lesson. New math words are listed at the beginning of each chapter. For example, see: 2, 64, 124, 190, 258, 314, 368, 426, 496, 562, 610, 678
<b>16 Add fractions with like denominators (halves, thirds, fourths, eighths, and tenths).</b>	520A–520B, 520–521, 530, 556, 560
<b>17 Subtract fractions with like denominators (halves, thirds, fourths, eighths, and tenths).</b>	520A–520B, 520–521, 530, 556, 560

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>18 Apply addition and subtraction in contextual situations, through \$20.00.</b>	104B, 104–105, 162A–162B, 162–165, 189, 294–295, 723
<b>19 Apply subtraction in contextual situations, through \$20.00.</b>	104B, 104–105, 162A–162B, 162–165, 295

### **Concept 3: Estimation**

Use estimation strategies reasonably and fluently.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Solve grade level appropriate problems using estimation.</b>	86A–86B, 86–89, 90A–90B, 90–91, 92, 98A–98B, 98–101, 102B, 102–103, 104B, 105, 106, 111, 112–113, 114, 118–119, 122–123, 130, 134, 137, 144, 153, 157, 160A–160B, 160–161, 165, 167, 179, 180, 182, 189, 349
<b>2 Evaluate the reasonableness of an estimate.</b>	87, 99
<b>3 Round numbers to the nearest ones, tens and hundreds</b>	86A-86B, 86-87, 98A-98B, 98-99

**Concept 4: Structure and Logic; Algorithms and Algorithmic Thinking**

Use reasoning to solve mathematical problems in contextual situations.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Discriminate necessary information from unnecessary information in a given grade-level appropriate word problem.</b>	540A–540B, 540–541, 544, 549, 551, 557

**Concept 5: Structure and Logic; Logic, Reasoning, Arguments, and Mathematical Proof**

Evaluate situations, select problem-solving strategies, draw logical conclusions, develop and describe solutions and recognize their applications.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Draw conclusions based on existing information. (e.g., All students in Ms. Dean's class are less than 7 years old. Rafael is in Ms. Dean's class. Conclusion: Rafael is less than 7 years old.)</b>	142, 273, 381, 438, 529, 642–643, 644A–644B, 644–645, 646, 649, 667, 672, 676, 689

## Strand 2: Statistics, Data Analysis and Probability

Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning & Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.

### Concept 1: Data Analysis (Statistics)

Understand and apply data collection, organization and representation to analyze and sort data.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Formulate questions to collect data in contextual situations.</b>	206–207
<b>2 Construct a horizontal bar, vertical bar, pictograph or tally chart with appropriate labels and title from organized data.</b>	204A–204B, 204–207, 224, 226A–226B, 226–227, 228A–228B, 228–231, 236A–236B, 236–237, 239, 240, 247, 253, 255–257, 591
<b>3 Interpret data found in line plots, pictographs, and single-bar graphs (horizontal and vertical).</b>	208A–208B, 208–211, 212A–212B, 212–215, 216A–216B, 216–217, 224, 240, 246, 417
<b>4 Answer questions based on data found in line plots, pictographs, and single-bar graphs (horizontal and vertical).</b>	55, 95, 115, 208A–208B, 208–211, 212A–212B, 212–215, 224, 234–235, 243, 245, 247, 251, 254–257, 305, 359, 417, 487, 553
<b>5 Formulate questions based on graphs, charts, and tables to solve problems.</b>	75, 77, 237, 285
<b>6 Solve problems using graphs, charts and tables. (e.g. given a bar graph on preferred flavors of ice cream, students have to decide what flavors of ice cream to order.)</b>	13, 20, 23, 45, 48, 75, 100, 108, 130, 134, 161, 236A–236B, 236–237, 243, 247, 253, 257, 268–269, 270A–270B, 270–273, 274, 279, 285, 291, 299, 300, 303, 307, 311–312, 352–353, 357, 376, 397, 590

## Concept 2: Probability

Understand and apply the basic concepts of probability.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Name the possible outcomes for a probability experiment.</b>	700A–700B, 700, 704A, 704–705
<b>2 Make predictions about the probability of events being more likely, less likely, equally likely or unlikely.</b>	601, 700A–700B, 700–701, 702B, 702–703, 705
<b>3 Predict the outcome of a grade-level appropriate probability experiment.</b>	708A–708B, 708–709, 712, 719, 725, 729
<b>4 Record the data from performing a grade-level appropriate probability experiment.</b>	700B, 706, 708A
<b>5 Compare the outcome of an experiment to predictions made prior to performing the experiment.</b>	706, 708A
<b>6 Compare the results of two repetitions of the same grade level appropriate probability experiment.</b>	678J, 702B, 702, 704A–704B, 708A–708B

**Concept 3: Discrete Mathematics - Systematic Listing and Counting**

Understand and apply data collection, organization and representation to analyze and sort data.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Make a diagram to represent the number of combinations available when 1 item is selected from each of 3 sets of 2 items. (e.g., 2 different shirts, 2 different hats, 2 different belts)</b>	In Grade 3, students learn to draw a simple diagram and make organized lists to solve combination problems involving two sets of two or more items.  141–143, 700B, 704A–704B, 704–707  Students gain additional experience counting combinations from three sets and listing outcomes using tree diagrams in Grade 4.

**Concept 4: Discrete Mathematics - Vertex-Edge Graphs/Graph Theory**

Understand and apply vertex-edge graphs.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Color maps with the least number of colors so that no common edges share the same color. (increased complexity throughout grade levels)</b>	449, 454B  Also, see Grade 4 page 326 for a perfect example.

### Strand 3: Patterns, Algebra and Functions

Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning & Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.

#### Concept 1: Patterns

Identify patterns and apply pattern recognition to reason mathematically.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Communicate a grade level appropriate iterative pattern, using symbols or numbers.</b>	4, 34, 51, 317, 331, 332A–332B, 332–334, 336, 340A–340B, 340, 361, 364–365, 403
<b>2 Extend a grade level appropriate repetitive pattern. (e.g., 5,10,15,20... rule: add five or count by five's)</b>	24A–24B, 24–27, 31, 34, 52, 54–55, 58, 115, 180, 223, 249, 281, 319, 330–331, 332A–332B, 332–335, 339, 340–341, 356, 365, 443, 492, 553, 641, 669, 721
<b>3 Predict and solve grade level appropriate pattern problems.</b>	24A–24B, 24–27, 32–33, 43, 141–142, 147, 174–175, 178, 183, 187, 217, 270–273, 274, 279, 291, 299, 300, 303, 307, 311, 332A–332B, 332–335, 365, 436–438, 529, 579, 588A–588B, 588–589, 609, 669, 721

## Concept 2: Functions and Relationships

Describe and model functions and their relationships.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Describe the rule used in a simple grade level appropriate function (e.g., T-chart, input/output model)</b>	72A–72B, 72–73, 78, 81, 110, 113, 115, 116, 120, 305, 344A–344B, 344–345, 350, 352–353, 354, 356–357, 359, 363, 367, 417, 553

## Concept 3: Algebraic Representations

Represent and analyze mathematical situations and structures using algebraic representations.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Use variables in grade level appropriate contextual situations.</b>	75, 76A–76B, 76–77, 78, 81, 112, 115, 117, 121, 249
<b>2 Solve equations with one variable using missing addends to sums of 19, (e.g., <math>\square + 9 = 18</math>, <math>9 + \square = 18</math>); and using minuends through 18. (e.g., <math>18 - \square = 9</math>, <math>18 - 9 = \square</math>)</b>	55, 73, 74–75, 76A–76B, 76–77, 78, 81, 96, 112, 117, 155, 168, 249



### Concept 4: Analysis of Change

Analyze change in a variable over time and in various contexts.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Identify the change in a variable over time. (e.g., an object gets taller, colder, heavier)</b>	588, 592, 605, 609
<b>2 Make simple predictions based on a variable. (e.g., increase in allowance as you get older)</b>	In Grade 3, students learn to extend numeric patterns and describe rules for patterns, such as changes in a variable over time. 588, 592, 605, 609 Students practice using variables to describe and extend patterns and functions in Grade 4.

### Strand 4: Geometry

Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning & Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.

#### Concept 1: Geometric Properties

Analyze the attributes and properties of two and three dimensional shapes and develop mathematical arguments about their relationships.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Build geometric figures with other geometric shapes. (e.g., tangrams, pattern blocks, geoboards)</b>	429–430, 436–437, 439, 488, 492
<b>2 Name concrete objects and pictures of three-dimensional solids (cones, spheres and cubes).</b>	114, 428A–428B, 428–431, 432A–432B, 432–433, 439, 440, 472, 492
<b>3 Describe relationships between 2-dimensional and 3-dimensional objects. (e.g., squares/cubes, circles, spheres, triangles/cones)</b>	54, 114, 431, 432A–432B, 432–433, 440, 446, 475, 484–485, 488, 492, 600
<b>4 Recognize similar shapes.</b>	456A–456B, 456–459
<b>5 Identify a line of symmetry in a 2-dimensional shape.</b>	460A–460B, 460–461, 467, 477, 494

**Concept 2: Geometric Transformation of Shapes**

Apply spatial reasoning to create transformations and use symmetry to analyze mathematical situations.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Recognize same shape in different positions (turn/rotation).</b>	456A–456B, 456–459, 462, 481, 485, 490, 494

**Concept 3: Coordinate Geometry**

Specify and describe spatial relationships using coordinate geometry and other representational systems.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Identify points in the first quadrant of a grid using ordered pairs.</b>	218A–218B, 218–221, 224, 244, 246, 252, 256, 487

## Strand 5: Measurement

Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning & Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.

### Concept 1: Units of Measure and Geometric Objects

Understand and apply appropriate units of measure, measurement techniques, and formulas to determine measurements.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Select the appropriate measure of accuracy:</b> -length - centimeters, meters, kilometers, -capacity/volume - liters, -mass/weight - grams.	584A–584B, 584–587, 592, 595, 597, 599, 600, 605, 609, 615, 693, 694–695, 698, 719, 722, 726–728
<b>2 Tell time with one-minute precision (analog).</b>	197, 202, 247, 250, 254
<b>3 Determine the passage of time across months (units of days, weeks, months) using a calendar.</b>	200–201
<b>4 Select an appropriate tool to use in a particular measurement situation.</b>	532A, 538B, 683, 684A, 684, 696A–696B

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<p><b>5 Measure a given object using the appropriate unit of measure:</b></p> <ul style="list-style-type: none"> <li>-length -centimeters, millimeters, meters, kilometers;</li> <li>-capacity/volume</li> <li>- liters ;</li> <li>-mass/weight</li> <li>- grams.</li> </ul>	<p>582A–582B, 582–583, 584A–584B, 584–587, 592, 599, 604, 608, 615, 684A–684B, 684–685, 694A–694B, 694–695</p>
<p><b>6 Record temperatures to the nearest degree in degrees Fahrenheit and degrees Celsius as shown on a thermometer.</b></p>	<p>696A–696B, 696–697, 698, 718–719, 724, 728</p>
<p><b>7 Compare units of measure to determine more or less relationships for:</b></p> <ul style="list-style-type: none"> <li>-length</li> <li>- inches to feet; centimeters to meters ;</li> <li>-time</li> <li>- minutes to hours;</li> <li>hours to days; days to weeks; months to years ;</li> <li>-money</li> <li>- pennies, nickels, dimes, quarters, and dollars.</li> </ul>	<p>36B, 36–38, 40A–40B, 40–41, 192A–192B, 192–195, 536A–536B, 536–537, 538A–538B, 538–539, 584A–584B, 584–587</p>

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>8 Determine relationships for:</b> • volume - cups and gallons, • weight - ounces and pounds, and • money - extend to amounts greater than one dollar.	680A–680B, 680–683, 690A–690B, 690–691, 719, 723, 727
<b>9 Compare the length of two objects using U.S. customary or metric units.</b>	543, 586
<b>10 Determine the perimeter using a rectangular array.</b>	464A–464B, 464–467, 470–471, 475, 478, 480–481, 495
<b>11 Represent area using a rectangular array.</b>	468A–468B, 468–471, 473, 475, 478, 480–481, 485, 491, 495

### **Concept 2: Estimation**

Use estimation strategies reasonably and fluently.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Estimate length and weight using U.S. customary units.</b>	304, 532A–532B, 532–533, 544, 560
<b>2 Record estimated and actual linear measurements for real-life objects. (e.g., length of fingernail; height of desk.)</b>	534A–534B, 534–535, 582A–582B, 582–583, 584A–584B, 584–587
<b>3 Compare estimations of appropriate measures to the actual measures.</b>	532A, 532–533, 544, 560, 582A–582B, 582–583, 584A–584B, 584–587, 680A–680B, 680–683, 684A–684B, 684–685, 690A–690B, 690–693, 694A–694B, 694–695

**Scott Foresman – Addison Wesley Mathematics  
to the  
Kyrene School District Standards  
Grade Four**

**Strand 1: Numeration and Process Strands**

Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning & Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.

**Concept 1: Number Sense**

Understand and apply numbers, ways of representing numbers, the relationships among numbers and different number systems.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Read whole numbers in contextual situations (through 9-digit numbers).</b>	40A–40B, 40–41, 56
<b>2 Identify/read whole numbers in contextual situations through 9-digit numbers.</b>	4A–4B, 4–6, 8A–8B, 8–9, 40A–40B, 40–41, 45, 56
<b>3 Write whole numbers through 9-digit numbers in and out of sequential order.</b>	4A–4B, 4–7, 8A–8B, 8–9, 40A–40B, 40–41, 46, 52, 56
<b>4 State place values for whole numbers. (e.g., in the number 203,495, what is the value of the 2?)</b>	4A–4B, 4–7, 8A–8B, 8–9, 10A–10B, 10–11, 16A–16B, 16–19, 40A–40B, 40–41, 52, 56

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>5 Order three or more whole numbers through millions.</b>	4A, 4–5, 18, 10B
<b>6 Apply expanded notation to model place value through millions. (e.g., <math>1,203,495 = 1,000,000 + 200,000 + 3,000 + 400 + 90 + 5</math>)</b>	4B, 4, 8B, 8–9, 10–11, 14, 46, 52, 56, 120
<b>7 Represent place value of whole numbers using concrete or illustrated models. (ones through millions).</b>	4A–4B, 4–7, 8A–8B, 8, 10A–10B, 10–11, 18, 46
<b>8 Compare two whole numbers through millions.</b>	16A–16B, 16–19, 40B, 40-41, 46, 57, 168–169
<b>9 Identify all whole-number factors and pairs of factors for a given whole number through 144.</b>	134, 136A
<b>10 Determine multiples of a given whole number with products through 144.</b>	128A–128B, 128–131, 136A–136B, 136–137, 371
<b>11 Represent place value of decimals using numbers and symbols (tenths, hundredths).</b>	28A–28B, 28–29, 31, 32B, 33, 34A–34B, 34–37, 38B, 47, 54–55, 58–59, 628A–628B, 628–629, 630A–630B, 630–631, 632A–632B, 632–633, 642A–642B, 644, 672, 678, 682
<b>12 Compare two whole numbers, fractions, and decimals.</b>	16A–16B, 16–19, 40A–40B, 40–41, 102B, 102–103, 522A–522B, 522–523, 527, 554, 558–559, 630A–630B, 630–631, 672
<b>13 Read decimals in contextual situations through hundredths.</b>	28A–28B, 28–29, 31, 32B, 33, 36, 59, 627, 630B, 630–631
<b>14 Write decimals in contextual situations (through hundredths).</b>	28B, 29, 31, 32–33, 36, 59, 627, 631



<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>15 Compare two decimals through hundredths.</b>	630A–630B, 630–631, 633, 672, 678, 682
<b>16 Order three or more decimals.</b>	630A–630B, 630–631, 666, 678, 682
<b>17 Determine the equivalency among fractions, decimals, and percents. (e.g., <math>49/100 = 0.49 = 49\%</math>)</b>	533, 624A–624B, 624–627, 629, 672, 678, 682, 703
<b>18 Make models that represent mixed numbers</b>	530A–530B, 530–533, 564–568, 577
<b>19 Identify symbols, words, or models that represent mixed numbers.</b>	530A–530B, 530–533, 535, 564, 568, 577
<b>20 Use mixed numbers in contextual situations.</b>	532, 535, 540B, 540–541, 545, 559
<b>21 Compare two units fractions (e.g., <math>1/2</math> to <math>1/5</math>) or proper or mixed numbers with like denominators</b>	522A–522B, 522–523, 527, 535, 537, 554, 558–559
<b>22 Order three or more unit fractions or proper or improper fractions with like denominators.</b>	504A–504B, 504–507, 546, 552, 556

### **Concept 2: Numerical Operations**

Understand and apply numerical operations and their relationship to one another.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Add whole numbers.</b>	62A–62B, 62–63, 76A–76B, 76–79, 80A–80B, 80–81, 86A–86B, 86–87, 102A–102B, 102–103, 108–109, 114–115, 118–120, 567, 642

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>2 Subtract whole numbers with regrouping.</b>	82A–82B, 82–85, 86A–86B, 86–87, 108, 114–116, 118–120, 291, 292–293, 311, 337, 577, 717
<b>3 Select the grade level appropriate operation to solve word problems.</b>	12A–12B, 12–13, 95, 96–97, 99, 107, 117, 121, 290A–290B, 290–291, 307, 311, 394–395, 396A–396B, 396–399, 417, 426, 430
<b>4 Solve word problems using grade level appropriate operations and numbers.</b>	Most Lessons in grade 4 contain word problems that require the use of grade level appropriate operations and numbers, including those on pages:  12–13, 40–41, 76–79, 82–85, 102–103, 150–151, 152–153, 156–157, 168–169, 234–235, 278–281, 290–291, 292–293, 320–323, 332–335, 336–337, 338–339, 344–345, 374–377, 380–383, 384–385, 412–413, 478–479, 602–603, 714–715, 716–717
<b>5 Multiply 3-digit whole numbers by two-digit whole numbers.</b>	314A–314B, 314–315, 316A–316B, 316–319, 323, 336A–336B, 336–337, 338A–338B, 338–339, 344B, 344, 350–351, 356, 360, 716
<b>6 Divide a 4-digit dividend by a 1-digit divisor (w/ or w/out remainders).</b>	366A–366B, 366–367, 371, 378, 390A–390B, 390–391, 411
<b>7 State multiplication and division facts through 12's.</b>	128A–128B, 128–131, 132A–132B, 132–135, 136A–136B, 136–137, 150A–150B, 150–151, 152A–152B, 152–153, 163, 168A–168B, 168–169, 174–175, 180–182, 184–186, 344–345, 412B, 412–413
<b>8 Demonstrate the associative property of multiplication.</b>	288A–288B, 288–289, 292, 307, 311, 433, 677

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>9 Use distributive property to solve multiplication problems.</b>	132A–132B, 132–134, 137, 144, 168A, 168, 174, 180, 184
<b>10 Apply grade level appropriate properties to assist in computation; Associative, Commutative, Distributive, Identity</b>	62A–62B, 62–63, 128A–128B, 128–131, 132A–132B, 132–135, 288A–288B, 288–289, 292A–292B, 292–293, 339
<b>11 Apply the symbols • and * ( ) for multiplication, and ≤ and ≥.</b>	71, 288–289, 292, 307, 311, 433, 476
<b>12 Use grade-level appropriate mathematical terminology.</b>	See vocabulary words listed at the beginning of each chapter, then highlighted within the appropriate lesson:  2, 4–5, 60, 62, 122, 124, 188, 190, 254, 256, 312, 314, 364, 368, 432, 434, 498, 500, 560, 562, 622, 624, 686, 688  Vocabulary words are also found in the Key Vocabulary and Concept Reviews:  46–47, 108–109, 174–175, 240–241, 298–299, 350–351, 418–419, 484–485, 546–547, 608–609, 672–673, 722–723
<b>13 Add fractions with like denominators, no regrouping.</b>	560, 564A–564B, 564–567, 602A, 603, 608, 614, 618
<b>14 Subtract fractions with like denominators, no regrouping.</b>	560, 574A–574B, 574–577, 602A, 608, 615
<b>15 Add money with regrouping through \$99.99.</b>	28B, 32B, 37, 54, 58, 140A–140B, 140, 142, 636A–636B
<b>16 Subtract money with regrouping through \$99.99.</b>	32A–32B, 32–33, 37, 47, 55, 59, 636A

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>17 Simplify numerical expressions using the order of operations with grade appropriate operations on number sets.</b>	96–97, 99, 109, 117, 121, 160A–160B, 160–163, 171, 175, 179, 183, 187

**Concept 3: Estimation**

Use estimation strategies reasonably and fluently.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Solve grade level appropriate problems using estimation.</b>	22A–22B, 22–23, 68A–68B, 68–71, 72A–72B, 72–73, 85, 114, 118–119, 258A–258B, 258–261, 316A–316B, 316–319, 350, 356, 360, 368A–368B, 368–371, 418, 424, 428, 538A–538B, 538–539, 600A–600B, 600–601, 609, 617, 620–621
<b>2 Use estimation to verify the reasonableness of a calculation. (e.g., Is <math>3284 \times 343 = 1200</math> reasonable? <math>38 \times 34 = \underline{\quad}</math>, or think <math>40 \times 30 = 1200</math>)</b>	76A–76B, 76–79, 332A–332B, 332–335, 336A–336B, 336–337, 564A, 564–567
<b>3 Round numbers to the nearest thousands and tenths.</b>	20A–20B, 20–21, 53, 57, 68A–68B, 68–71, 108, 114, 118, 632A–632B, 632–633, 636A–636B, 636–637, 672, 679, 683

**Concept 4: Structure and Logic; Algorithms and Algorithmic Thinking**

Use reasoning to solve mathematical problems in contextual situations.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Discriminate necessary information from unnecessary information in a given grade-level appropriate word problem.</b>	696A–696B, 696–697, 723, 729, 732
<b>2 Develop an algorithm to calculate perimeter of simple polygons.</b>	464A–464B, 464–467, 465

**Concept 5: Structure and Logic; Logic, Reasoning, Arguments, and Mathematical Proof**

Evaluate situations, select problem-solving strategies, draw logical conclusions, develop and describe solutions and recognize their applications.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Draw a conclusion from a Venn Diagram.</b>	71
<b>2 Identify simple valid arguments using <i>if...then</i> statements based on graphic organizers. (e.g., 2-set Venn diagrams and pictures)</b>	584

## Strand 2: Statistics, Data Analysis and Probability

Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning & Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.

### Concept 1: Data Analysis (Statistics)

Understand and apply data collection, organization and representation to analyze and sort data.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Formulate questions to collect data in contextual situations.</b>	230A–230B, 230–231, 253
<b>2 Construct a single-bar graph, line graph or two-set Venn diagram with appropriate labels and title from organized data.</b>	208A–208B, 208–211, 216A–216B, 216–219, 222B, 222–223, 234B, 234–235, 249
<b>3 Interpret graphical representations and data displays including single-bar graphs, circle graphs, two-set Venn diagrams, and line graphs that display continuous data.</b>	208B, 208–209, 216A–216B, 216–219, 220–221, 248–249, 251–253, 536A–536B, 536–537, 559, 709
<b>4 Answer questions based on graphical representations and data displays including single-bar graphs, circle graphs, two-set Venn diagrams, and line graphs that display continuous data.</b>	208B, 208–211, 216A–216B, 216–219, 220–221, 248, 251–252, 536A–536B, 536–537, 555, 559, 697, 709
<b>5 Identify the mode(s) of a given data.</b>	226B, 226–229, 249, 253

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>6 Formulate predictions from a given set of data.</b>	662A–662B, 662–663, 681, 685
<b>7 Solve contextual problems using graphs, charts, and tables.</b>	140A–140B, 140–143, 172–173, 181, 185, 198A–198B, 198–199, 222A–222B, 222–223, 230A–230B, 230–231, 249, 250–253, 339, 410, 598, 697, 703

### **Concept 2: Probability**

Understand and apply the basic concepts of probability.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Name the possible outcomes for a probability experiment.</b>	704A–704B, 704–705, 709, 729, 732
<b>2 Describe the probability of events as being more likely, less likely, equally likely, unlikely, certain, impossible, fair or unfair.</b>	700A–700B, 700–703, 729, 732
<b>3 Predict the outcome of a grade-level appropriate probability experiment.</b>	710A–710B, 710–711, 720–721, 730, 733
<b>4 Record the data from performing a grade-level appropriate probability experiment.</b>	686J, 706B, 710A, 710–711
<b>5 Compare the outcome of an experiment to predictions made prior to performing the experiment.</b>	686J, 709, 710A, 710–711,

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>6 Make predictions from the results of student-generated experiments using objects. (e.g., coins, spinners, number cubes)</b>	686J, 709, 710A
<b>7 Compare the results of two repetitions of the same grade-level appropriate probability experiment.</b>	710–711

**Concept 3: Discrete Mathematics - Systematic Listing and Counting**

Understand and apply data collection, organization and representation to analyze and sort data.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Find all possible combinations when one item is selected from each of 2 sets containing up to three objects. (e.g., How many outfits can be made with 3 pants and 2 tee shirts?)</b>	704B

**Concept 4: Discrete Mathematics - Vertex-Edge Graphs/Graph Theory**

Understand and apply vertex-edge graphs.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Color maps with the least number of colors so that no common edges share the same color. (increased complexity throughout grade levels)</b>	326



### Strand 3: Patterns, Algebra and Functions

Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning & Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.

#### Concept 1: Patterns

Identify patterns and apply pattern recognition to reason mathematically.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
1 Recognize and communicate a grade level appropriate iterative pattern, using symbols or numbers.	88–89, 91, 131, 439
2 Extend grade level appropriate geometric and number iterative patterns. (e.g., 1,1,2,1,1,3,1,1,4...)	11, 37, 56, 59, 88–89, 90A–90B, 90–91, 116, 120, 335, 377, 449, 454, 475, 585
3 Create grade level appropriate geometric and number iterative patterns.	89, 90A, 474B

#### Concept 2: Functions and Relationships

Describe and model functions and their relationships.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
1 Describe the rule used in a simple grade level appropriate function (e.g., T-chart, input/output model.)	60J, 127, 164A–164B, 164–165, 183, 187, 496

### Concept 3: Algebraic Representations

Represent and analyze mathematical situations and structures using algebraic representations.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Evaluate expressions involving the four basic operations by substituting given whole numbers for the variable.</b>	98A–98B, 98–99, 109, 117, 121, 160A–160B, 160–163, 175, 183, 187, 281, 335, 449, 566, 577, 692
<b>2 Use variables in grade level appropriate contextual situations.</b>	99, 101, 162, 167, 396A–396B, 396–399
<b>3 Solve one-step equations with one variable represented by a letter or symbol using multiplication of whole numbers. (e.g., <math>12 = n * 4</math>)</b>	166A–166B, 166–167, 183, 187, 191

### Concept 4: Analysis of Change

Analyze change in a variable over time and in various contexts.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Identify the change in a variable over time. (e.g., an object gets taller, colder, heavier )</b>	140B, 140–142, 181, 185, 297, 342A–342B, 342–343, 359
<b>2 Make simple predictions based on a variable. (e.g., increase homework time as you progress through the grades)</b>	140B

### Strand 4: Geometry

Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning & Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.

#### Concept 1: Geometric Properties

Analyze the attributes and properties of two and three dimensional shapes and develop mathematical arguments about their relationships.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Identify the properties of two-dimensional figures using appropriate terminology. (e.g., parallelism, perpendicularity and congruency two-dimensional shapes (three-and four-sided polygons)</b>	437, 438A–438B, 438–439, 460A–460B, 460–461, 490–492, 494–496
<b>2 Identify models or illustrations of prisms, pyramids, cones, cylinders and spheres.</b>	432, 434A–434B, 434–437, 450, 460A–460B, 461, 471, 476, 478, 484, 490–493, 494–496
<b>3 Draw points, lines, and line segments (open and closed endpoints) and rays or angles.</b>	443, 447, 591
<b>4 Classify angles. (e.g., right, acute, obtuse, straight)</b>	440A, 441–443, 467, 490, 494, 496
<b>5 Classify triangles as right, acute and obtuse.</b>	444A–444B, 444–447, 491, 494
<b>6 Identify congruent geometric shapes.</b>	452A–452B, 452–454, 458A, 458–459, 491–492, 495–496

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>7 Identify similar shapes.</b>	458A–458B, 458–459, 492, 496
<b>8 Draw a 2-dimensional shape that has a line symmetry.</b>	456A–456B, 456–457, 459

### **Concept 2: Geometric Transformation of Shapes**

Apply spatial reasoning to create transformations and use symmetry to analyze mathematical situations.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Demonstrate translation slides using geometric figures.</b>	452A–452B, 452–455
<b>2 Identify a tessellation.</b>	454

### **Concept 3: Coordinate Geometry**

Specify and describe spatial relationships using coordinate geometry and other representational systems.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Name the coordinates of a point plotted in the first quadrant.</b>	212A–212B, 212–215, 239, 240, 248, 252

## Strand 5: Measurement

Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning & Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.

### Concept 1: Units of Measure and Geometric Objects

Understand and apply appropriate units of measure, measurement techniques, and formulas to determine measurements.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Identify the appropriate measure of accuracy for the area of an object. (e.g., sq. feet or sq. miles)</b>	468B, 469–471, 480, 481, 493, 497
<b>2 Compute elapsed time using a clock (e.g., hours and minutes since or until...) or a calendar (e.g., days, weeks, years since or until...).</b>	196A–196B, 196–197, 198A–198B, 198–199, 200A–200B, 200–201, 215, 234A, 234–235, 240, 246–247, 250–251, 714B, 715
<b>3 Select an appropriate tool to use in a particular measurement situation.</b>	588A–588B, 588–589, 595, 620, 655, 657
<b>4 Approximate measurements to the appropriate degree of accuracy.</b>	588B, 589, 590A–590B, 590–591, 607, 616, 620, 652A–652B, 652–653
<b>5 Compare units of measure to determine <i>more or less</i> relationships including: length - yards and miles, meters and kilometers, and weight - pounds and tons, grams and kilograms.</b>	656A–656B, 656–657, 685

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>6 State equivalent relationships. (e.g., 3 teaspoons = 1 tablespoon, 16 cups = 1 gallon, 2000 pounds = 1 ton)</b>	261, 302, 561, 669, 684
<b>7 Compare the weight of two objects using both U.S. customary and metric units.</b>	594A-594B, 594–595
<b>8 Determine the perimeter of simple polygons. (e.g., square, rectangle, triangle)</b>	464A–464B, 464–467, 470–471, 478A–478B, 478, 485, 493, 496, 521
<b>9 Determine the area of squares and rectangles.</b>	468A–468B, 468–471, 485, 493, 497
<b>10 Differentiate between perimeter and area of quadrilaterals.</b>	468A–468B, 468–471, 474, 485, 497

**Concept 2: Estimation**

Use estimation strategies reasonably and fluently.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Estimate length and weight using both U.S. customary and metric units.</b>	588B, 588–589, 591, 594A, 594–595, 607, 620, 652A–652B, 652–653, 656A–656B, 656–657
<b>2 Estimate and measure for distance.</b>	589, 591, 620, 652A–652B, 652–653

**Scott Foresman – Addison Wesley Mathematics  
to the  
Kyrene School District Standards  
Grade Five**

**Strand 1: Numeration and Process Strands**

Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning & Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.

**Concept 1: Number Sense**

Understand and apply numbers, ways of representing numbers, the relationships among numbers and different number systems.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Read whole numbers in contextual situations (through 12-digit numbers).</b>	4–5, 6–7, 14B, 16, 19, 22B, 22, 24, 27, 28A–28B, 28–31
<b>2 Identify/read whole numbers in contextual situations through 12-digit numbers.</b>	4–5, 6–7, 14B, 16, 18–19, 22B, 22, 24, 27, 28A–28B, 30–31
<b>3 Write whole numbers through 12-digit numbers in and out of sequential order.</b>	6A–6B, 6–7, 26A–26B, 53, 54, 60
<b>4 Apply expanded notation to model place value through billions. (e.g., 569,843,922,176 500,000,000,000 + 60,000,000,000 etc...)</b>	4A–4B, 4–5, 7, 50, 60

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>5 Recognize that 1 is neither a prime nor a composite number.</b>	164A–164B, 164–166
<b>6 Sort whole numbers (through 50) into sets containing only prime numbers or only composite numbers.</b>	166, 190
<b>7 Identify all whole number factors and pairs of factors for a number.</b>	162A–162B, 162–163, 164, 170, 188, 194, 198, 316
<b>8 Represent place value of decimals using concrete or illustrated models. (thousandths)</b>	8A–8B, 8–10, 50, 56, 237
<b>9 Compare and order decimals using concrete or illustrated models (thousandths).</b>	12A–12B, 12–13, 49, 237
<b>10 Compare two whole numbers, fractions, and decimals. (e.g., <math>\frac{1}{2}</math> to 0.6)</b>	6A–6B, 6–7, 12A–12B, 12–13, 20, 53, 55, 56, 60, 419, 422, 424, 447, 452, 456
<b>11 Order whole numbers, fractions, and decimals.</b>	11, 53, 405, 430A–430B, 430–431, 440, 446, 453, 457
<b>12 Determine the equivalency between and among fractions, decimals, and percents in contextual situations.</b>	410A–410B, 410–411, 412A–412B, 412–413, 424, 426A–426B, 426–429, 440, 445, 447, 451, 453, 668A–668B, 668–669, 676A, 676, 678, 684–685, 690, 693
<b>13 Make models that represent improper fractions.</b>	401, 404A–404B, 404–405, 408, 446–447, 451, 455
<b>14 Identify symbols, words, or models that represent improper fractions.</b>	400A–400B, 400–401, 408, 450, 454



<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>15 Use improper fractions in contextual situations.</b>	400–401, 429, 454
<b>16 Compare two proper fractions or improper fractions with like denominators.</b>	418A–418B, 418–419, 424, 452, 456
<b>17 Order three or more unit fractions, proper or improper fractions with like denominators or mixed numbers with like denominators.</b>	404A–404B, 404–405, 408, 455

### **Concept 2: Numerical Operations**

Understand and apply numerical operations and their relationship to one another.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Select the grade level appropriate operation to solve word problems.</b>	18A–18B, 18–19, 20, 42A–42B, 42–43, 46, 53, 57, 59, 61, 63
<b>2 Solve word problems using grade level appropriate operations and numbers.</b>	Most lessons in Grade 5 include word problems that require the use of grade level appropriate operations and numbers. 44A–44B, 44–45, 110B, 110–111, 168A–168B, 168–169, 180B, 180–181, 210A–210B, 210–211, 226A–226B, 226–227, 238B, 238–239, 306–307, 372–373, 506B, 506–507, 572–573, 676B, 676–677
<b>3 Multiply 3 digit whole numbers by 3 digit whole numbers. (e.g., 426 x 329)</b>	76–77, 82, 122, 126

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>4 Divide a 4-digit dividend by a 2-digit divisor.</b>	202A–202B, 202–203, 212, 218A–218B, 218–221, 222B, 222–223, 224B, 224–225, 228, 244, 246–247, 248, 250–252, 254–256
<b>5 Demonstrate the distributive property of multiplication over addition. [e.g., <math>(3 \times 38) = 3(30+8) = (3 \times 30) + (3 \times 8)</math> ]</b>	70A–70B, 70–71, 82, 116, 119, 120, 122, 126, 317
<b>6 Demonstrate the addition and multiplication properties of equality (identity elements).</b>	696A–696B, 696–699, 710, 736, 738, 742, 745
<b>7 Apply grade-level appropriate properties to assist in computation; Associative, Commutative, Distributive, Identity</b>	22A–22B, 22–25, 34, 53, 57, 61, 66A–66B, 66–67, 76A–76B, 76–77, 82, 116, 119, 122–123, 126–127
<b>8 Apply the symbol:"[ ]" to represent grouping.</b>	699
<b>9 Use grade-level appropriate mathematical terminology.</b>	Specific terminology is introduced and practiced in every lesson. Also see the Key Vocabulary and Concept Review at the end of each chapter.  116–117, 244–245, 312–313, 378–379, 444–445, 512–513, 578–579, 632–633, 736–737
<b>10 Simplify fractions to lowest terms.</b>	416A–416B, 416–417, 424, 439, 446–447, 448, 452, 456
<b>11 Add proper fractions and mixed numbers with like denominators with regrouping.</b>	460A–460B, 460–461, 472A–472B, 472–473, 470, 514–515, 518–519, 522–523
<b>12 Subtract proper fractions and mixed numbers with like denominators with regrouping.</b>	460A, 460–461, 472A–472B, 472–473, 470, 514, 518–519, 522–523

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>13 Add decimals to the thousandths.</b>	38A–38B, 38–39, 44A, 44, 46, 53, 63, 573
<b>14 Subtract decimals to the thousandths.</b>	40A–40B, 40–41, 46, 52–53, 63, 573
<b>15 Multiply decimals using factors through the hundredths place.</b>	84A–84B, 84–85, 88A–88B, 88–91, 92A–92B, 92–93, 94A–94B, 94–97, 98, 110B, 110–111, 118, 123–124, 127–128, 180A–180B, 180–181, 239, 307, 439, 506, 573, 677
<b>16 Divide decimal numbers through the hundredths place with whole number divisors. (e.g., <math>67.2 \div 16 = 4.2</math>)</b>	160A–160B, 160–161, 170, 194, 198, 230A–230B, 230–231, 232A–232B, 232–233, 234A–234B, 234–237, 238A, 239, 240, 246–247, 253, 257
<b>17 Simplify numerical expressions using the order of operations with grade- appropriate operations on number sets.</b>	172A–172B, 172–173, 182, 188–189, 195, 199, 231, 317, 449, 517, 610

### **Concept 3: Estimation**

Use estimation strategies reasonably and fluently.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Solve grade level appropriate problems using estimation.</b>	28A–28B, 28–31, 204A–204B, 204–207, 208–209, 402A–402B, 402–403, 494A–494B, 494–495, 672A–672B, 672–675
<b>2 Use estimation to verify the reasonableness of a calculation. (e.g., Is <math>4.1 * 2.7</math> about 12?)</b>	42B, 42–43, 46, 53, 59, 63, 72B, 72–75, 208–209

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>3 Round numbers to the nearest millions and hundredths.</b>	26B, 26–27, 53, 61
<b>4 Interpret calculations and calculator results for reasonableness within a contextual situation.</b>	18, 28A–28B, 28–31, 68A, 169, 234B, 236, 480, 530

**Concept 4: Structure and Logic; Algorithms and Algorithmic Thinking**

Use reasoning to solve mathematical problems in contextual situations.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Discriminate necessary information from unnecessary information in a given grade-level appropriate word problem.</b>	18A–18B, 18–19, 20, 57, 61, 406A–406B, 406–407, 408, 409, 451, 455
<b>2 Design simple algorithms using whole numbers.</b>	218A–218B, 218–221, 228, 251, 255
<b>3 Develop an algorithm or formula to calculate areas of simple polygons.</b>	550A–550B, 550–551, 552A–552B, 552–553, 554A–554B, 554–555, 560, 580–581, 582, 585–586, 590

**Concept 5: Structure and Logic; Logic, Reasoning, Arguments, and Mathematical Proof**

Evaluate situations, select problem-solving strategies, draw logical conclusions, develop and describe solutions and recognize their applications.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Construct <i>if...then</i> statements.</b>	434B
<b>2 Identify simple valid arguments using <i>if...then</i> statements based on graphic organizers. (e.g., 3-set Venn diagrams and pictures)</b>	434B

**Strand 2: Statistics, Data Analysis and Probability**

Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning & Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.

**Concept 1: Data Analysis (Statistics)**

Understand and apply data collection, organization and representation to analyze and sort data.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Formulate questions to collect data in contextual situations.</b>	260A–260B, 260–261, 269, 280, 318, 322, 582

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>2 Construct a double-bar graph, line plot, frequency table, or three-set Venn diagram with appropriate labels and title from organized data.</b>	262A–262B, 262–263, 276A–276B, 276–279, 280, 315, 318–319, 322–323
<b>3 Interpret graphical representations and data displays including bar graphs (including double-bar), circle graphs, frequency tables, three-set Venn diagrams, and line graphs that display continuous data.</b>	103, 260A–260B, 260–261, 262A–262B, 262–265, 266A–266B, 266–269, 280, 286A–286B, 286–287, 312, 314–315, 318, 320, 322, 383
<b>4 Answer questions based on graphical representations, and data displays including bar graphs (including double-bar), circle graphs, frequency tables, three-set Venn diagrams, and line graphs that display continuous data.</b>	249, 262A–262B, 262–265, 266A–266B, 266–269, 280, 286A–286B, 286–287, 294, 314–315, 317, 318, 320, 322, 324, 517, 687
<b>5 Identify the mode(s) and mean of given data.</b>	282A–282B, 282–285, 294, 312, 314–315, 319, 323, 517, 541, 583
<b>6 Formulate/justify reasonable predictions from a given set of data.</b>	269, 293, 294, 687
<b>7 Compare two sets of data related to the same investigation.</b>	264, 280, 312, 315, 317, 318, 322
<b>8 Solve contextual problems using graphs, charts, and tables.</b>	247, 660A–660B, 660–661, 666, 689, 692

## Concept 2: Probability

Understand and apply the basic concepts of probability.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Name the possible outcomes for a probability experiment.</b>	296A–296B, 296–299, 300A–300B, 300–301, 308, 317, 321, 325, 449
<b>2 Describe the probability of events as being:</b> -certain represented by 1 -impossible represented by 0 -neither certain nor impossible represented by a fraction less than 1.	191, 302A–302B, 302–305, 308, 314, 317, 321, 325, 383, 517, 583, 637
<b>3 Predict the outcome of a grade-level appropriate probability experiment.</b>	296A–296B, 296–299, 301, 311
<b>4 Record the data from performing a grade-level appropriate probability experiment.</b>	296A–296B, 296–299, 301
<b>5 Compare the outcome of an experiment to predictions made prior to performing the experiment.</b>	268, 296A–296B, 296–299, 301
<b>6 Make predictions from the results of student-generated experiments using objects. (e.g., coins, spinners, number cubes)</b>	296A–296B, 296–299, 301
<b>7 Compare the results of two repetitions of the same grade-level appropriate probability experiment.</b>	301, 304

**Concept 3: Discrete Mathematics - Systematic Listing and Counting**

Understand and apply data collection, organization and representation to analyze and sort data.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Find all possible combinations when 1 item is selected from each of 2 sets if different items, using a systematic approach. (e.g., shirts: tee shirt, tank top, sweatshirt; pants: shorts, jeans)</b>	121, 300A–300B, 300–301, 308, 311, 315, 321, 325, 687

**Concept 4: Discrete Mathematics - Vertex-Edge Graphs/Graph Theory**

Understand and apply vertex-edge graphs.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Color maps with the least number of colors so that no common edges share the same color. (increased complexity throughout grade levels)</b>	See Grade 4 page 326.



### Strand 3: Patterns, Algebra and Functions

Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning & Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.

#### Concept 1: Patterns

Identify patterns and apply pattern recognition to reason mathematically.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Recognize and communicate a grade level appropriate iterative pattern, using symbols or numbers.</b>	84A–84B, 84–85, 121, 123, 127, 136A–136B, 136–137, 144A–144B, 144–145, 146, 192, 196
<b>2 Extend a grade level appropriate iterative pattern.</b>	144A, 144–145, 146, 188–189, 192, 196
<b>3 Solve grade level appropriate iterative pattern problems.</b>	144A–144B, 144–145, 146, 188–189, 191, 192, 196, 637

#### Concept 2: Functions and Relationships

Describe and model functions and their relationships.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Describe the rule used in a simple grade level appropriate function (e.g., T-chart, input/output model.)</b>	55, 106A–106B, 106–107, 112, 117, 118–119, 125, 129, 249, 317, 583

### Concept 3: Algebraic Representations

Represent and analyze mathematical situations and structures using algebraic representations.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Evaluate expressions involving the four basic operations by substituting given decimals for the variable.</b>	100–103, 112
<b>2 Use variables in grade level appropriate contextual situations.</b>	100A–100B, 100–103, 112, 118–119, 121, 128, 583
<b>3 Solve one-step equations with one variable represented by a letter or symbol. (e.g., <math>15 = 45 \div n</math>)</b>	55, 108A–108B, 108–109, 112, 121, 125, 129, 383, 517, 637, 687, 700A–700B, 700–701, 702A–702B, 702–703, 710

### Concept 4: Analysis of Change

Analyze change in a variable over time and in various contexts.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Describe patterns of change: constant rate (hands of a clock), and/or increasing or decreasing rate (plant growth).</b>	720A–720B, 720–721, 722, 744, 747

## Strand 4: Geometry

Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning & Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.

### Concept 1: Geometric Properties

Analyze the attributes and properties of two and three dimensional shapes and develop mathematical arguments about their relationships.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Recognize regular polygons.</b>	120, 340A–340B, 340–341, 358, 385, 389
<b>2 Draw two-dimensional figures by applying significant properties of each. (e.g., Draw a quadrilateral with two sets of parallel sides and four right angles)</b>	349, 371
<b>3 Sketch prisms, pyramids, cones, and cylinders.</b>	601
<b>4 Identify the properties of 2- and 3-dimensional geometric figures using appropriate terminology and vocabulary.</b>	64, 594A–594B, 594–597, 608, 638
<b>5 Draw points, lines, line segments, rays, and angles with appropriate labels.</b>	120, 316, 328A–328B, 328–331, 338, 384, 388
<b>6 Recognize that all pairs of vertical angles are congruent.</b>	329–331, 332–335

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>7 Classify triangles as scalene, isosceles, or equilateral.</b>	342A–342B, 342–345, 358, 372A–372B, 373, 380–381, 382, 385, 389
<b>8 Recognize that a circle is a 360° rotation about a point.</b>	335
<b>9 Identify the diameter, radius and circumference of a circle.</b>	336A–336B, 336–337, 338, 380, 384, 388, 542A–542B, 542–545, 546, 585, 589
<b>10 Understand that the sum of the angles of a triangle is 180°.</b>	342A, 342–345, 380, 389
<b>11 Draw two congruent geometric figures.</b>	601
<b>12 Draw two similar geometric figures.</b>	360A–360B, 360–363
<b>13 Identify the lines of symmetry in a 2-dimensional shape.</b>	190, 368A–368B, 368–371, 372B, 372–373, 381, 387, 391, 438

### **Concept 2: Geometric Transformation of Shapes**

Apply spatial reasoning to create transformations and use symmetry to analyze mathematical situations.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Demonstrate reflections using geometric figures.</b>	364A–364B, 364–367, 374, 381, 387, 391, 516
<b>2 Describe the transformations that created a tessellation.</b>	367

### Concept 3: Coordinate Geometry

Specify and describe spatial relationships using coordinate geometry and other representational systems.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 Graph points in the first quadrant on a grid using ordered pairs.</b>	174A–174B, 174–175, 182, 185, 188, 191, 195, 199

### Strand 5: Measurement

Every student should understand and use all concepts and skills from the previous grade levels. The standards are designed so that new learning builds on preceding skills and are needed to learn new skills. Communication, Problem-solving, Reasoning & Proof, Connections, and Representation are the process standards that are embedded throughout the teaching and learning of mathematical strands.

### Concept 1: Units of Measure and Geometric Objects

Understand and apply appropriate units of measure, measurement techniques, and formulas to determine measurements.

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>1 State an appropriate measure of accuracy for a contextual situation. (e.g., What unit of measurement would you use to measure the top of your desk?)</b>	534A–534B, 534–535, 546, 580, 584, 588, 616A–616B, 616–617, 618

Performance Objectives:	Scott Foresman – Addison Wesley Mathematics
<b>2 Select an appropriate tool to use in a particular measurement situation.</b>	531 Also: 332A–332B, 332–335, 336A–336B, 336–337, 342A–342B, 342–349, 570A, 571, 614A–614B, 614–615
<b>3 Draw 2-dimensional figures to specifications using the appropriate tools. (e.g., Draw a circle with a 2-inch radius.)</b>	349, 371
<b>4 Determine relationships including volume. (e.g., pints and quarts, milliliters and liters)</b>	190, 614A–614B, 614–615, 616A–616B, 616–617, 618, 639–640, 642–643
<b>5 Convert measurement units to equivalent units within a given system (U.S. customary and metric). (e.g., 12 inches = 1 foot; 10 decimeters = 1 meter).</b>	120, 155, 528A–528B, 528–531, 536A–536B, 536–539, 546, 562A–562B, 562–563, 580–581, 582, 584, 588, 614A–614B, 614–615, 616A–616B, 616–617, 620A–620B, 620–621, 622A–622B, 622–623, 639, 642
<b>6 Solve problems involving the perimeter of convex polygons.</b>	540A–540B, 540–541, 546, 572A, 577, 578, 585, 589
<b>7 Determine the area of figures composed of two or more rectangles on a grid.</b>	56, 548A–548B, 548–549, 585, 589
<b>8 Solve problems involving the area of simple polygons.</b>	316, 448, 550A–550B, 550–551, 554A–554B, 554–555, 560, 580–581, 582, 585–586, 590
<b>9 Describe the change in perimeter or area when one attribute (length, width) of a rectangle is altered.</b>	541

**Concept 2: Estimation**

Use estimation strategies reasonably and fluently.

<b>Performance Objectives:</b>	<b>Scott Foresman – Addison Wesley Mathematics</b>
<b>1 Round to estimate quantities.</b>	26A–26B, 26–27, 28A–28B, 28–31, 34, 58, 61–62, 138A–138B, 138–141, 192, 196, 204A–204B, 204–207, 250, 254
<b>2 Estimate and measure for area and perimeter. (e.g., square, rectangle, and right triangle)</b>	541, 551, 571
<b>3 Compare estimated measurements between U.S. customary and metric systems. (e.g., a yard is about a meter).</b>	221, 539