

A Correlation of

SCOTT FORESMAN • ADDISON WESLEY

Mathematics

to the

Cincinnati Pacing Guide

Grades K-6



G/M-214

Introduction

This document demonstrates the high degree of success students will achieve when using **Scott Foresman – Addison Wesley Mathematics** in meeting the objectives of the Cincinnati Pacing Guide. Correlation page references are to the Teacher's Edition, which contains facsimile Pupil 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
Cincinnati Pacing Guide
Kindergarten**

Number Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Use place value concepts to represent whole numbers using numerals, words and physical models.	5. Relate, read and write numerals for single-digit numbers (0 to 9).	53A-53B, 53-54, 55A-55B, 55-56, 57A-57B, 57-58, 59A-59B, 59-60, 69A-69B, 69-70, 77A-77B, 77-78, 79A-79B, 79-80, 81A-81B, 81-82, 83A-83B, 83-84, 85A-85B, 85-86
B. Recognize, classify, compare and order whole numbers.	1. Compare and order whole numbers up to 10.	63A-63B, 63-64, 65A-65B, 65-66, 87A-87B, 87-88, 89A-89B, 89-90, 91A-91B, 91-92, 121A-121B, 121-122
	7. Compare the number of objects in two or more sets when one set has one or two more, or one or two fewer objects.	235A-235B, 235-236, 237A-237B, 237-238
	13. Recognize the number or quantity of sets up to 5 without counting; e.g., recognize without counting the dot arrangement on a domino as 5.	63A-63B, 63-64
C. Represent commonly used fractions using words and physical models.		213A-213B, 213-214, 215A-215B, 215-216
D. Determine the value of a collection of coins and dollar bills.	9. Identify and state the value of a penny, nickel and dime.	179A-179B, 179-180, 181A-181B, 181-182, 183A-183B, 183-184
E. Make change using coins for values up to one dollar.		preparation: 179A-179B, 179-180, 181A-181B, 181-182, 183A-183B, 183-184, 187A-187B, 187-188, 189A-189B, 189-190

Number Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
F. Count, using numerals and ordinal numbers.	2. Explain rules of counting, such as each object should be counted once and that order does not change the number.	53A-53B, 53-54, 57A-57B, 57-58, 77A-77B, 77-78, 79A-79B, 79-80, 83A-83B, 83-84, 103A-103B, 103-104, 115A-115B, 115-116, 289A-289B, 289-290, 291A-291B, 291-292
	3. Count to twenty; e.g., in play situations or while reading number books.	53A-53B, 53-54, 57A-57B, 57-58, 77A-77B, 77-78, 79A-79B, 79-80, 83A-83B, 83-84, 103A-103B, 103-104
	4. Determine “how many” in sets (groups) of 10 or fewer objects.	53A-53B, 53-54, 57A-57B, 57-58, 77A-77B, 77-78, 79A-79B, 79-80
G. Model, represent and explain addition as combining sets and counting on.	8. Represent and use whole numbers in flexible ways, including relating, composing and decomposing numbers; e.g., 5 marbles can be 2 red and 3 green or 1 red and 4 green.	53A-53B, 53-54, 57A-57B, 57-58, 77A-77B, 77-78, 79A-79B, 79-80, 83A-83B, 83-84
	10. Model and represent addition as combining sets and counting on, and subtraction as take-away and comparison. For example:	245A-245B, 245-246, 247A-247B, 247-248, 265A-265B, 265-266, 267A-267B, 267-268
	a. Combine and separate small sets of objects in contextual situations; e.g., add or subtract one, two, or another small amount.	245A-245B, 245-246, 247A-247B, 247-248, 265A-265B, 265-266, 267A-267B, 267-268
	b. Count on (forward) and count back (backward) on a number line between 0 and 10.	preparation: 53A-53B, 53-54, 57A-57B, 57-58, 77A-77B, 77-78, 79A-79B, 79-80
H. Model, represent and explain subtraction as comparison, take-away and part-to-whole.	8. Represent and use whole numbers in flexible ways, including relating, composing and decomposing numbers; e.g., 5 marbles can be 2 red and 3 green or 1 red and 4 green.	225A-225B, 225-226, 227A-227B, 227-228, 229A-229B, 229-230, 231A-231B, 231-232, 235A-235B, 235-236, 237A-237B, 237-238

Number Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
	10. Model and represent addition as combining sets and counting on, and subtraction as take-away and comparison. For example:	245A-245B, 245-246, 247A-247B, 247-248, 265A-265B, 265-266, 267A-267B, 267-268
	a. Combine and separate small sets of objects in contextual situations; e.g., add or subtract one, two, or another small amount.	245A-245B, 245-246, 247A-247B, 247-248, 265A-265B, 265-266, 267A-267B, 267-268
	b. Count on (forward) and count back (backward) on a number line between 0 and 10.	preparation: 53A-53B, 53-54, 57A-57B, 57-58, 77A-77B, 77-78, 79A-79B, 79-80
I. Model, represent and explain multiplication as repeated addition, rectangular arrays and skip counting.	6. Construct multiple sets of objects each containing the same number of objects.	225A-225B, 225-226, 227A-227B, 227-228, 229A-229B, 229-230, 231A-231B, 231-232
	1. Demonstrate joining multiple groups of objects, each containing the same number of objects; e.g., combining 3 bags of candy, each containing 2 pieces.	245A-245B, 245-246, 247A-247B, 247-248
J. Model, represent and explain division as sharing equally, repeated subtraction and rectangular arrays.	12. Partition or share a small set of objects into groups of equal size; e.g., sharing 6 stickers equally among 3 children.	265A-265B, 265-266, 267A-267B, 267-268
K. Demonstrate fluency in addition facts with addends through 9 and corresponding subtractions.	8. Represent and use whole numbers in flexible ways, including relating, composing and decomposing numbers; e.g., 5 marbles can be 2 red and 3 green or 1 red and 4 green.	225A-225B, 225-226, 227A-227B, 227-228, 229A-229B, 229-230, 231A-231B, 231-232, 235A-235B, 235-236, 237A-237B, 237-238
L. Demonstrate fluency in adding and subtracting multiples of 10, and recognize combinations that make 10.		287A-287B, 287-288

Number Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
M. Add and subtract two-digit numbers with and without regrouping.		preparation: 271A-271B, 271-272, 273A-273B, 273-274, 275A-275B, 275-276, 277A-277B, 277-278

Measurement Standard	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Explain the need for standard units of measure.		139A-139B, 139-140, 147A-147B, 147-148, 151A-151B, 151-152
B. Select appropriate units for length, weight, volume (capacity) and time, using: <ul style="list-style-type: none"> • objects; i.e., non-standard units; • U.S. customary units: inch, foot, yard, ounce, pound, cup, quart, gallon, minute, hour, day, week and year; • metric units: centimeter, meter, gram and liter. 	1. Identify units of time (day, week, month, year) and compare calendar elements; e.g., weeks are longer than days.	161A-161B, 161-162, 163A-163B, 163-164, 165A-165B, 165-166, 167A-167B, 167-168, 171A-171B, 171-172, 173A-173B, 173-174, 175A-175B, 175-176, 177A-177B, 177-178
	2. Compare and order objects of different lengths, areas, weights and capacities; and use relative terms, such as longer, shorter, bigger, smaller, heavier, lighter, more and less.	133A-133B, 133-134, 135A-135B, 135-136, 137A-137B, 137-138, 145A-145B, 145-146, 147A-147B, 147-148, 149A-149B, 149-150
C. Develop common referents for units of measure for length, weight, volume (capacity) and time to make comparisons and estimates.	1. Identify units of time (day, week, month, year) and compare calendar elements; e.g., weeks are longer than days.	161A-161B, 161-162, 163A-163B, 163-164, 165A-165B, 165-166, 167A-167B, 167-168, 171A-171B, 171-172, 173A-173B, 173-174, 175A-175B, 175-176, 177A-177B, 177-178

Measurement Standard	Indicators	Scott Foresman – Addison Wesley Mathematics
	2. Compare and order objects of different lengths, areas, weights and capacities; and use relative terms, such as longer, shorter, bigger, smaller, heavier, lighter, more and less.	133A-133B, 133-134, 135A-135B, 135-136, 137A-137B, 137-138, 145A-145B, 145-146, 147A-147B, 147-148, 149A-149B, 149-150
	4. Order events based on time. For example:	163A-163B, 163-164, 169A-169B, 169-170
	a. activities that take a long or short time;	169A-169B, 169-170
	b. review what we do first, next, last;	169A-169B, 169-170
	c. recall what we did or plan to do yesterday, today, tomorrow.	163A-163B, 163-164
D. Apply measurement techniques to measure length, weight and volume (capacity).	3. Measure length and volume (capacity) using uniform objects in the environment. For example, find: a. how many paper clips long is a pencil;	141A-141B, 141-142
	b. how many small containers it takes to fill one big container using sand, rice, beans.	147A-147B, 147-148
E. Recognize that using different units of measurement will yield different numbers for the same measurement.		preparation: 141A-141B, 141-142, 147A-147B, 147-148

Geometry and Spatial Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Describe and create plane figures: circle, rectangle, square, triangle, hexagon, trapezoid, parallelogram and rhombus, and identify them in the environment.		203A-203B, 203-204, 205A-205B, 205-206
B. Describe solid objects: cube, rectangular prism, sphere, cylinder, cone and pyramid, and identify them in the environment.		197A-197B, 197-198, 199A-199B, 199-200, 201A-201B, 201-202
C. Sort and compare two-dimensional figures and three-dimensional objects according to their characteristics and properties.	1. Identify and sort two- dimensional shapes and three- dimensional objects. For example:	11A-11B, 11-12, 12A-12B, 12-13, 15A-15B, 15-16, 17A-17B, 17-18, 197B, 199B, 203B, 205B
	a. Identify and describe two-dimensional figures and three-dimensional objects from the environment using the child’s own vocabulary.	197B, 199B, 203B, 205B
	b. Sort shapes and objects into groups based on student-defined categories.	11A-11B, 11-12, 12A-12B, 12-13, 15A-15B, 15-16, 17A-17B, 17-18
	c. Select all shapes or objects of one type from a group.	11A-11B, 11-12
	d. Build two-dimensional figures using paper shapes or tangrams; build simple three-dimensional objects using blocks.	197B, 203B, 205B

Geometry and Spatial Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
D. Identify, explain and model (superposition, copying) the concept of shapes being congruent and similar.		11A-11B, 11-12
E. Recognize two- and three-dimensional objects from different positions.		197A-197B, 197-198, 203A-203B, 203-204, 205A-205B, 205-206
F. Describe location, using comparative (before, after), directional (above, below), and positional (first, last) words.	2. Name and demonstrate the relative position of objects as follows: a. place objects over, under, inside, outside, on, beside, between, above, below, on top of, upside-down, behind, in back of, in front of;	3A-3B, 3-4, 5A-5B, 5-6, 7A-7B, 7-8, 9A-9B, 9-10
	b. describe placement of objects with terms such as on, inside, outside, above, below, over, under, beside, between, in front of, behind.	3A-3B, 3-4, 5A-5B, 5-6, 7A-7B, 7-8, 9A-9B, 9-10
G. Identify and draw figures with line symmetry.		211A-211B, 211-212

Patterns, Functions and Algebra	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Sort, classify, and order objects by size, number, and other properties, and describe the attributes used.	1. Sort, classify and order objects by size, number and other properties. For example: a. Identify how objects are alike and different.	11A-11B, 11-12
	b. Order three events or objects according to a given attribute, such as time or size.	13A-13B, 13-14

Patterns, Functions and Algebra	Indicators	Scott Foresman – Addison Wesley Mathematics
	c. Recognize and explain how objects can be classified in more than one way.	17A-17B, 17-18
	d. Identify what attribute was used to sort groups of objects that have already been sorted.	15A-15B, 15-16
B. Extend sequences of sounds and shapes or simple number patterns, and create and record similar patterns.	2. Identify, create, extend and copy sequences of sounds (such as musical notes), shapes (such as buttons, leaves or blocks), motions (such as hops or skips), and numbers from 1 to 10.	35A-35B, 35-36, 37A-37B, 37-38, 39A-39B, 39-40, 41A-41B, 41-42, 43A-43B, 43-44, 45A-45B, 45-46
C. Create and extend patterns and describe the rule in words.	3. Describe orally the pattern of a given sequence.	35B, 37B, 39B, 41B, 43B, -45B
D. Model problem situations using objects, pictures, tables, numbers, letters, and other symbols.	4. Model a problem situation using physical materials.	27-28, 29-30, 31-32, 33-34, 53-54, 57-58, 77-78, 79-80, 83-84, 103-104, 125-126, 217-218, 247-248, 267-268, 291-292
E. Solve open sentences and explain strategies.		Preparation 255A-255B, 255-256, 275A-275B, 275-276
F. Represent an unknown quantity as a variable using a symbol, such as □,		Preparation 255A-255B, 255-256, 275A-275B, 275-276
G. Describe and compare qualitative and quantitative change.		287A-287B, 287-288, 293A-293B, 293-294, 295A-295B, 295-296, 297-298

Data Analysis & Probability	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Pose questions and gather data about everyday situations and familiar objects.	1. Gather and sort data in response to questions posed by teacher and students; e.g., how many sisters and brothers, what color shoes.	27A-27B, 27-28, 29A-29B, 29-30, 31A-31B, 31-32, 33A-33B, 33-34
B. Sort and classify objects by attributes, and organize data into categories in a simple table or chart.	2. Arrange objects in a floor or table graph according to attributes, such as use, size, color, or shape.	11B, 13B
	3. Select the category or categories that have the most or fewest objects in a floor or table graph.	11B, 13B
C. Represent data using objects, picture graphs and bar graphs.		27A-27B, 27-28, 29A-29B, 29-30, 31A-31B, 31-32, 33A-33B, 33-34
D. Describe the probability of chance events as more, less or equally likely to occur.		Preparation: 213A-213B, 213-214, 215A-215B, 215-216

**Scott Foresman – Addison Wesley Mathematics
Cincinnati Pacing Guide
Grade One**

Number Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Use place value concepts to represent whole numbers using numerals, words and physical models.	5. Use place value concepts to represent whole numbers using numerals, words, expanded notation and physical models with ones and tens. For example:	11A-11B, 11-12, 13A-13B, 13-14, 15A-15B, 15-16, 17A-17B, 17-18, 29A-29B, 29-30, 31A-31B, 31-32, 241A-241B, 241-242, 247A-247B, 247-248, 249A-249B, 249-250, 255A-255B, 255-256, 257A-257B, 257-258, 261A-261B, 261-262, 281A-281B, 281-282, 283A-283B, 283-284, 284A-284B, 284-285, 287A-287B, 287-288
	a. Develop a system to group and count by twos, fives and tens.	255A-255B, 255-256, 257A-257B, 257-258
	b. Identify patterns and groupings in a 100's chart and relate to place value concepts.	247A-247B, 247-248, 249A-249B, 249-250, 255A-255B, 255-256, 257A-257B, 257-258, 261A-261B, 261-262
	c. Recognize the first digit of a two-digit number as the most important to indicate size of a number and the nearness to 10 or 100.	281A-281B, 281-282, 283A-283B, 283-284, 284A-284B, 284-285, 287A-287B, 287-288
	3. Read and write the numerals for numbers to 100.	11A-11B, 11-12, 13A-13B, 13-14, 15A-15B, 15-16, 17A-17B, 17-18, 29A-29B, 29-30, 31A-31B, 31-32, 241A-241B, 241-242
B. Recognize, classify, compare and order whole numbers.	1. Use ordinal numbers to order objects; e.g., first, second, third.	267A-267B, 267-268

Number Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
	2. Recognize and generate equivalent forms for the same number using physical models, words and number expressions; e.g., concept of ten is described by “10 blocks”, full tens frame, numeral 10, $5 + 5$, $15 - 5$, one less than 11, my brother’s age.	11A-11B, 11-12, 13A-13B, 13-14, 15A-15B, 15-16, 17A-17B, 17-18
	4. Count forward to 100, count backwards from 100, and count forward or backward starting at any number between 1 and 100.	243A-243B, 243-244, 245A-245B, 245-246
	15. Demonstrate that equal means “the same as” using visual representations.	45A-45B, 45-46
C. Represent commonly used fractions using words and physical models.	9. Represent commonly used fractions using words and physical models for halves, thirds and fourths, recognizing fractions are represented by equal size parts of a whole and of a set of objects.	181A-181B, 181-182, 183A-183B, 183-184, 185A-185B, 185-186
D. Determine the value of a collection of coins and dollar bills.	6. Identify and state the value of a penny, nickel, dime, quarter and dollar.	331A-331B, 331-332, 333A-333B, 333-334, 335A-335B, 335-336, 343A-343B, 343-344, 347A-347B, 347-348
	7. Determine the value of a small collection of coins (with a total value up to one dollar) using 1 or 2 different type coins, including pennies, nickels, dimes and quarters.	337A-337B, 337-338,, 345A-345B, 345-346
E. Make change using coins for values up to one dollar.	8. Show different combinations of coins that have the same value.	337A-337B, 337-338,, 345A-345B, 345-346

Number Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
F. Count, using numerals and ordinal numbers.	4. Count forward to 100, count backwards from 100, and count forward or backward starting at any number between 1 and 100.	243A-243B, 243-244, 245A-245B, 245-246
G. Model, represent and explain addition as combining sets and counting on.	10. Model, represent and explain addition as combining sets (part + part = whole) and counting on. For example:	45A-45B, 45-46, 47A-47B, 47-48
	a. Model and explain addition using physical materials in contextual situations.	45A-45B, 45-46, 47A-47B, 47-48
	b. Draw pictures to model addition.	45A-45B, 45-46
	c. Write number sentences to represent addition.	49A-49B, 49-50
	d. Explain that adding two whole numbers yields a larger whole number.	45A-45B, 45-46, 47A-47B, 47-48
	12. Use conventional symbols to represent the operations of addition and subtraction.	45A-45B, 45-46, 47A-47B, 47-48, 49A-49B, 49-50, 51A-51B, 51-52, 53A-53B, 53-54
H. Model, represent and explain subtraction as comparison, take-away and part-to-whole.	11. Model, represent and explain subtraction as take-away and comparison. For example:	61A-61B, 61-62, 63A-63B, 63-64
	a. Model and explain subtraction using physical materials in contextual situations.	61A-61B, 61-62, 63A-63B, 63-64
	b. Draw pictures to model subtraction.	61A-61B, 61-62
	c. Write number sentences to represent subtraction.	65A-65B, 65-66

Number Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
	d. Explain that subtraction of whole numbers yields an answer smaller than the original number.	61A-61B, 61-62, 63A-63B, 63-64
	12. Use conventional symbols to represent the operations of addition and subtraction.	61A-61B, 61-62, 63A-63B, 63-64, 65A-65B, 65-66, 67A-67B, 67-678, 69A-69B, 69-70
I. Model, represent and explain multiplication as repeated addition, rectangular arrays and skip counting.	13. Model and represent multiplication as repeated addition and rectangular arrays in contextual situations; e.g., four people will be at my party and if I want to give 3 balloons to each person, how many balloons will I need to buy?	preparation: 427A-427B, 427-428
J. Model, represent and explain division as sharing equally, repeated subtraction and rectangular arrays.	14. Model and represent division as sharing equally in contextual situations; e.g., sharing cookies.	preparation: 61A-61B, 61-62
K. Demonstrate fluency in addition facts with addends through 9 and corresponding subtractions.	16. Develop strategies for basic addition facts, such as:	47A-47B, 47-48
	a. counting all;	
	b. counting on;	25A-25B, 25-26, 91A-91B, 91-92
	c. one more, two more;	25A-25B, 25-26
	d. doubles;	103A-103B, 103-104, 417A-417B, 417-418
	e. doubles plus or minus one;	105A-105B, 105-106, 419A-419B, 419-420
	f. make ten;	107A-107B, 107-108
	g. using tens frames;	459A-459B, 459-460
h. identity property (adding zero).	51A-51B, 51-52	

Number Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
	17. Develop strategies for basic subtraction facts, such as: a. relating to addition (for example, think of $7 - 3 = ?$ as “3 plus ? equals 7”);	141A-141B, 141-142
	b. one less, two less;	27A-27B, 27-28
	c. all but one (for example, $8 - 7$, $5 - 4$);	27A-27B, 27-28
	d. using tens frames;	471A-471B, 471-472
	e. missing addends.	261A-261B, 261-262
	16. Develop strategies for basic addition facts, such as: a. counting all;	47A-47B, 47-48
	b. counting on;	91A-91B, 91-92
	c. one more, two more;	25A-25B, 25-26
	d. doubles;	103A-103B, 103-104, 417A-417B, 417-418
	e. doubles plus or minus one;	105A-105B, 105-106, 419A-419B, 419-420
	f. make ten;	107A-107B, 107-108
	g. using tens frames;	459A-459B, 459-460
	h. identity property (adding zero).	51A-51B, 51-52
	17. Develop strategies for basic subtraction facts, such as: a. relating to addition (for example, think of $7 - 3 = ?$ as “3 plus ? equals 7”);	141A-141B, 141-142
	b. one less, two less;	27A-27B, 27-28
	c. all but one (for example, $8 - 7$, $5 - 4$);	27A-27B, 27-28

Number Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
	d. using tens frames;	471A-471B, 471-472
	e. missing addends.	261A-261B, 261-262
L. Demonstrate fluency in adding and subtracting multiples of 10, and recognize combinations that make 10.	16. Develop strategies for basic addition facts, such as:	
	a. counting all;	47A-47B, 47-48
	b. counting on;	91A-91B, 91-92
	c. one more, two more;	25A-25B, 25-26,
	d. doubles;	103A-103B, 103-104, 417A-417B, 417-418
	e. doubles plus or minus one;	105A-105B, 105-106, 419A-419B, 419-420
	f. make ten;	107A-107B, 107-108
	g. using tens frames;	459A-459B, 459-460
	17. Develop strategies for basic subtraction facts, such as:	
	a. relating to addition (for example, think of $7 - 3 = ?$ as "3 plus ? equals 7");	141A-141B, 141-142
	b. one less, two less;	27A-27B, 27-28
	c. all but one (for example, $8 - 7$, $5 - 4$);	27A-27B, 27-28
	d. using tens frames;	471A-471B, 471-472
	e. missing addends.	261A-261B, 261-262
M. Add and subtract two-digit numbers with and without regrouping.		459A-459B, 459-460, 461A-461B, 461-462, 463A-463B, 463-464, 465A-465B, 465-466, 471A-471B, 471-472, 473A-473B, 473-474, 475A-475B, 475-476, 477A-477B, 477-478

Measurement Standard	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Explain the need for standard units of measure.	1. Recognize and explain the need for fixed units and tools for measuring length and weight; i.e., rulers and balance scales.	365A-365B, 365-366, 383A-383B, 383-38B
B. Select appropriate units for length, weight, volume (capacity) and time, using:		205A-205B, 205-206, 207A-207B, 207-208, 209A-209B, 209-210, 211A-211B, 211-212, 365A-365B, 365-366, 369A-369B, 369-370, 371A-371B, 371-372, 373A-373B, 373-374, 375A-375B, 375-376, 383A-383B, 383-384, 385A-385B, 385-386, 389A-389B, 389-390, 391A-391B, 391-392, 397A-397B, 397-398
<ul style="list-style-type: none"> • objects; i.e., non-standard units; 		365A-365B, 365-366, 383A-383B, 383-384, 389A-389B, 389-390
<ul style="list-style-type: none"> • U.S. customary units: inch, foot, yard, ounce, pound, cup, quart, gallon, minute, hour, day, week and year; 		205A-205B, 205-206, 207A-207B, 207-208, 209A-209B, 209-210, 211A-211B, 211-212, 365A-365B, 365-366, 369A-369B, 369-370, 371A-371B, 371-372, 373A-373B, 373-374, 383A-383B, 383-384, 385A-385B, 385-386, 389A-389B, 389-390, 391A-391B, 391-392, 397A-397B, 397-398
<ul style="list-style-type: none"> • metric units: centimeter, meter, gram and liter. 		375A-375B, 375-376, 387A-387B, 387-388, 393A-393B, 393-394
C. Develop common referents for units of measure for length, weight, volume (capacity) and time to make	2. Tell time to the hour and half hour on digital and analog (dial) timepieces.	205A-205B, 205-206, 207A-207B, 207-208, 209A-209B, 209-210, 211A-211B, 211-212

Measurement Standard	Indicators	Scott Foresman – Addison Wesley Mathematics
comparisons and estimates.	3. Order a sequence of events with respect to time; e.g., summer, fall, winter and spring; morning, afternoon and night.	219A-219B, 219-220
D. Apply measurement techniques to measure length, weight and volume (capacity).	4. Estimate and measure weight using non-standard units; e.g., blocks of uniform size.	389A-389B, 389-390
	5. Estimate and measure lengths using non-standard and standard units; i.e., centimeters, inches and feet.	365A-365B, 365-366, 369A-369B, 369-370, 371A-371B, 371-372, 373A-373B, 373-374, 375A-375B, 375-376
E. Recognize that using different units of measurement will yield different numbers for the same measurement.		393A-393B, 393-394

Geometry and Spatial Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Describe and create plane figures: circle, rectangle, square, triangle, hexagon, trapezoid, parallelogram and rhombus, and identify them in the environment.	2. Create new shapes by combining or cutting apart existing shapes.	181A-181B, 181-182
	3. Identify the shapes of the faces of three-dimensional objects.	159A-159B, 159-160, 161A-161B, 161-162
B. Describe solid objects: cube, rectangular prism, sphere, cylinder, cone and pyramid, and identify them in the environment.	3. Identify the shapes of the faces of three-dimensional objects.	159A-159B, 159-160, 161A-161B, 161-162

Geometry and Spatial Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
C. Sort and compare two-dimensional figures and three-dimensional objects according to their characteristics and properties.	1. Identify, compare, and sort two-dimensional shapes; i.e., square, circle, ellipse, triangle, rectangle, rhombus, trapezoid, parallelogram, pentagon, and hexagon. For example:	165A-165B, 165-166, 167A-167B, 167-168
	a. Recognize and identify triangles and rhombuses independent of position, shape or size;	165A-165B, 165-166, 167A-167B, 167-168
	b. Describe two-dimensional shapes using attributes such as number of sides and number of vertices (corners, or angles).	165A-165B, 165-166, 167A-167B, 167-168
D. Identify, explain and model (superposition, copying) the concept of shapes being congruent and similar.	5. Copy figures and draw simple two-dimensional shapes from memory.	165B, 166
E. Recognize two- and three-dimensional objects from different positions.	5. Copy figures and draw simple two-dimensional shapes from memory.	165B, 166
F. Describe location, using comparative (before, after), directional (above, below), and positional (first, last) words.	4. Extend the use of location words to include distance (near, far, close to) and directional words (left, right).	173A-173B, 173-174
G. Identify and draw figures with line symmetry.	5. Copy figures and draw simple two-dimensional shapes from memory.	165B, 166

Patterns, Functions and Algebra	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Sort, classify, and order objects by size, number, and other properties, and describe the attributes used.	1. Sort, classify and order objects by two or more attributes, such as color and shape, and explain how objects were sorted.	307A-307B, 307-308
B. Extend sequences of sounds and shapes or simple number patterns, and create and record similar patterns.	2. Extend sequences of sounds, shapes or simple number patterns, and create and record similar patterns. For example:	3A-3B, 3-4, 5A-5B, 5-6, 255A-255B, 255-256, 257A-257B, 257-258, 261A-261B, 261-262
	a. Analyze and describe patterns with multiple attributes using numbers and shapes; e.g., AA, B, aa, b, AA, B, aa, b,...	3A-3B, 3-4, 5A-5B, 5-6, 255A-255B, 255-256, 257A-257B, 257-258, 261A-261B, 261-262
	b. Continue repeating and growing patterns with materials, pictures and geometric items; e.g., XO, XOO, XOOO, XOOOO.	3A-3B, 3-4, 5A-5B, 5-6, 255A-255B, 255-256, 257A-257B, 257-258, 261A-261B, 261-262
C. Create and extend patterns and describe the rule in words.	3. Describe orally the basic unit or general plan of a repeating or growing pattern.	3A-3B, 3-4, 5A-5B, 5-6, 255A-255B, 255-256, 257A-257B, 257-258, 261A-261B, 261-262
D. Model problem situations using objects, pictures, tables, numbers, letters, and other symbols.	5. Describe orally and model a problem situation using words, objects or number phrase or sentence.	11-12, 13-14, 15-16, 17-18, 25-26, 27-28, 47-48, 63-64, 75-76, 97-98, 125-126, 245-246, 291-292, 309-310, 311-312, 313-314, 431-432, 481-482
E. Solve open sentences and explain strategies.	4. Solve open sentences by representing an expression in more than one way using the commutative property; e.g.,	261A-261B, 261-262
	4 + 5 = 5 + 4 or the number of blue balls plus red balls is the same as the number of red balls plus blue balls (R+B=B+R).	261A-261B, 261-262

Patterns, Functions and Algebra	Indicators	Scott Foresman – Addison Wesley Mathematics
F. Represent an unknown quantity as a variable using a symbol, such as \square ,		261A-261B, 261-262
G. Describe and compare qualitative and quantitative change.		261A-261B, 261-262, 365A-365B, 365-366, 383A-383B, 383-384, 389A-389B, 389-390

Data Analysis & Probability	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Pose questions and gather data about everyday situations and familiar objects.	5. Construct a question that can be answered by using information from a graph.	309A-039B, 309-310, 311A-311B, 311-312, 313A-313B, 313-314, 315A-315B, 315-316
B. Sort and classify objects by attributes, and organize data into categories in a simple table or chart.	1. Identify multiple categories for sorting data.	307A-307B, 307-308
	2. Collect and organize data into charts using tally marks.	309A-039B, 309-310, 311A-311B, 311-312, 313A-313B, 313-314, 315A-315B, 315-316
	6. Arrange five objects by an attribute, such as size or weight, and identify the ordinal position of each object.	267A-267B, 267-268
	7. Answer questions about the number of objects represented in a picture graph, bar graph or table graph; e.g., category with most, how many more in a category compared to another, how many altogether in two categories.	309A-039B, 309-310, 311A-311B, 311-312, 313A-313B, 313-314, 315A-315B, 315-316
C. Represent data using objects, picture graphs and bar graphs.	3. Display data in picture graphs with units of 1 and bar graphs with intervals of 1.	309A-039B, 309-310, 311A-311B, 311-312

Data Analysis & Probability	Indicators	Scott Foresman – Addison Wesley Mathematics
	4. Read and interpret charts, picture graphs and bar graphs as sources of information to identify main ideas, draw conclusions, and make predictions.	309A-039B, 309-310, 311A-311B, 311-312, 313A-313B, 313-314, 315A-315B, 315-316
D. Describe the probability of chance events as more, less or equally likely to occur.	8. Describe the likelihood of simple events as possible/impossible and more likely/less likely; e.g., when using spinners or number cubes in classroom activities.	401A-401B, 401-402, 403A-403B, 403-404

**Scott Foresman – Addison Wesley Mathematics
Cincinnati Pacing Guide
Grade Two**

Number, Number Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Use place value concepts to represent whole numbers using numerals, words and physical models.	1. Use place value concepts to represent, compare and order whole numbers using physical models, numerals and words, with ones, tens and hundreds. <i>For example:</i>	81A-81B, 81-82, 83A-83B, 83-84, 393A-393B, 393-394, 395A-395B, 395-396
	a. Recognize 10 can mean “10 ones” or a single entity (1 ten) through physical models and trading games.	81A-81B, 81-82, 83A-83B, 83-84
	b. Read and write 3-digit numerals (e.g., 243 as two hundred forty three, 24 tens and 3 ones, or 2 hundreds and 43 ones, etc.) and construct models to represent each.	393A-393B, 393-394, 395A-395B, 395-396
B. Recognize, classify, compare and order whole numbers.	1. Use place value concepts to represent, compare and order whole numbers using physical models, numerals and words, with ones, tens and hundreds. <i>For example:</i>	81A-81B, 81-82, 83A-83B, 83-84, 393A-393B, 393-394, 395A-395B, 395-396
	a. Recognize 10 can mean “10 ones” or a single entity (1 ten) through physical models and trading games.	81A-81B, 81-82, 83A-83B, 83-84
	b. Read and write 3-digit numerals (e.g., 243 as two hundred forty three, 24 tens and 3 ones, or 2 hundreds and 43 ones, etc.) and construct models to represent each.	393A-393B, 393-394, 395A-395B, 395-396

Number, Number Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
	2. Recognize and classify numbers as even or odd.	101A-101B, 101-102
C. Represent commonly used fractions using words and physical models.	5. Represent fractions (halves, thirds, fourths, sixths and eighths), using words, numerals and physical models. <i>For example:</i>	269A-269B, 269-270, 271A-271B, 271-272, 273A-273B, 273-274, 275A-275B, 275-276, 277A-277B, 277-278
	a. Recognize that a fractional part can mean different amounts depending on the original quantity.	269A-269B, 269-270, 271A-271B, 271-272, 273A-273B, 273-274, 275A-275B, 275-276, 277A-277B, 277-278
	b. Recognize that a fractional part of a rectangle does not have to be shaded with contiguous parts.	269A-269B, 269-270, 271A-271B, 271-272, 273A-273B, 273-274, 275A-275B, 275-276, 277A-277B, 277-278
	c. Identify and illustrate parts of a whole and parts of sets of objects.	269A-269B, 269-270, 271A-271B, 271-272, 273A-273B, 273-274, 275A-275B, 275-276, 277A-277B, 277-278
	d. Compare and order physical models of halves, thirds and fourths in relations to 0 and 1.	269A-269B, 269-270, 271A-271B, 271-272, 273A-273B, 273-274, 275A-275B, 275-276, 277A-277B, 277-278
D. Determine the value of a collection of coins and dollar bills.	4. Represent and write the value of money using the ¢ sign and in decimal form when using the \$ sign.	117A-117B, 117-118, 121A-121B, 121-122
E. Make change using coins for values up to one dollar.	3. Count money and make change using coins and a dollar bill.	121A-121B, 121-122
F. Count, using numerals and ordinal numbers.		43A-43B, 43-44, 61A-61B, 61-62, 81A-81B, 81-82, 103A-103B, 103-104, 393A-393B, 393-394
G. Model, represent and explain addition as combining sets and counting on.		3A-3B, 3-4

Number, Number Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
H. Model, represent and explain subtraction as comparison, take-away and part-to-whole.	6. Model, represent and explain subtraction as comparison, take-away and part-to-whole; e.g., solve missing addend problems by counting up or subtracting, such as “I had six baseball cards, my sister gave me more, and I now have ten. How many did she	13A-13B, 13-14
I. Model, represent and explain multiplication as repeated addition, rectangular arrays and skip counting.	6. Model, represent and explain multiplication as repeated addition, rectangular arrays and skip counting.	467A-467B, 467-468, 469A-469B, 469-470, 471A-471B, 471-472
J. Model, represent and explain division as sharing equally, repeated subtraction and rectangular arrays.	8. Model, represent and explain division as sharing equally and repeated subtraction.	483A-483B, 483-484
K. Demonstrate fluency in addition facts with addends through 9 and corresponding subtractions	10. Demonstrate fluency in addition facts with addends through 9 and corresponding subtractions; e.g., $9+9=18$, $18-9=9$	43A-43B, 43-44, 45A-45B, 45-46, 47A-47B, 47-48, 49A-49B, 49-50, 51A-51B, 51-52, 53A-53B, 53-54, 57A-57B, 57-58
	11. Add and subtract multiples of 10.	137A-137B, 137-138, 145A-145B, 145-146
L. Demonstrate fluency in adding and subtracting multiples of 10, and recognize combinations that make 10.	11. Add and subtract multiples of 10.	137A-137B, 137-138, 145A-145B, 145-146
M. Add and subtract two-digit numbers with and without regrouping.	9. Model and use the commutative property for addition.	23A-23B, 23-24
	12. Demonstrate multiple strategies for adding and subtracting 2- or 3-digit whole numbers, such as: a. compatible numbers;	141A-141B, 141-142
	b. compensatory numbers;	141A-141B, 141-142
	c. informal use of commutative and associative properties of addition.	141A-141B, 141-142

Number, Number Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
	<p><i>Note: There are instances where a grade-level indicator is linked to a benchmark for a grade band that does not include the grade level of the indicator. See Grade 3 for indicator 13.</i></p>	<p>Grade 3: 86A-8B, 86-89, 98A-98B, 98-101</p>

Measurement Standard	Indicators	Scott Foresman – Addison Wesley Mathematics
<p>A. Explain the need for standard units of measure.</p>		<p>343A-343B, 343-344, 345A-345B, 345-346, 347A-347B, 347-348, 355A-355B, 355-356, 357A-357B, 357-358, 365A-365B, 365-366, 367A-367B, 367-368, 369A-369B, 369-370</p>
<p>B. Select appropriate units for length, weight, volume (capacity) and time, using:</p> <ul style="list-style-type: none"> • objects; i.e., non-standard units; 	<p>1. Identify and select appropriate units of measure for:</p> <p>a. length – centimeters, meters, inches, feet, or yards;</p>	<p>343A-343B, 343-344, 345A-345B, 345-346, 347A-347B, 347-348</p>
<ul style="list-style-type: none"> • U.S. customary units: inch, foot, yard, ounce, pound, cup, quart, gallon, minute, hour, day, week and year; 	<p>b. volume (capacity) – liters, cups, pints, or quarts;</p>	<p>355A-355B, 355-356, 357A-357B, 357-358</p>
<ul style="list-style-type: none"> • metric units: centimeter, meter, gram and liter. 	<p>c. weight – grams, ounces, or pounds;</p>	<p>365A-365B, 365-366, 367A-367B, 367-368</p>

Measurement Standard	Indicators	Scott Foresman – Addison Wesley Mathematics
C. Develop common referents for units of measure for length, weight, volume (capacity) and time to make comparisons and estimates.	2. Establish personal or common referents for units of measure to make estimates and comparisons; e.g., the width of a finger is a centimeter, a large bottle of soda pop is 2 liters, a small paper clip weighs about one gram.	341A-341B, 341-342, 363A-363B, 363-364
	4. Tell time to the nearest minute interval on digital and to the nearest 5 minute interval on analog (dial) timepieces.	291A-291B, 291-292, 293A-293B, 293-294, 295A-295B, 295-296
D. Apply measurement techniques to measure length, weight and volume (capacity).	5. Estimate and measure the length and weight of common objects, using metric and U.S. customary units, accurate to the nearest unit.	343A-343B, 343-344, 345A-345B, 345-346, 347A-347B, 347-348, 365A-365B, 365-366, 367A-367B, 367-368
	6. Select and use appropriate measurement tools; e.g., a ruler to draw a segment 3 inches long, a measuring cup to place 2 cups of rice in a bowl, a scale to weigh 50 grams of candy.	343A-343B, 343-344, 345A-345B, 345-346, 347A-347B, 347-348, 355A-355B, 355-356, 357A-357B, 357-358, 365A-365B, 365-366, 367A-367B, 367-368, 369A-369B, 369-370
E. Recognize that using different units of measurement will yield different numbers for the same measurement.	3. Describe and compare the relationships among units of measure, such as centimeters and meters; inches, feet and yards; cups, pints and quarts; ounces and pounds; and hours, half-hours, and quarter-hours; e.g., how many inches in a foot?	343A-343B, 343-344, 345A-345B, 345-346, 347A-347B, 347-348, 365A-365B, 365-366, 367A-367B, 367-368
	7. Make and test predictions about measurements, using different units to measure the same length or volume.	341A-341B, 341-342, 363A-363B, 363-364

Geometry and Spatial Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Describe and create plane figures: circle, rectangle, square, triangle, hexagon, trapezoid, parallelogram and rhombus, and identify them in the environment.	1. Identify, describe, compare, and sort three-dimensional objects (i.e., cubes, spheres, prisms, cones, cylinders and pyramids) according to the shape of the faces or the numbers of faces, edges, or vertices.	247A-247B, 247-248, 249A-249B, 249-250
	2. Predict what new shapes will be formed by combining or cutting apart existing shapes.	255A-255B, 255-256
B. Describe solid objects: cube, rectangular prism, sphere, cylinder, cone and pyramid, and identify them in the environment.	1. Identify, describe, compare, and sort three-dimensional objects (i.e., cubes, spheres, prisms, cones, cylinders and pyramids) according to the shape of the faces or the numbers of faces, edges, or vertices.	247A-247B, 247-248, 249A-249B, 249-250
C. Sort and compare two-dimensional figures and three-dimensional objects according to their characteristics and properties.	1. Identify, describe, compare, and sort three-dimensional objects (i.e., cubes, spheres, prisms, cones, cylinders and pyramids) according to the shape of the faces or the numbers of faces, edges, or vertices.	247A-247B, 247-248, 249A-249B, 249-250
D. Identify, explain and model (superposition, copying) the concept of shapes being congruent and similar.	4. Identify and determine whether two-dimensional shapes are congruent (same shape and size) or similar (same shape different size) by copying or using superposition (lay one thing on top of another).	257A-257B, 257-258
E. Recognize two- and three-dimensional objects from different positions.	3. Recognize two-dimensional shapes and three-dimensional objects from different positions.	247A-247B, 247-248, 249A-249B, 249-250, 255A-255B, 255-256

Geometry and Spatial Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
F. Describe location, using comparative (before, after), directional (above, below), and positional (first, last) words.		97A-97B, 97-98, 99A-99B, 99-100
G. Identify and draw figures with line symmetry.	5. Create and identify two-dimensional figures with line symmetry; e.g., what letter shapes, logos, polygons are symmetrical?	261A-261B, 261-262

Patterns, Functions and Algebra	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Sort, classify, and order objects by size, number, and other properties, and describe the attributes used.		315A-315B, 315-316
B. Extend sequences of sounds and shapes or simple number patterns, and create and record similar patterns.	1. Extend simple number patterns (both repeating and growing patterns), and create similar patterns using different objects, such as using physical materials or shapes to represent numerical patterns.	99A-99B, 99-100, 413A-413B, 413-414, 467A-467B, 467-468
C. Create and extend patterns and describe the rule in words.	2. Use patterns to make generalizations and predictions; e.g., determine a missing element in a pattern.	99A-99B, 99-100, 413A-413B, 413-414, 467A-467B, 467-468
	3. Create new patterns with consistent rules or plans, and describe the rule or general plan of existing patterns.	99A-99B, 99-100, 413A-413B, 413-414, 467A-467B, 467-468

Patterns, Functions and Algebra	Indicators	Scott Foresman – Addison Wesley Mathematics
D. Model problem situations using objects, pictures, tables, numbers, letters, and other symbols.	4. Use objects, pictures, numbers and other symbols to represent a problem situation.	67A-67B, 67-68, 81A-81B, 81-82, 99A-99B, 99-100, 115A-115B, 115-116, 189A-189B, 189-190, 251A-251B, 251-252, 311A-311B, 311-312, 313A-313B, 313-314, 315A-315B, 315-316, 319A-319B, 319-320, 321A-321B, 321-322, 323A-323B, 323-324, 439A-439B, 439-440, 479A-479B, 479-480
E. Solve open sentences and explain strategies.	5. Understand equivalence and extend the concept to situations involving symbols; e.g., $4 + 5 = 9$ and $9 = 4 + 5$ and $4 + 5 = 3 + 6 = \Delta + \Delta \dots$	Preparation: 99A-99B, 99-100, 413A-413B, 413-414, 467A-467B, 467-468
F. Represent an unknown quantity as a variable using a symbol, such as \square ,	6. Use symbols to represent unknown quantities and identify values for symbols in an expression or equation using addition and subtraction; e.g., $\Delta + O = 10$, $\Delta - 2 = 4$.	Preparation: 99A-99B, 99-100, 413A-413B, 413-414, 467A-467B, 467-468
G. Describe and compare qualitative and quantitative change.	7. Describe qualitative and quantitative changes, especially those involving addition and subtraction; e.g., a student growing taller versus a student growing two inches in one year.	99A-99B, 99-100, 413A-413B, 413-414, 467A-467B, 467-468
Data Analysis & Probability	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Pose questions and gather data about everyday situations and familiar objects.	1. Pose questions, use observations, interviews and surveys to collect data, and organize data in charts, picture graphs and bar graphs.	319A-319B, 319-320, 321A-321B, 321-322, 323A-323B, 323-324, 325A-325B, 325-326, 327A-327B, 327-328

Data Analysis & Probability	Indicators	Scott Foresman – Addison Wesley Mathematics
	6. Recognize that data may vary from one population to another; e.g., favorite TV shows of students and of parents.	313A-313B, 313-314
B. Sort and classify objects by attributes, and organize data into categories in a simple table or chart.	1. Pose questions, use observations, interviews and surveys to collect data, and organize data in charts, picture graphs and bar graphs.	319A-319B, 319-320, 321A-321B, 321-322, 323A-323B, 323-324, 325A-325B, 325-326, 327A-327B, 327-328
	4. Write a few sentences to describe and compare categories of data represented in a chart or graph, and make statements about the data as a whole.	311A-311B, 311-312
C. Represent data using objects, picture graphs and bar graphs.	2. Read, interpret and make comparisons and predictions from data represented in charts, line plots, picture graphs and bar graphs.	319A-319B, 319-320, 321A-321B, 321-322, 323A-323B, 323-324, 325A-325B, 325-326, 327A-327B, 327-328
	3. Read and construct simple timelines to sequence events.	related material: 323A-323B, 323-324
	5. Identify untrue or inappropriate statements about a given set of data.	313A-313B, 313-314
D. Describe the probability of chance events as more, less or equally likely to occur.	7. List some of the possible outcomes of a simple experiment, and predict whether given outcomes are more, less or equally likely to occur.	373A-373B, 373-374, 375A-375B, 375-376
	8. Use physical models and pictures to represent possible arrangements of 2 or 3 objects.	265A-265B, 265-266

**Scott Foresman – Addison Wesley Mathematics
Cincinnati Pacing Guide
Grade Three**

Number, Number Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Use place value structure of the base-ten number system to read, write, represent and compare whole numbers and decimals.	2. Use place value concepts to represent whole numbers and decimals using numerals, words, expanded notation and physical models. For example:	6A-6B, 6-7, 8A-8B, 8-9, 10A-10B, 10-11, 18A-18B, 18-19, 20A-20B, 20-21, 564A-564B, 564-565
	a. Recognize 100 means “10 tens” as well as a single entity (1 hundred) through physical models and trading games	6A-6B, 6-7
	b. Describe the multiplicative nature of the number system; e.g., the structure of 3205 as 3 x 1000 plus 2 x 100 plus 5 x 1.	8A-8B, 8-9
	c. Model the size of 1000 in multiple ways; e.g., packaging 1000 objects into 10 boxes of 100, modeling a meter with centimeter and decimeter strips, or gathering 1000 pop-can tabs.	10A-10B, 10-11
	d. Explain the concept of tenths and hundredths using physical such models, as metric pieces, base ten blocks, decimal squares or money.	564A-564B, 564-565
	3. Use mathematical language and symbols to compare and order; e.g., less than, greater than, at most, at least, $<$, $>$, $=$, \leq , \geq .	18A-18B, 18-19, 20A-20B, 20-21

Number, Number Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
B. Recognize and generate equivalent representations for whole numbers, fractions and decimals.	1. Identify and generate equivalent forms of whole numbers; e.g., 36, $30+6$, 9×4 , 46-10, number of inches in a yard.	504A-504B, 504-505, 536A-536B, 536-537
	7. Recognize and use decimal and fraction concepts and notations as related ways of representing parts of a whole or a set; e.g., 3 of 10 marbles are red can also be described as and 3 tenths are red.	498A-498B, 498-501, 502A-502B, 502-503, 504A-504B, 504-505, 506A-506B, 506-509, 510A-510B, 510-511, 512A-512B, 512-513, 564A-564B, 564-565, 566A-566B, 566-567
C. Represent commonly used fractions and mixed numbers using words and physical models.	5. Represent fractions and mixed numbers using words, numerals and physical models.	498A-498B, 498-501, 502A-502B, 502-503, 504A-504B, 504-505, 506A-506B, 506-509, 510A-510B, 510-511, 512A-512B, 512-513, 522A-522B, 522-523
D. Use models, points of reference and equivalent forms of commonly used fractions to judge the size of fractions and to compare, describe and order them.	3. Use mathematical language and symbols to compare and order; e.g., less than, greater than, at most, at least, $<$, $>$, $=$, \leq , \geq .	506A-506B, 506-509
	6. Compare and order commonly used fractions and mixed numbers using number lines, models (such as fraction circles or bars), points of reference (such as more or less than $\frac{1}{2}$), and equivalent forms found using physical or visual models.	506A-506B, 506-509
E. Recognize and classify numbers as prime or composite and list factors.		preparation: 386-387, 388-389, 390-391, 392-393
F. Count money and make change using both coins and paper bills.	4. Count money and make change using coins and paper bills to ten dollars.	36A-36B, 36-39, 40A-40B, 40-41

Number, Number Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
G. Model and use commutative and associative properties for addition and multiplication.	11. Model and use the commutative and associative properties for addition and multiplication.	66A-66B, 66-69
H. Use relationships between operations, such as subtraction as the inverse of addition and division as the inverse of multiplication.	10. Explain and use relationships between operations, such as: a. relate addition and subtraction as inverse operations;	70A-70B, 70-71
	b. relate multiplication and division as inverse operations;	384A-384B, 384-385
	c. relate addition to multiplication (repeated addition);	260A-260B, 260-261
	d. relate subtraction to division (repeated subtraction).	372A-372B, 372-373
I. Demonstrate fluency in multiplication facts with factors through 10 and corresponding divisions.	13. Demonstrate fluency in multiplication facts through 10 and corresponding division facts.	276A-276B, 276-279, 280A-280B, 280-281, 282A-282B, 282-283, 286A-286B, 286-287, 288A-288B, 288-291, 292A-292B, 292-293, 316A-316B, 316-317, 318A-318B, 318-319, 320A-320B, 320-323, 324A-324B, 324-327, 328A-328B, 328-331, 386A-386B, 386-387, 388A-388B, 388-389, 390A-390B, 390-391, 392A-392B, 392-393, 396A-396B, 396-397, 402A-402B, 402-403
J. Estimate the results of whole number computations using a variety of strategies, and judge the reasonableness.	13. <i>Estimate the results of whole number addition and subtraction problems using front-end estimation, and judge the reasonableness of the answers. (Grade 2)</i>	86A-8B, 86-89, 98A-98B, 98-101

Number, Number Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
	15. Evaluate the reasonableness of computations based upon operations and the numbers involved; e.g., considering relative size, place value and estimates.	90A-90B, 90-91
K. Analyze and solve multi-step problems involving addition, subtraction, multiplication and division using whole numbers.	12. Add and subtract whole numbers with and without regrouping.	126A-126B, 126-127, 128A-128B, 128-131, 132A-132B, 132-135, 136A-136B, 136-139, 146A-146B, 146-147, 148A-148B, 148-149, 150A-150B, 150-151, 152A-152B, 152-155, 156A-156B, 156-157
	14. Multiply and divide 2- and 3-digit numbers by a single-digit number, without remainders for division.	612A-612B, 612-613, 632A-632B, 632-635, 636A-636B, 636-637
L. Use a variety of methods and appropriate tools (mental math, paper and pencil, calculators) for computing with whole numbers.	8. Model, represent and explain multiplication; e.g., repeated addition, skip counting, rectangular arrays and area model. For example: a. Use conventional mathematical symbols to write equations for word problems involving multiplication.	preparation: 342-343
	b. Understand that, unlike addition and subtraction, the factors in multiplication and division may have different units; e.g., 3 boxes of 5 cookies each.	348-349, 406-407

Number, Number Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
	9. Model, represent and explain division; e.g., sharing equally, repeated subtraction, rectangular arrays and area model. For example: a. Translate contextual situations involving division into conventional mathematical symbols.	374A-374B, 374-375
	b. Explain how a remainder may impact an answer in a real-world situation; e.g., 14 cookies being shared by 4 children.	398A-398B, 398-401
M. Add and subtract commonly used fractions with like denominators and decimals, using models and paper and pencil.		520A-520B, 520-521, 572A-572B, 572-575

Measurement Standard	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Select appropriate units for perimeter, area, weight, volume (capacity), time and temperature using: · objects of uniform size;	1. Identify and select appropriate units for measuring: a. length – miles, kilometers and other units of measure as appropriate.	532-533, 534A-534B, 534-535, 536A-536B, 536-537, 538A-538B, 538-539
· U.S. customary units; e.g., mile, square inch, cubic inch, second degree Fahrenheit, and other units as appropriate;	b. volume (capacity) – gallons;	680A-680B, 680-683, 684A-684B, 684-687
· metric units; e.g., millimeter, kilometer, square centimeter,	c. weight-ounces, pounds, grams, or kilograms;	690A-690B, 690-693, 694A-694B, 694-695

Measurement Standard	Indicators	Scott Foresman – Addison Wesley Mathematics
kilogram, cubic centimeter, degree Celsius, and other units as appropriate.	d. temperature – degrees (Fahrenheit or Celsius).	696A-696B, 696-697
	4. Read thermometers in both Fahrenheit and Celsius scales.	696A-696B, 696-697
B. Know that the number of units is inversely related to the size of the unit for any item being measured.		534A-534B, 534-535
C. Develop common referents for units of measure for length, weight, volume (capacity) and time to make comparisons and estimates.	2. Establish personal or common referents to include additional units; e.g., a gallon container of milk; a postage stamp is about a square inch.	534A-534B, 534-535
	5. Estimate and measure length, weight and volume (capacity), using metric and U.S. customary units, accurate to the nearest or unit as appropriate.	192A-192B, 192-195, 196A-196B, 196-197, 198A-198B, 198-199, 200A-200B, 200-201, 532A-532B, 532-533, 534A-534B, 534-535, 536A-536B, 536-537, 538A-538B, 538-539, 582A-582B, 582-583, 584A-584B, 584-587, 680A-680B, 680-683, 684A-684B, 684-687, 690A-690B, 690-693, 694A-694B, 694-695
D. Identify appropriate tools and apply counting techniques for measuring side lengths, perimeter, and area of squares, rectangles, and simple irregular two-dimensional shapes, volume of rectangular prisms, and time and temperature.	4. Read thermometers in both Fahrenheit and Celsius scales.	696A-696B, 696-697
	6. Use appropriate measurement tools and techniques to construct a figure or approximate an amount of specified length, weight or volume (capacity); e.g., construct a rectangle with length inches and width 3 inches, fill a measuring cup to the cup	192A-192B, 192-195, 196A-196B, 196-197, 198A-198B, 198-199, 200A-200B, 200-201, 532A-532B, 532-533, 534A-534B, 534-535, 536A-536B, 536-537, 538A-538B, 538-539, 582A-582B, 582-583, 584A-584B, 584-587, 680A-680B, 680-683, 684A-684B, 684-687, 690A-690B, 690-693, 694A-694B, 694-695

Measurement Standard	Indicators	Scott Foresman – Addison Wesley Mathematics
	7. Make estimates for perimeter, area and volume using links, tiles, cubes and other models.	464A-464B, 464-467
E. Tell time to the nearest minute.	3. Tell time to the nearest minute and find elapsed time using a calendar or a clock.	192A-192B, 192-195, 196A-196B, 196-197

Geometry and Spatial Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Provide rationale for groupings and comparisons of two-dimensional figures and three-dimensional objects.	1. Analyze and describe properties of two-dimensional shapes and three-dimensional objects using terms such as vertex, edge, angle, side and face.	428A-428B, 428-4231, 446A-446B, 446-447, 450A-450B, 450-453, 454A-454B, 454-455
B. Describe and identify points, lines and planes in the environment.		442A-442B, 442-443
C. Describe and identify intersecting, parallel and perpendicular lines or segments in the environment.		442A-442B, 442-443
D. Identify and draw right, obtuse, acute and straight angles.	2. Identify and describe the relative size of angles with respect to right angles as follows:	444A-444B, 444-445
	a. Use physical models, like straws, to make different sized angles by opening and closing the sides, not by changing the side lengths.	444B
	b. Identify, classify and draw right, acute, obtuse and straight angles.	444A-444B, 444-445

Geometry and Spatial Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
E. Use attributes to describe, classify and sketch plane figures and build solid objects.	1. Analyze and describe properties of two-dimensional shapes and three-dimensional objects using terms such as vertex, edge, angle, side and face.	428A-428B, 428-4231, 446A-446B, 446-447, 450A-450B, 450-453, 454A-454B, 454-455
	5. Build a three-dimensional model of an object composed of cubes; e.g., construct a model based on an illustration or actual object.	428B, 432B
F. Develop definitions of classes of shapes.		446A-446B, 446-449, 454A-454B, 454-455
G. Find and name locations in coordinate systems.	3. Find and name locations on a labeled grid or coordinate system; e.g., a map or graph.	218A-218B, 218-221, 222A-222B, 222-223
H. Identify and describe line and rotational symmetry in two-dimensional shapes and designs.	4. Draw lines of symmetry to verify symmetrical two-dimensional shapes.	460A-460B, 460-461
I. Describe, identify and model reflections, rotations and translations, using physical materials.		456A-456B, 456-459
J. Describe a motion or series of transformations that show two shapes are congruent.		456A-456B, 456-459
Patterns, Functions and Algebra	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Analyze and extend patterns, and describe the rule in words.	1. Extend multiplicative and growing patterns, and describe the pattern or rule in words.	72A-72B, 72-75, 344A-344B, 344-345

Patterns, Functions and Algebra	Indicators	Scott Foresman – Addison Wesley Mathematics
	2. Analyze and replicate arithmetic sequences with and without a calculator.	72A-72B, 72-75
B. Use patterns to make predictions, identify relationships, and solve problems.	3. Use patterns to make predictions, identify relationships, and solve problems.	24-27, 277, 282, 286, 288-289, 332A-332B, 332-335, 340-341, 344-345
C. Write and solve open sentences and explain strategies.	5. Write, solve and explain simple mathematical statements, such as $7 + \Delta > 8$ or $\Delta + 8 = 10$	344A-344B, 344-345
	6. Express mathematical relationships as equations and inequalities.	168A-168B, 168-169
D. Represent an unknown quantity as a variable using a symbol, including letters.		168A-168B, 168-169
E. Use variables to create and solve equations representing problem situations.	4. Model problem situations using objects, pictures, tables, numbers, letters and other symbols.	140A-140B, 140-143, 204A-204B, 204-207, 208A-208B, 208-211, 226A-226B, 226-227, 228A-228B, 228-231, 232A-232B, 232-235, 236A-236B, 236-237, 270A-270B, 270-273
F. Construct and use a table of values to solve problems associated with mathematical relationships.	7. Create tables to record, organize and analyze data to discover patterns and rules.	212A-212B, 212-215, 226A-226B, 226-227, 228A-228B, 228-231, 232A-232B, 232-235
G. Describe how a change in one variable affects the value of a related variable.	8. Identify and describe quantitative changes, especially those involving addition and subtraction; e.g., the height of water in a glass becoming 1 centimeter lower each week due to evaporation.	72A-72B, 72-75, 344A-344B, 344-345

Data Analysis & Probability	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Gather and organize data from surveys and classroom experiments, including data collected over a period of time.	1. Collect and organize data from an experiment, such as recording and classifying observations or measurements, in response to a question posed.	204A-204B, 204-207, 208A-208B, 208-211
B. Read and interpret tables, charts, graphs (bar, picture, line, line plot), and timelines as sources of information, identify main idea, draw conclusions, and make predictions.	4. Support a conclusion or prediction orally and in writing, using information in a table or graph.	208A-208B, 208-211, 212A-212B, 212-215, 222A-222B, 222-223
	5. Match a set of data with a graphical representation of the data.	208A-208B, 208-211, 212A-212B, 212-215, 222A-222B, 222-223
	7. Analyze and interpret information represented on a timeline.	related material: 208-211
C. Construct charts, tables and graphs to represent data, including picture graphs, bar graphs, line graphs, line plots and simple Venn diagrams.	6. Translate information freely among charts, tables, line plots, picture graphs and bar graphs; e.g., create a bar graph from the information in a chart.	208A-208B, 208-211, 212A-212B, 212-215, 222A-222B, 222-223
D. Read, interpret and construct graphs in which icons represent more than a single unit or intervals greater than one; e.g., each b = 10 bicycles or the intervals on an axis are multiples of 10.	2. Draw and interpret picture graphs in which a symbol or picture represents more than one object.	212A-212B, 212-215
	3. Read, interpret and construct bar graphs with intervals greater than one.	212A-212B, 212-215
E. Describe data using mode, median and range.	8. Identify the mode of a data set and describe the information it gives about a data set.	preparation: 204-207

Data Analysis & Probability	Indicators	Scott Foresman – Addison Wesley Mathematics
F. Conduct a simple probability experiment and draw conclusions about the likelihood of possible outcomes.	9. Conduct a simple experiment or simulation of a simple event, record the results in a chart, table or graph, and use the results to draw conclusions about the likelihood of possible outcomes.	700A-700B, 700-701, 702A-702B, 702-703, 704A-704B, 704-707
G. Identify and represent possible outcomes, such as arrangements of a set of up to four members and possible combinations from several sets, each containing 2 or 3 members.	10. Use physical models, pictures, diagrams and lists to solve problems involving possible arrangements or combinations of two to four objects.	704A-704B, 704-707
H. Use the set of possible outcomes to describe and predict events.		700A-700B, 700-701, 702A-702B, 702-703, 704A-704B, 704-707

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Grade Four**

Number, Number Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Use place value structure of the base-ten number system to read, write, represent and compare whole numbers and decimals.	2. Use place value structure of the base-ten number system to read, write, represent and compare whole numbers through millions and decimals through thousandths.	4A-4B, 4-7, 8A-8B, 8-9, 16A-16B, 16-19, 628A-628B, 628-629, 630A-630B, 630-631
	3. Round whole numbers to a given place value.	20A-20B, 20-21
B. Recognize and generate equivalent representations for whole numbers, fractions and decimals.	1. Identify and generate equivalent forms of fractions and decimals. For example:	500A-500B, 500-501, 502A-502B, 502-503, 516A-516B, 516-519, 520A-520B, 520-521, 624A-624B, 624-627
	a. Connect physical, verbal and symbolic representations of fractions, decimals and whole numbers; e.g., “five tenths,” 0.5, shaded rectangles with half, and five tenths.	500A-500B, 500-501, 502A-502B, 502-503, 516A-516B, 516-519, 520A-520B, 520-521, 624A-624B, 624-627
	b. Understand and explain that ten tenths is the same as one whole in both fraction and decimal form.	624A-624B, 624-627
C. Represent commonly used fractions and mixed numbers using words and physical models.		500A-500B, 500-501, 502A-502B, 502-503, 530A-530B, 530-533
D. Use models, points of reference and equivalent forms of commonly used fractions to judge the size of fractions and to compare, describe and order them.	5. Use models and points of reference to compare commonly used fractions.	524A-524B, 524-527

Number, Number Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
E. Recognize and classify numbers as prime or composite and list factors.	4. Identify and represent factors and multiples of whole numbers through 100, and classify numbers as prime or composite.	related material: 402-403
F. Count money and make change using both coins and paper bills.	8. Solve problems involving counting money and making change, using both coins and paper bills.	28A-28B, 28-29, 30A-30B, 30-32, 32A-32B, 32-33
G. Model and use commutative and associative properties for addition and multiplication.		76A-76B, 67-70, 270A-270B, 270-273
H. Use relationships between operations, such as subtraction as the inverse of addition and division as the inverse of multiplication.		100A-100B, 100-101, 166A-166B, 166-167
I. Demonstrate fluency in multiplication facts with factors through 10 and corresponding divisions	14. Demonstrate fluency in adding and subtracting whole numbers and in multiplying and dividing whole numbers by 1- and 2-digit numbers and multiples of ten.	76A-76B, 76-79, 80A-80B, 80-81, 82A-82B, 82-85, 86A-86B, 86-89, 270A-270B, 270-273, 274A-274B, 274-277, 332A-332B, 332-335, 336A-336B, 336-337, 380A-380B, 380-383, 386A-386B, 386-389, 390A-390B, 390-391
J. Estimate the results of whole number computations using a variety of strategies, and judge the reasonableness.	9. Estimate the results of computations involving whole numbers, fractions and decimals, using a variety of strategies.	62A-62B, 62-63, 64A-64B, 64-67, 68A-68B, 68-71, 72A-72B, 72-73, 258A-258B, 258-261, 316A-316B, 316-319, 368A-368B, 368-371, 636A-636B, 636-637
K. Analyze and solve multi-step problems involving addition, subtraction, multiplication and division using whole numbers.	8. Use geometric models to solve problems in other areas of mathematics, such as number (multiplication/division) and measurement (area, perimeter, border).	500A-500B, 500-501

Number, Number Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
	6. Use associative and distributive properties to simplify and perform computations; e.g., use left to right multiplication and the distributive property to find an exact answer without paper and pencil, such as: $5 \times 47 = 5 \times 40 + 5 \times 7 = 200 + 35 = 235$.	166A-166B, 166-167
	7. Recognize that division may be used to solve different types of problem situations and interpret the meaning of remainders; e.g., situations involving measurement, money.	380A-380B, 380-383, 386A-386B, 386-389, 390A-390B, 390-391
	12. Analyze and solve multi-step problems involving addition, subtraction, multiplication and division using an organized approach, and verify and interpret results with respect to the original problem.	156-157, 168-169, 278A-278B, 278-281, 290A-290B, 290-291, 292-293, 326A-326B, 326-329, 342A-342B, 342-343, 344-345, 384A-384B, 384-385, 396A-396B, 396-399, 412-413
L. Use a variety of methods and appropriate tools (mental math, paper and pencil, calculators) for computing with whole numbers.	11. Develop and explain strategies for performing computations mentally.	62A-62B, 62-63, 64A-64B, 64-67, 68A-68B, 68-71, 72A-72B, 72-73, 258A-258B, 258-261, 316A-316B, 316-319, 368A-368B, 368-371, 636A-636B, 636-637
	13. Use a variety of methods and appropriate tools for computing with whole numbers; e.g., mental math, paper and pencil, and calculator.	76A-76B, 76-79, 80A-80B, 80-81, 82A-82B, 82-85, 86A-86B, 86-89, 270A-270B, 270-273, 274A-274B, 274-277, 332A-332B, 332-335, 336A-336B, 336-337, 380A-380B, 380-383, 386A-386B, 386-389, 390A-390B, 390-391

Number, Number Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
	14. Demonstrate fluency in adding and subtracting whole numbers and in multiplying and dividing whole numbers by 1- and 2-digit numbers and multiples of ten.	76A-76B, 76-79, 80A-80B, 80-81, 82A-82B, 82-85, 86A-86B, 86-89, 270A-270B, 270-273, 274A-274B, 274-277, 332A-332B, 332-335, 336A-336B, 336-337, 380A-380B, 380-383, 386A-386B, 386-389, 390A-390B, 390-391
M. Add and subtract commonly used fractions with like denominators and decimals, using models and paper and pencil.	9. Estimate the results of computations involving whole numbers, fractions and decimals, using a variety of strategies.	62A-62B, 62-63, 64A-64B, 64-67, 68A-68B, 68-71, 72A-72B, 72-73, 258A-258B, 258-261, 316A-316B, 316-319, 368A-368B, 368-371, 636A-636B, 636-637
	10. Use physical models, visual representations, and paper and pencil to add and subtract decimals and commonly used fractions with like denominators.	564A-564B, 564-567, 568A-568B, 568-571, 574A-574B, 574-577, 578A-578B, 578-581, 638A-638B, 638-641, 642A-642B, 642-645

Measurement Standard	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Select appropriate units for perimeter, area, weight, volume (capacity), time and temperature using: <ul style="list-style-type: none"> U.S. customary units; e.g., mile, 	3. Identify and select appropriate units to measure: <ul style="list-style-type: none"> a. perimeter – string or links (inches or centimeters). 	464A-464B, 464-467
	<ul style="list-style-type: none"> b. area – tiles (square inches or square centimeters). 	468A-468B, 468-471

Measurement Standard	Indicators	Scott Foresman – Addison Wesley Mathematics
<p>square inch, cubic inch, second degree Fahrenheit, and other units as appropriate;</p> <ul style="list-style-type: none"> metric units; e.g., millimeter, kilometer, square centimeter, kilogram, cubic centimeter, degree Celsius, and other units as appropriate. 	<p>c. Volume – cubes (cubic inches or cubic centimeters).</p>	<p>476A-476B, 476-477</p>
<p>B. Know that the number of units is inversely related to the size of the unit for any item being measured.</p>	<p>1. Relate the number of units to the size of the units used to measure an object; e.g., compare the number of cups to fill a pitcher to the number of quarts to fill the same pitcher.</p>	<p>588-589, 592-593, 594-595, 652-653, 654-655, 656-657</p>
<p>C. Develop common referents for units of measure for length, weight, volume (capacity) and time to make comparisons and estimates.</p>	<p>2. Demonstrate and describe perimeter as surrounding and area as covering a two-dimensional shape, and volume as filling a three-dimensional object.</p>	<p>464A-464B, 464-467, 468A-468B, 468-471, 476A-476B, 476-477</p>
<p>D. Identify appropriate tools and apply counting techniques for measuring side lengths, perimeter, and area of squares, rectangles, and simple irregular two-dimensional shapes, volume of rectangular prisms, and time and temperature.</p>	<p>4. Develop and use strategies to find perimeter using string or links, area using tiles or a grid, and volume using cubes; e.g., count squares to find area of regular or irregular shapes on a grid, layer cubes in a box to find its volume.</p>	<p>464A-464B, 464-467, 468A-468B, 468-471, 476A-476B, 476-477</p>

Measurement Standard	Indicators	Scott Foresman – Addison Wesley Mathematics
E. Tell time to the nearest minute.	<i>Note: There are instances where a grade-level indicator is linked to a benchmark for a grade band that does not include the grade level of the indicator. See Grade 5 (page 9) for indicator 5 and Grade 5 (page 12) for indicator 6.</i>	196A-196B, 196-197, 200A-200B, 200-201

Geometry and Spatial Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Provide rationale for groupings and comparisons of two-dimensional figures and three-dimensional objects.	3. Identify similarities and differences of quadrilaterals; e.g., squares, rectangles, parallelograms and trapezoids.	444A-444B, 444-447
	4. Identify and define triangles based on angle measures (equiangular, right, acute and obtuse triangles) and side lengths (isosceles, equilateral and scalene triangles).	444A-444B, 444-447
B. Describe and identify points, lines and planes in the environment.	5. Describe points, lines and planes, and identify models in the environment.	434A-434B, 434-437, 440A-440B, 440-443
C. Describe and identify intersecting, parallel and perpendicular lines or segments in the environment.	1. Identify, describe and model intersecting, parallel and perpendicular lines and line segments; e.g., use straws or other material to model lines.	440A-440B, 440-443
D. Identify and draw right, obtuse, acute and straight angles.		440A-440B, 440-443

Geometry and Spatial Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
E. Use attributes to describe, classify and sketch plane figures and build solid objects.	2. Describe, classify, compare and model two- and three-dimensional objects using their attributes.	434A-434B, 434-437, 438A-438B, 438-439, 444A-444B, 444-447
F. Develop definitions of classes of shapes.	3. Identify similarities and differences of quadrilaterals; e.g., squares, rectangles, parallelograms and trapezoids.	440A-440B, 440-443
	4. Identify and define triangles based on angle measures (equiangular, right, acute and obtuse triangles) and side lengths (isosceles, equilateral and scalene triangles).	440A-440B, 440-443
G. Find and name locations in coordinate systems.	6. Specify locations and plot ordered pairs on a coordinate plane, using first quadrant points.	212A-212B, 212-215, 216A-216B, 216-221
H. Identify and describe line and rotational symmetry in two-dimensional shapes and designs.		456A-456B, 456-457
I. Describe, identify and model reflections, rotations and translations, using physical materials.	7. Identify, describe and use reflections (flips), rotations (turns), and translations (slides) in solving geometric problems; e.g., use transformations to determine if 2 shapes are congruent.	452A-452B, 452-455
J. Describe a motion or series of transformations that show two shapes are congruent.	7. Identify, describe and use reflections (flips), rotations (turns), and translations (slides) in solving geometric problems; e.g., use transformations to determine if 2 shapes are congruent.	452A-452B, 452-455

Geometry and Spatial Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
	<p><i>Note: There are instances when a grade-level indicator for one standard is linked to a benchmark for a different standard. See correlations for Number, Number Sense and Operations (page 17) and Measurement (page 13) for indicator 8.</i></p>	500A-500B, 500-501

Patterns, Functions and Algebra	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Analyze and extend patterns, and describe the rule in words.	2. Represent and analyze patterns and functions using words, tables and graphs.	10A-10B, 10-11, 90A-90B, 90-91, 366A-366B, 366-367, 641
B. Use patterns to make predictions, identify relationships, and solve problems.	1. Use models and words to describe, extend and make generalizations of patterns and relationships occurring in computation, numerical patterns, geometry, graphs and other applications.	10A-10B, 10-11, 90A-90B, 90-91, 366A-366B, 366-367, 641
C. Write and solve open sentences and explain strategies.	5. Represent mathematical relationships with equations or inequalities.	100A-100B, 100-101, 166A-166B, 166-167, 690A-690B, 690-691, 692A-692B, 692-695
D. Represent an unknown quantity as a variable using a symbol, including letters.	1. Represent and analyze patterns and functions using words, tables and graphs.	10A-10B, 10-11, 90A-90B, 90-91, 366A-366B, 366-367, 641
E. Use variables to create and solve equations representing problem situations.	4. Use rules and variables to describe patterns and other relationships.	164A-164B, 164-165

Patterns, Functions and Algebra	Indicators	Scott Foresman – Addison Wesley Mathematics
F. Construct and use a table of values to solve problems associated with mathematical relationships.	3. Construct a table of values to solve problems associated with a mathematical relationship.	164A-164B, 164-165
G. Describe how a change in one variable affects the value of a related variable.	6. Describe how a change in one variable affects the value of a related variable; e.g., as one increases the other increases or as one increases the other decreases.	164A-164B, 164-165

Data Analysis & Probability	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Gather and organize data from surveys and classroom experiments, including data collected over a period of time.	1. Create a plan for collecting data for a specific purpose.	230A-230B, 230-231
B. Read and interpret tables, charts, graphs (bar, picture, line, line plot), and timelines as sources of information, identify main idea, draw conclusions, and make predictions.	2. Represent and interpret data using tables, bar graphs, line plots and line graphs.	204A-204B, 204-205, 206A-206B, 206-207, 208A-208B, 208-211, 216A-216B, 216-221, 226A-226B, 226-229
	5. Propose and explain interpretations and predictions based on data displayed in tables, charts and graphs.	204A-204B, 204-205, 206A-206B, 206-207, 208A-208B, 208-211, 216A-216B, 216-221, 226A-226B, 226-229
C. Construct charts, tables and graphs to represent data, including picture graphs, bar graphs, line graphs, line plots and simple Venn diagrams.	2. Represent and interpret data using tables, bar graphs, line plots and line graphs.	206A-206B, 206-207, 208A-208B, 208-211, 216A-216B, 216-221
	3. Interpret and construct Venn diagrams to sort and describe data.	Related material: 71 See also: Grade 5 Enrichment, 103

Data Analysis & Probability	Indicators	Scott Foresman – Addison Wesley Mathematics
	4. Compare different representations of the same data to evaluate how well each representation shows important aspects of the data, and identify appropriate ways to display the data.	232A-232B, 232-233
D. Read, interpret and construct graphs in which icons represent more than a single unit or intervals greater than one; e.g., each □ = 10 bicycles or the intervals on an axis are multiples of 10.		216A-216B, 216-221
E. Describe data using mode, median and range.	6. Describe the characteristics of a set of data based on a graphical representation, such as range of the data, clumps of data, and holes in the data.	226A-226B, 226-229
	7. Identify the median of a set of data and describe what it indicates about the data.	226A-226B, 226-229
	8. Use range, median and mode to make comparisons among related sets of data.	226A-226B, 226-229
F. Conduct a simple probability experiment and draw conclusions about the likelihood of possible outcomes.	9. Conduct simple probability experiments and draw conclusions from the results; e.g., rolling number cubes or drawing marbles from a bag.	700A-700B, 700-703, 706A-706B, 706-709, 710A-710B, 710-713
	10. Represent the likelihood of possible outcomes for chance situations; e.g., probability of selecting a red marble from a bag containing 3 red and 5 white marbles.	700A-700B, 700-703, 706A-706B, 706-709, 710A-710B

Data Analysis & Probability	Indicators	Scott Foresman – Addison Wesley Mathematics
	11. Relate the concepts of impossible and certain-to-happen events to the numerical values of 0 (impossible) and 1 (certain).	700A-700B, 700-703, 706A-706B, 706-709, 710A-710B, 710-713
	12. Place events in order of likelihood and use a diagram or appropriate language to compare the chance of each event occurring; e.g. impossible, unlikely, equal, likely, certain.	700A-700B, 700-703, 706A-706B, 706-709, 710A-710B
G. Identify and represent possible outcomes, such as arrangements of a set of up to four members and possible combinations from several sets, each containing 2 or 3 members.	13. List and count all possible combinations using one member from each of several sets, each containing 2 or 3 members; e.g., the number of possible outfits from 3 shirts, 2 shorts, and 2 pairs of shoes.	584A-584B, 584-585
H. Use the set of possible outcomes to describe and predict events.	10. Represent the likelihood of possible outcomes for chance situations; e.g., probability of selecting a red marble from a bag containing 3 red and 5 white marbles.	700A-700B, 700-703, 706A-706B, 706-709, 710A-710B, 710-713
	11. Relate the concepts of impossible and certain-to-happen events to the numerical values of 0 (impossible) and 1 (certain).	700A-700B, 700-703, 706A-706B, 706-709, 710A-710B

**Scott Foresman – Addison Wesley Mathematics
Cincinnati Pacing Guide
Grade Five**

Number, Number Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Represent and compare numbers less than 0 through familiar applications and extending the number line.	6. Represent and compare numbers less than 0 by extending the number line and using familiar applications; e.g., temperature, owing money.	12A-12B, 12-13
B. Compare, order and convert among fractions, decimals and percents.	1. Use models and visual representations to develop the concept of ratio as part-to-part and part-to-whole, and the concept of percent as part-to-whole.	646A-646B, 646-647, 668A-668B, 668-669
	2. Use various forms of “one” to demonstrate the equivalence of fractions; e.g., $18/24=9/12 \times 2/2=3/4 \times 6/6$	412A-412B, 412-413
	3. Identify and generate equivalent forms of fractions, decimals and percents.	412A-412B, 412-413, 426A-426B, 426-429, 430A-430B, 430-433, 668A-668B, 668-669
C. Develop meaning for percents including percents greater than 100 and less than 1.		668A-668B, 668-669
D. Use models and pictures to relate concepts of ratio, proportion and percent.	1. Use models and visual representations to develop the concept of ratio as part-to-part and part-to-whole, and the concept of percent as part-to-whole.	646A-646B, 646-647, 668A-668B, 668-669

Number, Number Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
E. Use order of operations, including use of parenthesis and exponents to solve multi-step problems, and verify and interpret the results.	8. Identify and use relationships between operations to solve problems.	108A-108B, 108-109, 700A-700B, 700-701, 702A-702B, 702-705
	9. Use order of operations, including use of parentheses, to simplify numerical expressions.	172A-172B, 172-173
	<i>Note: There are instances when a grade-level indicator for one standard is linked to a benchmark for a different standard. See also correlation for Patterns, Functions and Algebra (page 11) for indicator 8.</i>	100A-100B, 100-103, 104A-104B, 104-105, 108A-108B, 108-109, 700A-700B, 700-701, 702A-702B, 702-705
F. Apply number system properties when performing computations.	7. Use commutative, associative, distributive, identity and inverse properties to simplify and perform computations.	108A-108B, 108-109, 700A-700B, 700-701, 702A-702B, 702-705
G. Apply and explain the use of prime factorizations, common factors, and common multiples in problem situations.	5. Recognize and identify perfect squares and their roots.	167
H. Use and analyze the steps in standard and non-standard algorithms for computing with fractions, decimals and integers.	10. Justify why fractions need common denominators to be added or subtracted.	464A-464B, 464-465
	11. Explain how place value is related to addition and subtraction of decimals; e.g., $0.2 + 0.14$; the two tenths is added to the one tenth because they are both tenths.	38A-38B, 38-39, 40A-40B, 40-41

Number, Number Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
I. Use a variety of strategies, including proportional reasoning, to estimate, compute, solve and explain solutions to problems involving integers, fractions, decimals and percents.	4. Round decimals to a given place value and round fractions (including mixed numbers) to the nearest half.	26A-26B, 26-27
	12. Use physical models, points of reference, and equivalent forms to add and subtract commonly used fractions with like and unlike denominators and decimals.	38A-38B, 38-39, 40A-40B, 40-41, 462A-462B, 462-463, 466A-466B, 466-469
	13. Estimate the results of computations involving whole numbers, fractions and decimals, using a variety of strategies.	36A-36B, 36-37, 66A-66B, 66-67, 84A-84B, 84-85, 108A-108B, 108-109, 132A-132B, 132-135, 148A-148B, 148-151, 696A-696B, 696-699, 700A-700B, 700-701, 702A-702B, 702-705
	<i>Note: There are instances where a grade-level indicator is linked to a benchmark for a grade band that does not include the grade level of the indicator. See Grade 8 (page 33) for indicator 5.</i>	Not applicable

Measurement Standard	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Select appropriate units to measure angles, circumference, surface area, mass and volume, using:	1. Identify and select appropriate units to measure angles; i.e., degrees.	332A-332B, 332-335
<ul style="list-style-type: none"> • U.S. customary units; e.g., degrees, square feet, pounds, and other units as appropriate; 		528A-528B, 528-531, 614A-614B, 614-615, 620A-620B, 620-621
<ul style="list-style-type: none"> • Metric units; e.g., square meters, kilograms and other units as appropriate. 		534A-534B, 534-535, 616A-616B, 616-617, 622A-622B, 622-623
B. Convert units of length, area, volume, mass and time within the same measurement system.	5. Make simple unit conversions within a measurement system; e.g., inches to feet, kilograms to grams, quarts to gallons. (Grade 4)	536A-536B, 536-539
	5. Make conversions within the same measurement system while performing computations.	536A-536B, 536-539
C. Identify appropriate tools and apply appropriate techniques for measuring angles, perimeter or circumference and area of triangles, quadrilaterals, circles, and composite shapes, and surface area and volume of prisms and cylinders.	6. Use strategies to develop formulas for determining perimeter and area of triangles, rectangles and parallelograms, and volume of rectangular prisms.	540A-540B, 540-541, 548A-548B, 548-549, 550A-550B, 550-551, 552A-552B, 552-553, 554A-554B, 554-555, 610A-610B, 610-613
	7. Use benchmark angles (e.g.; 45°, 90°, 120°) to estimate the measure of angles, and use a tool to measure and draw angles.	332A-332B, 332-335
D. Select a tool and measure accurately to a specified level of precision.		528A-528B, 528-531, 534A-534B, 534-535, 568A-568B, 568-569, 620A-620B, 620-621, 622A-622B, 622-623

Measurement Standard	Indicators	Scott Foresman – Addison Wesley Mathematics
E. Use problem solving techniques and technology as needed to solve problems involving length, weight, perimeter, area, volume, time and temperature.	6. Write, solve and verify solutions to multi-step problems involving measurement. (Grade 4)	528-531, 534-535, 568-569, 620-621, 622-623
	1. Identify paths between points on a grid or coordinate plane and compare the lengths of the paths; e.g., shortest path, paths of equal length.	512A-512B, 512-513
F. Analyze and explain what happens to area and perimeter or surface area and volume when the dimensions of an object are changed.	1. Demonstrate and describe the differences between covering the faces (surface area) and filling the interior (volume) of three-dimensional objects.	602A-602B, 602-605, 610A-610B, 610-613
	2. Demonstrate understanding of the differences among linear units, square units and cubic units.	548A-548B, 548-559, 602A-602B, 602-605, 610A-610B, 610-613
G. Understand and demonstrate the independence of perimeter and area for two-dimensional shapes and of surface area and volume for three-dimensional shapes.	8. Use geometric models to solve problems in other areas of mathematics, such as number (multiplication/division) and measurement (area, perimeter, border). Geometry and Spatial Sense (Grade 4)	394A-394B, 394-397, 548A-548B, 548-559, 602A-602B, 602-605, 610A-610B, 610-613
	3. Demonstrate and describe the differences between covering the faces (surface area) and filling the interior (volume) of three-dimensional objects.	602A-602B, 602-605, 610A-610B, 610-613
	4. Demonstrate understanding of the differences among linear units, square units and cubic units.	548A-548B, 548-559, 602A-602B, 602-605, 610A-610B, 610-613

Measurement Standard	Indicators	Scott Foresman – Addison Wesley Mathematics
	<i>Note: There are instances when a grade-level indicator for one standard is linked to a benchmark for a different standard. See correlation for Patterns, Functions and Algebra (page 12) for indicator 6.</i>	108A-108B, 108-109, 700A-700B, 700-701, 702A-702B, 702-705

Geometry and Spatial Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Identify and label angle parts and the regions defined within the plane where the angle resides.	2. Use standard language to describe line, segment, ray, angle, skew, parallel and perpendicular.	328A-328B, 328-331, 332A-332B, 332-335, 336A-336B, 336-337
	3. Label vertex, rays, interior and exterior for an angle.	332A-332B, 332-335
B. Draw circles, and identify and determine the relationships among the radius, diameter, center and circumference.	1. Draw circles, and identify and determine relationships among the radius, diameter, center and circumference; e.g., radius is half the diameter, the ratio of the circumference of a circle to its diameter is an approximation of π .	336A-336B, 336-337
C. Specify locations and plot ordered pairs on a coordinate plane.	6. Extend understanding of coordinate system to include points whose x or y values may be negative numbers.	724A-724B, 724-727
D. Identify, describe and classify types of line pairs, angles, two-dimensional figures and three-dimensional objects using their properties.	1. Use standard language to describe line, segment, ray, angle, skew, parallel and perpendicular.	328A-328B, 328-331, 332A-332B, 332-335, 336A-336B, 336-337
	5. Use physical models to determine the sum of the interior angles of triangles and quadrilaterals.	342A-342B, 342-345, 346A-346B, 346-349

Geometry and Spatial Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
	6. Understand that the measure of an angle is determined by the degree of rotation of an angle side rather than the length of either side.	332A-332B, 332-335
E. Use proportions to express relationships among corresponding parts of similar figures.		662A-662B, 662-663
F. Describe and use the concepts of congruence, similarity and symmetry to solve problems.	4. Describe and use properties of congruent figures to solve problems.	360A-360B, 360-363
G. Describe and use properties of triangles to solve problems involving angle measures and side lengths of right triangles.	5. Use physical models to determine the sum of the interior angles of triangles and quadrilaterals.	342A-342B, 342-345, 346A-346B, 346-349
H. Predict and describe results (size, position, orientation) of transformations of two-dimensional figures.		364A-364B, 364-367
I. Identify and draw three-dimensional objects from different views (top, side, front and perspective).	8. Predict what three-dimensional object will result from folding a two-dimensional net, then confirm the prediction by folding the net.	598A-598B, 598-599
J. Apply properties of equality and proportionality to solve problems involving congruent or similar figures; e.g., create a scale drawing.	4. Describe and use properties of congruent figures to solve problems.	360A-360B, 360-363

Patterns, Functions and Algebra	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Describe, extend and determine the rule for patterns and relationships occurring in numeric patterns, computation, geometry, graphs and other applications.	1. Justify a general rule for a pattern or a function by using physical materials, visual representations, words, tables or graphs.	14A-14B, 14-17, 66A-66B, 66-67, 84A-84B, 84-85, 106A-106B, 106-107, 136A-136B, 136-137, 728A-728B, 728-729
	2. Use calculators or computers to develop patterns, and generalize them using tables and graphs.	106A-106B, 106-107, 728A-728B, 728-729
B. Represent, analyze and generalize a variety of patterns and functions with tables, graphs, words and symbolic rules.	3. Use variables as unknown quantities in general rules when describing patterns and other relationships.	14A-14B, 14-17, 66A-66B, 66-67, 84A-84B, 84-85, 106A-106B, 106-107, 136A-136B, 136-137, 728A-728B, 728-729
C. Use variables to create and solve equations and inequalities representing problem situations.	4. Create and interpret the meaning of equations and inequalities representing problem situations.	108A-108B, 108-109, 700A-700B, 700-701, 702A-702B, 702-705
D. Use symbolic algebra to represent and explain mathematical relationships.		100A-100B, 100-103, 104A-104B, 104-105, 108A-108B, 108-109, 700A-700B, 700-701, 702A-702B, 702-705
E. Use rules and variables to describe patterns, functions and other relationships.	3. Use variables as unknown quantities in general rules when describing patterns and other relationships.	100A-100B, 100-103, 104A-104B, 104-105, 108A-108B, 108-109, 700A-700B, 700-701, 702A-702B, 702-705
F. Use representations, such as tables, graphs and equations, to model situations and to solve problems, especially those that involve linear relationships.	5. Model problems with physical materials and visual representations, and use models, graphs and tables to draw conclusions and make predictions.	262A-262B, 262-265, 266A-266B, 266-269, 270A-270B, 270-275, 286A-286B, 286-287, 548A-548B, 548-549, 550A-550B, 550-551, 552A-552B, 552-553, 554A-554B, 554-557
G. Write, simplify and evaluate algebraic expressions.	3. Use variables as unknown quantities in general rules when describing patterns and other relationships.	100A-100B, 100-103, 104A-104B, 104-105, 108A-108B, 108-109, 700A-700B, 700-701, 702A-702B, 702-705

Data Analysis & Probability	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Read, create and use line graphs, histograms, circle graphs, box-and-whisker plots, stem-and-leaf plots, and other representations when appropriate.	1. Read, construct and interpret frequency tables, circle graphs and line graphs.	266A-266B, 266-269, 270A-270B, 270-275, 286A-286B, 286-287
B. Interpret data by looking for patterns and relationships, draw and justify conclusions, and answer related questions.		262A-262B, 262-265, 266A-266B, 266-269, 270A-270B, 270-275, 286A-286B, 286-287
C. Evaluate interpretations and conclusions as additional data are collected, modify conclusions and predictions, and justify new findings.	5. Modify initial conclusions, propose and justify new interpretations and predictions as additional data are collected.	260A-260B, 260-261
D. Compare increasingly complex displays of data, such as multiple sets of data on the same graph.	3. Read and interpret increasingly complex displays of data, such as double bar graphs.	262A-262B, 262-265, 266A-266B, 266-269, 270A-270B, 270-275, 286A-286B, 286-287
E. Collect, organize, display, and interpret data for a specific purpose or need.	2. Select and use a graph that is appropriate for the type of data to be displayed; e.g., numerical vs. categorical data, discrete vs. continuous data.	288A-288B, 288-291
	4. Determine appropriate data to be collected to answer questions posed by students or teacher, collect and display data, and clearly communicate findings.	260A-260B, 260-261
F. Determine and use the range, mean, median and mode to analyze and compare data, and explain what each indicates about the data.	6. Determine and use the range, mean, median and mode, and explain what each does and does not indicate about the set of data.	282A-282B, 282-285

Data Analysis & Probability	Indicators	Scott Foresman – Addison Wesley Mathematics
G. Evaluate conjectures and predictions based upon data presented in tables and graphs, and identify misuses of statistical data and displays.		296A-296B, 296-299
H. Find all possible outcomes of simple experiments or problem situations, using methods such as lists, arrays and tree diagrams.	7. List and explain all possible outcomes in a given situation.	300A-300B, 300-301
I. Describe the probability of an event using ratios, including fractional notation.	8. Identify the probability of events within a simple experiment, such as three chances out of eight.	302A-302B, 302-305
	9. Use 0,1 and ratios between 0 and 1 to represent the probability of outcomes for an event, and associate the ratio with the likelihood of the outcome.	302A-302B, 302-305
J. Compare experimental and theoretical results for a variety of simple experiments.	10. Compare what should happen (theoretical/expected results) with what did happen (experimental/actual results) in a simple experiment.	300A-300B, 300-301, 302A-302B, 302-305
K. Make and justify predictions based on experimental and theoretical probabilities.	11. Make predictions based on experimental and theoretical probabilities.	296A-296B, 296-299, 302A-302B, 302-305

**Scott Foresman – Addison Wesley Mathematics
Cincinnati Pacing Guide
Grade Six**

Number, Number Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Represent and compare numbers less than 0 through familiar applications and extending the number line.		78A-78B, 78-79
B. Compare, order and convert among fractions, decimals and percents.		172A-172B, 172-175, 176A-176B, 176-179, 358A-358B, 358-361
C. Develop meaning for percents including percents greater than 100 and less than 1.	4. Describe what it means to find a specific percent of a number, using real-life examples.	366A-366B, 366-367, 370A-370B, 370-373
	5. Use models and pictures to relate concepts of ratio, proportion and percent, including percents less than 1 and greater than 100.	300A-300B, 300-301, 316A-316B, 316-317, 354A-354B, 354-357
D. Use models and pictures to relate concepts of ratio, proportion and percent.	3. Explain why a number is referred to as being “rational,” and recognize that the expression $\frac{a}{b}$ can mean a parts of size b each, a divided by b , or the ratio of a to b .	412A-412B, 412-413
	5. Use models and pictures to relate concepts of ratio, proportion and percent, including percents less than 1 and greater than 100.	300A-300B, 300-301, 316A-316B, 316-317, 354A-354B, 354-357

Number, Number Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
	9. Give examples of how ratios are used to represent comparisons; e.g., part-to-part, part-to-whole, whole-to-part.	300A-300B, 300-301, 302A-302B, 302-305, 306A-306B, 306-309
E. Use order of operations, including use of parenthesis and exponents to solve multi-step problems, and verify and interpret the results.	6. Use the order of operations, including the use of exponents, decimals and rational numbers, to simplify numerical expressions.	24A-24B, 24-27
F. Apply number system properties when performing computations.		412A-412B, 412-413
G. Apply and explain the use of prime factorizations, common factors, and common multiples in problem situations.	1. Decompose and recompose whole numbers using factors and exponents (e.g., $32 = 2 \times 2 \times 2 \times 2 \times 2 = 2^5$), and explain why “squared” means “second power” and “cubed” means “third power.”	142A-142B, 142-145, 146A-146B, 146-149
	2. Find and use the prime factorization of composite numbers. For example:	150A-150B, 150-151, 152A-152B, 152-155
	a. Use the prime factorization to recognize the greatest common factor (GCF).	150A-150B, 150-151
	b. Use the prime factorization to recognize the least common multiple (LCM).	152A-152B, 152-155
	c. Apply the prime factorization to solve problems and explain solutions.	150A-150B, 150-151, 152A-152B, 152-155
H. Use and analyze the steps in standard and non-standard algorithms for computing with fractions, decimals and integers.	8. Represent multiplication and division situations involving fractions and decimals with models and visual representations; e.g., show with pattern blocks what it means to take	90A-90B, 90-93, 94A-94B, 94-97, 100A-100B, 100-103, 248A-248B, 248-251, 252A-252B, 252-255, 256A-256B, 256-257, 258A-258B, 258-259, 266A-266B, 266-269, 270A-270B, 270-271

Number, Number Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
	12. Develop and analyze algorithms for computing with fractions and decimals, and demonstrate fluency in their use.	86A-86B, 86-89, 204A-204B, 204-205, 206A-206B, 206-209, 218A-218B, 218-219, 220A-220B, 220-223, 90A-90B, 90-93, 94A-94B, 94-97, 100A-100B, 100-103, 248A-248B, 248-251, 252A-252B, 252-255, 256A-256B, 256-257, 258A-258B, 258-259, 266A-266B, 266-269, 270A-270B, 270-271
I. Use a variety of strategies, including proportional reasoning, to estimate, compute, solve and explain solutions to problems involving integers, fractions, decimals and percents.	7. Use simple expressions involving integers to represent and solve problems; e.g., if a running back loses 15 yards on the first carry but gains 8 yards on the second carry, what is the net gain/loss?	418A-418B, 418-421, 422A-422B, 422-425, 426A-426B, 426-427, 428A-428B, 428-429
	11. Perform fraction and decimal computations and justify their solutions; e.g., using manipulatives, diagrams, mathematical reasoning.	86A-86B, 86-89, 204A-204B, 204-205, 206A-206B, 206-209, 218A-218B, 218-219, 220A-220B, 220-223, 90A-90B, 90-93, 94A-94B, 94-97, 100A-100B, 100-103, 248A-248B, 248-251, 252A-252B, 252-255, 256A-256B, 256-257, 258A-258B, 258-259, 266A-266B, 266-269, 270A-270B, 270-271
	13. Estimate reasonable solutions to problem situations involving fractions and decimals; e.g., $4.23 \times 5.8 = 25$ $7/8 + 12/13 = 2$	82A-82B, 82-83, 216A-216B, 216-217

Number, Number Sense	Indicators	Scott Foresman – Addison Wesley Mathematics
	14. Use proportional reasoning, ratios and percents to represent problem situations and determine the reasonableness of solutions.	300A-300B, 300-301, 302A-302B, 302-305, 316A-316B, 316-317, 318A-318B, 318-321, 322A-322B, 322-323, 354A-354B, 354-357, 370A-370B, 370-373, 380A-380B, 380-383, 384A-384B, 384-385, 386A-386B, 386-387
	15. Determine the percent of a number and solve related problems; e.g., find the percent markdown if the original price was \$140, and the sale price is \$100.	370-373, 380A-380B, 380-383, 384A-384B, 384-385, 386A-386B, 386-387
	<i>Note: There are instances where a grade-level indicator is linked to a benchmark for a grade band that does not include the grade level of the indicator. See Grade 8 for indicator 10.</i>	Not applicable

Measurement	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Select appropriate units to measure angles, circumference, surface area, mass and volume, using:		476A-476B, 476-479, 502A-502B, 502-503, 590A-590B, 590-593, 594A-594B, 594-597
<input type="checkbox"/> U.S. customary units; e.g., degrees, square feet, pounds, and other units as appropriate;		542A-542B, 542-544
<input type="checkbox"/> Metric units; e.g., square meters, kilograms and other units as appropriate.		546A-546B, 546-549

Measurement	Indicators	Scott Foresman – Addison Wesley Mathematics
B. Convert units of length, area, volume, mass and time within the same measurement system.		542A-542B, 542-544, 546A-546B, 546-549, 552A-552B, 552-553
C. Identify appropriate tools and apply appropriate techniques for measuring angles, perimeter or circumference and area of triangles, quadrilaterals, circles, and composite shapes, and surface area and volume of prisms and cylinders.	2. Use strategies to develop formulas for finding circumference and area of circles, and to determine the area of sectors; e.g., 1/3 circle, 1/2 circle, 1/4 circle, 2/3 circle	576A-576B, 576-579, 580A-580B, 580-581
	3. Estimate perimeter or circumference and area for circles, triangles and quadrilaterals, and surface area and volume for prisms and cylinders by:	576A-576B, 576-579, 580A-580B, 580-581, 564A-564B, 564-567, 568A-568B, 568-569, 572A-572B, 572-575
	b. measuring attributes (diameter, side lengths, or heights) and using established formulas for circles, triangles, rectangles, parallelograms and rectangular prisms.	576A-576B, 576-579, 580A-580B, 580-581, 564A-564B, 564-567, 568A-568B, 568-569, 572A-572B, 572-575, 590A-590B, 590-593, 594A-594B, 594-597
	<i>Note: There are instances when a grade-level indicator for one standard is linked to a benchmark for a different standard. See also correlation for Patterns, Functions and Algebra (page 12) for indicator 2.</i>	444A-444B, 444-447, 448A-448B, 448-449
D. Select a tool and measure accurately to a specified level of precision.		550A-550B, 550-551

Measurement	Indicators	Scott Foresman – Addison Wesley Mathematics
E. Use problem solving techniques and technology as needed to solve problems involving length, weight, perimeter, area, volume, time and temperature.	4. Determine which measure (perimeter, area, surface area, volume) matches the context for a problem situation; e.g., perimeter is the context for fencing a garden, surface area is the context for painting a room.	564A-564B, 564-567, 568A-568B, 568-569, 572A-572B, 572-575, 590A-590B, 590-593, 594A-594B, 594-597
F. Analyze and explain what happens to area and perimeter or surface area and volume when the dimensions of an object are changed.	1. Understand and describe the difference between surface area and volume.	590A-590B, 590-593, 594A-594B, 594-597
	6. Describe what happens to the perimeter and area of a two-dimensional shape when the measurements of the shape are changed; e.g. length of sides are doubled.	570A-570B, 570-571
G. Understand and demonstrate the independence of perimeter and area for two-dimensional shapes and of surface area and volume for three-dimensional shapes.	1. Understand and describe the difference between surface area and volume.	590A-590B, 590-593, 594A-594B, 594-597
	5. Understand the difference between perimeter and area, and demonstrate that two shapes may have the same perimeter, but different areas or may have the same area, but different perimeters.	564A-564B, 564-567, 568A-568B, 568-569, 572A-572B, 572-575

Geometry	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Identify and label angle parts and the regions defined within the plane where the angle resides.		476A-476B, 476-479
B. Draw circles, and identify and determine the relationships among the radius, diameter, center and circumference.		502A-502B, 502-503
C. Specify locations and plot ordered pairs on a coordinate plane.		440A-440B, 440-443, 448A-448B, 448-449
D. Identify, describe and classify types of line pairs, angles, two-dimensional figures and three-dimensional objects using their properties.	1. Classify and describe two-dimensional and three-dimensional geometric figures and objects by using their properties; e.g., interior angle measures, perpendicular/parallel sides, congruent angles/sides.	494A-494B, 494-495, 496A-496B, 496-499, 500A-500B, 500-501, 502A-502B, 502-503, 586A-586B, 586-589
	2. Use standard language to define geometric vocabulary: vertex, face, altitude, diagonal, isosceles, equilateral, acute, obtuse, etc.	472A-472B, 472-475, 494A-494B, 494-495, 496A-496B, 496-499, 500A-500B, 500-501, 502A-502B, 502-503, 586A-586B, 586-589
	4. Identify and define relationships between planes; i.e., parallel, perpendicular and intersecting.	472A-472B, 472-475
E. Use proportions to express relationships among corresponding parts of similar figures.		328A-328B, 328-329, 330A-330B, 330-333

Geometry	Indicators	Scott Foresman – Addison Wesley Mathematics
F. Describe and use the concepts of congruence, similarity and symmetry to solve problems.	6. Draw similar figures that model proportional relationships; e.g., model similar figures with a 1 to 2 relationship by sketching two of the same figure, one with corresponding sides twice the length of the other.	330A-330B, 330-333
G. Describe and use properties of triangles to solve problems involving angle measures and side lengths of right triangles.	3. Use multiple classification criteria to classify triangles; e.g., right scalene triangle.	496A-496B, 496-499, 572A-572B, 572-575
H. Predict and describe results (size, position, orientation) of transformations of two-dimensional figures.	5. Predict and describe sizes, positions and orientations of two-dimensional shapes after transformations such as reflections, rotations, translations and dilations.	510A-510B, 510-511, 516A-516B, 516-519
I. Identify and draw three-dimensional objects from different views (top, side, front and perspective).	7. Build three-dimensional objects built with cubes and sketch the two-dimensional representations of each side; i.e., projection sets.	586A-586B, 586-589
J. Apply properties of equality and proportionality to solve problems involving congruent or similar figures; e.g., create a scale drawing.	4. Draw similar figures that model proportional relationships; e.g., model similar figures with a 1 to 2 relationship by sketching two of the same figure, one with corresponding sides twice the length of the other.	330A-330B, 330-333

Patterns, Functions and Algebra	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Describe, extend and determine the rule for patterns and relationships occurring in numeric patterns, computation, geometry, graphs and other applications.	1. Represent and analyze patterns, rules and functions, using physical materials, tables and graphs.	212A-212B, 212-213, 444A-444B, 444-447
	2. Use words and symbols to describe numerical and geometric patterns, rules and functions.	444A-444B, 444-447, 448A-448B, 448-449
B. Represent, analyze and generalize a variety of patterns and functions with tables, graphs, words and symbolic rules.		212A-212B, 212-213, 444A-444B, 444-447, 448A-448B, 448-449
C. Use variables to create and solve equations and inequalities representing problem situations.	5. Produce and interpret graphs that represent the relationship between two variables.	448A-448B, 448-449
	6. Evaluate simple expressions by replacing variables with given values, and use formulas in problem-solving situations.	40A-40B, 40-43
D. Use symbolic algebra to represent and explain mathematical relationships.	3. Recognize and generate equivalent forms of algebraic expressions, and explain how the commutative, associative and distributive properties can be used to generate equivalent forms; e.g., perimeter as $2(1 + w)$ or $21 + 2w$.	40A-40B, 40-43
E. Use rules and variables to describe patterns, functions and other relationships.	2. Use words and symbols to describe numerical and geometric patterns, rules and functions.	444A-444B, 444-447, 448A-448B, 448-449

Patterns, Functions and Algebra	Indicators	Scott Foresman – Addison Wesley Mathematics
F. Use representations, such as tables, graphs and equations, to model situations and to solve problems, especially those that involve linear relationships.		628A-628B, 628-631, 632A-632B, 632-633, 636A-636B, 636-637, 638A-638B, 638-641, 642A-642B, 642-647, 650A-650B, 650-651, 69A-698B, 698-699, 718A-718B, 718-721
G. Write, simplify and evaluate algebraic expressions.	6. Evaluate simple expressions by replacing variables with given values, and use formulas in problem-solving situations.	40A-40B, 40-43
H. Solve linear equations and inequalities symbolically, graphically and numerically.	4. Solve simple linear equations and inequalities using physical models, paper and pencil, tables and graphs.	48A-48B, 48-51, 112A-112B, 112-115, 276A-276B, 276-277, 430A-430B, 430-433, 700A-700B, 700-703, 712A-712B, 712-715
I. Explain how inverse operations are used to solve linear equations.		48A-48B, 48-51, 112A-112B, 112-115, 276A-276B, 276-277, 430A-430B, 430-433
J. Use formulas in problem-solving situations.	2. Use strategies to develop formulas for finding circumference and area of circles, and to determine the area of sectors; e.g.	572A-572B, 572-575, 576A-576B, 576-579
	6. Evaluate simple expressions by replacing variables with given values, and use formulas in problem-solving situations. 2/3 circle 1/2 circle, 1/3 circle, 1/4 circle	40A-40B, 40-43
K. Graph linear equations and inequalities.	4. Solve simple linear equations and inequalities using physical models, paper and pencil, tables and graphs.	48A-48B, 48-51, 112A-112B, 112-115, 276A-276B, 276-277, 430A-430B, 430-433, 700A-700B, 700-703, 712A-712B, 712-715

Patterns, Functions and Algebra	Indicators	Scott Foresman – Addison Wesley Mathematics
	5. Produce and interpret graphs that represent the relationship between two variables.	448A-448B, 448-449
L. Analyze functional relationships, and explain how a change in one quantity results in a change in the other.	7. Identify and describe situations with constant or varying rates of change, and compare them.	444A-444B, 444-447, 448A-448B, 448-449
M. Approximate and interpret rates of change from graphical and numerical data.	8. Use technology to analyze change; e.g., use computer applications or graphing calculators to display and interpret rate of change.	448A-448B, 448-449

Data Analysis & Probability	Indicators	Scott Foresman – Addison Wesley Mathematics
A. Read, create and use line graphs, histograms, circle graphs, box-and-whisker plots, stem-and-leaf plots, and other representations when appropriate.	1. Read, construct and interpret line graphs, circle graphs and histograms.	628A-628B, 628-631, 632A-632B, 632-633, 636A-636B, 636-637, 638A-638B, 638-641
B. Interpret data by looking for patterns and relationships, draw and justify conclusions, and answer related questions.	5. Describe the frequency distribution of a set of data, as shown in a histogram or frequency table, by general appearance or shape; e.g., number of modes, middle of data and level of symmetry, outliers.	628A-628B, 628-631
C. Evaluate interpretations and conclusions as additional data are collected, modify conclusions and predictions, and justify new findings.		636A-636B, 636-637, 638A-638B, 638-641, 642A-642B, 642-647

Data Analysis & Probability	Indicators	Scott Foresman – Addison Wesley Mathematics
D. Compare increasingly complex displays of data, such as multiple sets of data on the same graph.	3. Compare representations of the same data in different types of graphs, such as a bar graph and circle graph.	650A-650B, 650-651
E. Collect, organize, display, and interpret data for a specific purpose or need.	2. Select, create and use graphical representations that are appropriate for the type of data collected.	648A-648B, 648-649
F. Determine and use the range, mean, median and mode to analyze and compare data, and explain what each indicates about the data.	4. Understand the different information provided by measures of center (mean, mode and median) and measures of spread (range).	624A-624B, 624-627
G. Evaluate conjectures and predictions based upon data presented in tables and graphs, and identify misuses of statistical data and displays.	6. Make logical inferences from statistical data.	636A-636B, 636-637, 638A-638B, 638-641, 642A-642B, 642-647
H. Find all possible outcomes of simple experiments or problem situations, using methods such as lists, arrays and tree diagrams.		654A-654B, 654-657, 658A-658B, 658-661
I. Describe the probability of an event using ratios, including fractional notation.		662A-662B, 662-663, 664A-664B, 664-667
J. Compare experimental and theoretical results for a variety of simple experiments.		662A-662B, 662-663, 664A-664B, 664-667
K. Make and justify predictions based on experimental and theoretical probabilities.	7. Design an experiment to test a theoretical probability and explain how the results may vary.	664A-664B, 664-667