

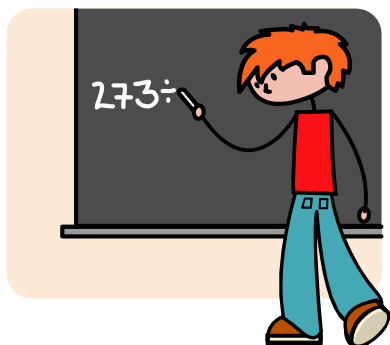


# Grade 4

## Scope and Sequence

**West Springfield Public Schools**

**Pacing Guide for Scott Foresman 2004  
Textbook Edition & Groundworks  
aligned with the  
Massachusetts Mathematics Framework**



## Grade 4 Mathematics Scope and Sequence

To: Mathematics Educators

The purpose of this guide is to help you focus your math planning and instruction. It includes instructional block guidelines, grade level standards, and a monthly scope and sequence. The scope and sequence is an outline of mathematical topics to be covered on a monthly basis.

Each monthly guideline is divided into three parts; Math Content, Computational Focus, and Algebra Focus. Every month you will be working on all three areas with your students. Using it for pacing will allow you to ensure that all standards from the Massachusetts Mathematics Framework are taught. It will also allow more time for instruction as some lessons from the Scott Foresman Math Series are not included in this guide. It is important to note that lessons have been omitted because they do not directly address grade 4 standards from the Framework. Consequently, supplemental materials may need to be modified in order to align with the Scope and Sequence and the Framework.

You will also notice that the order of some of the lessons has been changed. This is an attempt to guide you through the series so that all standards are taught before the Massachusetts Comprehensive Assessment System is administered. Our students will be tested based on the skills and concepts presented in this scope and sequence. The Scott Foresman 2004 Math Series and Groundworks, "Big Ideas of Algebra" are the resources referenced in this guide. **GW** is a reference for the Groundworks math series that has been purchased to enhance the curriculum. Where it is referenced in the notes/modifications it is suggested for use in addition to Scott Foresman textbook. Where it is referenced as a lesson (under Algebra Focus) is must be considered as a replacement lesson. If you would like to utilize other resources such as "Investigations," which have proven to be successful, feel free to use those resources. Please remember that we are teaching the Massachusetts standards and not the textbook itself.

Please do not hesitate to contact me or Math Committee Members who are always willing to be of assistance to you also with your ideas, questions, concerns, and feedback. You are a very important source of information to us. Thanks for all of the hard work that you do every day for our students' success and have a rewarding year of mathematics instruction!

Sincerely,  
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### Committee to Create Grade 4 Scope and Sequence

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## **Mathematics Instructional Block Guidelines**

**Based on a 60 - 90 minute block of instructions, each lesson should include the following four components:**

### **1. Teacher Guided Instruction (15 -20 Minutes)**

During this time, the teacher is instructing around a clearly stated mastery objective. The purpose is to inform students of a targeted learning outcome(s).

Could include:

- A quick review of or connection to previous learning
- Modeling the use of manipulatives
- Activator to assess prior knowledge
- Introducing a new concept/problem/ investigation

### **2. Guided Practice (30-45 Minutes)**

During this time, students are actively engaged in practice related to the mastery objective. The teacher is circulating and checking for student understanding; redirecting and reinforcing as needed. The purpose is to engage students in active learning, practice, and problem solving around the targeted learning outcome.

Could include:

- Use of manipulatives
- Problem solving/Investigations
- Inquiry based lesson

### **3. Group Processing (15-20 Minutes)**

During this time, the teacher and students are communicating about their practice. The purpose is to review, reinforce, and summarize the targeted learning outcome.

Could include:

- Sharing/Explaining strategies
- Student or group presentations
- Questions
- Making connections to targeted learning outcomes

### **4. Assessment (5-10 Minutes)**

During this time, students are working independently to determine the student's grasp of the mastery objective.

Could include:

- Journal entry
- Practice problems(s)
- Open-response question

**\* Any additional time spent in the area of mathematics should include centers, hands-on manipulative based math program, differentiated instruction, problem of the day, computational fluency, open respond journal writing, additional investigations, math games etc.**

## Number Sense and Operations

### Grades 3–4

Learning Standards	Selected Problems or Classroom Activities
<p><i>Students engage in problem solving, communicating, reasoning, connecting, and representing as they:</i></p> <p>4.N.1 Exhibit an understanding of the base ten number system by reading, modeling, writing, and interpreting whole numbers to at least 100,000; demonstrating an understanding of the values of the digits; and comparing and ordering the numbers. +</p> <p>4.N.2 Represent, order, and compare large numbers (to at least 100,000) using various forms, including expanded notation, e.g., <math>853 = 8 \times 100 + 5 \times 10 + 3</math>. +</p> <p>4.N.3 Demonstrate an understanding of fractions as parts of unit wholes, as parts of a collection, and as locations on the number line. +</p> <p>4.N.4 Select, use, and explain models to relate common fractions and mixed numbers (<math>1/2</math>, <math>1/3</math>, <math>1/4</math>, <math>1/5</math>, <math>1/6</math>, <math>1/8</math>, <math>1/10</math>, <math>1/12</math>, and <math>1\frac{1}{2}</math>), find equivalent fractions, mixed numbers, and decimals, and order fractions. +</p> <p>4.N.5 Identify and generate equivalent forms of common decimals and fractions less than one whole (halves, quarters, fifths, and tenths). +</p> <p>4.N.6 Exhibit an understanding of the base ten number system by reading, naming, and writing decimals between 0 and 1 up to the hundredths. +</p> <p>4.N.7 Recognize classes (in particular, odds, evens; factors or multiples of a given number; and squares) to which a number may belong, and identify the numbers in those classes. Use these in the solution of problems. +</p> <p>4.N.8 Select, use, and explain various meanings and models of multiplication and division of whole numbers. Understand and use the inverse relationship between the two operations. ●</p> <p>4.N.9 Select, use, and explain the commutative, associative, and identity properties of operations on whole numbers in problem situations, e.g., <math>37 \times 46 = 46 \times 37</math>, <math>(5 \times 7) \times 2 = 5 \times (7 \times 2)</math>. ●</p> <p>4.N.10 Select and use appropriate operations (addition, subtraction, multiplication, and division) to solve problems, including those involving money. ●</p> <p>4.N.11 Know multiplication facts through <math>12 \times 12</math> and related division facts. Use these facts to solve related multiplication problems and compute related problems, e.g., <math>3 \times 5</math> is related to <math>30 \times 50</math>, <math>300 \times 5</math>, and <math>30 \times 500</math>. ▲</p> <p>4.N.12* Add and subtract (up to five-digit numbers) and multiply (up to three digits by two digits) accurately and efficiently. ▲</p>	<p>See page 18 for sample problems.</p>

\* Although this standard is appropriate as stated for this grade span, the state assessment program at the 3–4 grade span will test multiplication of only up to two digits by two digits at the present time.  
retyped mb 2/07

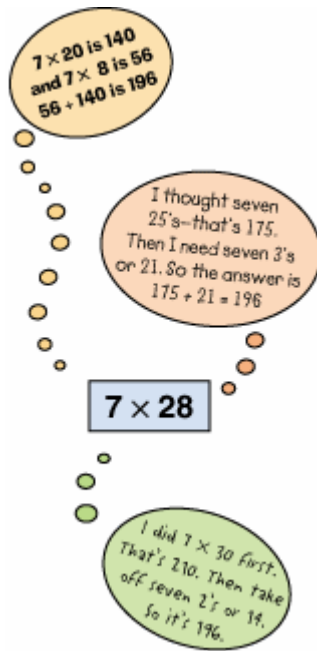
## Number Sense and Operations

<b>Learning Standards (Grades 3–4 continued)</b>	<b>Selected Problems or Classroom Activities</b>
<p>4.N.13 Divide up to a three-digit whole number with a single-digit divisor (with or without remainders) accurately and efficiently. Interpret any remainders. ▲</p> <p>4.N.14 Demonstrate in the classroom an understanding of and the ability to use the conventional algorithms for addition and subtraction (up to five-digit numbers), and multiplication (up to three digits by two digits). ▲</p> <p>4.N.15 Demonstrate in the classroom an understanding of and the ability to use the conventional algorithm for division of up to a three-digit whole number with a single-digit divisor (with or without remainders). ▲</p> <p>4.N.16 Round whole numbers through 100,000 to the nearest 10, 100, 1000, 10,000, and 100,000. ▲</p> <p>4.N.17 Select and use a variety of strategies (e.g., front-end, rounding, and regrouping) to estimate quantities, measures, and the results of whole-number computations up to three-digit whole numbers and amounts of money to \$1000, and to judge the reasonableness of the answer. ▲</p> <p>4.N.18 Use concrete objects and visual models to add and subtract common fractions. ▲</p>	

### Exploratory Concepts and Skills

- ✓ Extend multiplication and division to larger-digit numbers.
- ✓ Use models to explore multiplication and division with fractions (to twelfths) and decimals.
- ✓ Investigate number theory concepts, e.g., prime and composite numbers.
- ✓ Investigate the concept of ratio, e.g., the number of students to the number of teachers.
- ✓ Use concrete objects and visual models to add and subtract common decimals.
- ✓ Explore numbers less than zero by extending the number line and by using familiar applications such as temperature.
- ✓ Use concrete objects and visual models to add and subtract common decimals.
- ✓ Investigate the distributive property of multiplication over addition for single-digit multipliers, e.g.,  $7 \times 28$  is equivalent to  $7 \times (10 + 5)$  is equivalent to  $7 \times 10 + 7 \times 5$ .

Refers to standards 4.N.8 and 4.N.10†



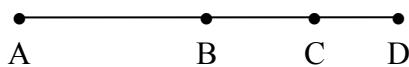
Refers to standards 4.N.10, 4.N.12, 4.N.16, and 4.N.17

- Hat - \$4.52
- Socks - \$1.99
- Sweater - \$9.41
- Scarf - \$3.95

You have \$20.  
Estimate to find out if you have enough to buy all four items.  
Explain how you made your estimate.

Refers to standards 4.N.10 and 4.N.12

- A to D is 16 miles.
- A to B is 7 miles.
- B to C is 6 miles.
- C to D is \_\_\_\_ miles.



Patterns, Relations, and Algebra

Grades 3 - 4

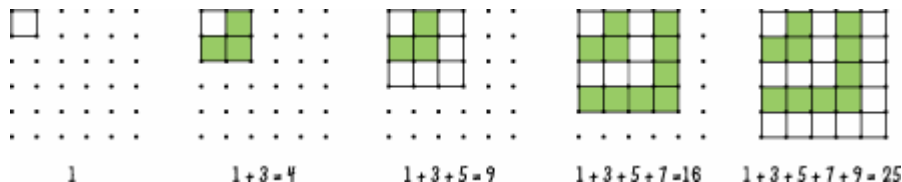
Learning Standards	Selected Problems or Classroom Activities
<p><i>Students engage in problem solving, communicating, reasoning, connecting, and representing as they:</i></p> <p>4.P.1 Create, describe, extend, and explain symbolic (geometric) and numeric patterns, including multiplication patterns like 3, 30, 300, 3000, .... ✦</p> <p>4.P.2 Use symbol and letter variables (e.g., <math>\Delta</math>, <math>x</math>) to represent unknowns or quantities that vary in expressions and in equations or inequalities (mathematical sentences that use =, &lt;, &gt;). ●</p> <p>4.P.3 Determine values of variables in simple equations, e.g., <math>4106 - \nabla = 37</math>, <math>5 = \bigcirc + 3</math>, and <math>\square - \bigcirc = 3</math>. ●</p> <p>4.P.4 Use pictures, models, tables, charts, graphs, words, number sentences, and mathematical notations to interpret mathematical relationships. ▲</p> <p>4.P.5 Solve problems involving proportional relationships, including unit pricing (e.g., four apples cost 80¢, so one apple costs 20¢) and map interpretation (e.g., one inch represents five miles, so two inches represent ten miles). ▲</p> <p>4.P.6 Determine how change in one variable relates to a change in a second variable, e.g., input-output tables. ■</p>	<p>See below and on the next page for sample problems.</p>

### Exploratory Concepts and Skills

- ✓ Use concrete materials to build an understanding of equality and inequality.
- ✓ Explore properties of equality in number sentences: when equals are added to equals, then the sums are equal; when equals are multiplied by equals, then the products are equal, e.g., if  $\square = 5$ , then  $3 \times \square = 3 \times 5$ .

*Refers to standard 4.P.1†*

Use dot paper to extend the “growing squares” to 64 squares (adapted from Burton et al. 1992, p. 6).



Refers to standards 4.P.1, 4.P.4, and 4.P.6†

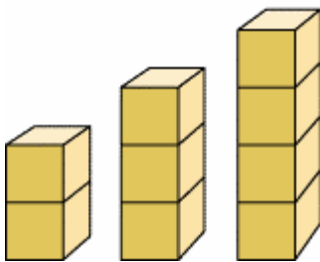
Fill in the missing numbers in the right column of the input/output chart.

Cost of Balloons

Number of Balloons	Cost of Balloons in Cents
1	20
2	40
3	60
4	80
5	?
6	?
7	?

Refers to standards 4.P.1, 4.P.4, and 4.P.6†

How many squares make up the surface of each tower of cubes (including the top and bottom)? As the tower gets taller, how does this number change?



Number of cubes (N)	Number of squares on the surface
1	6
2	10
3	14
4	18

A table used in the “tower of cubes” problem

Refers to standards 4.P.3 and 4.P.4

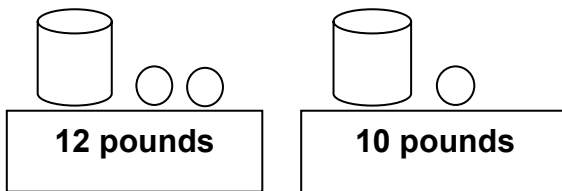
$$\clubsuit + 4\text{¢} = 9\text{¢}$$

$$\clubsuit + \spadesuit = 8\text{¢}$$

$$\clubsuit = \underline{\quad}\text{¢}$$

$$\spadesuit = \underline{\quad}\text{¢}$$

Refers to standards 4.P.3, 4.P.4, and 4.P.5



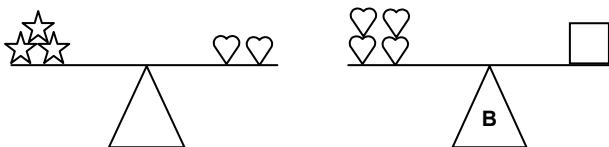
$$\bigcirc = \underline{\quad}\text{ pounds}$$

$$\text{Cylinder} = \underline{\quad}\text{ pounds}$$

How do you know?

Refers to standards 4.P.4 and 4.P.5

Use the picture below to answer the questions.



- How many stars will balance two squares
- How do you know?

## Geometry

### Grades 3–4

Learning Standards	Selected Problems or Classroom Activities
<p><i>Students engage in problem solving, communicating, reasoning, connecting, and representing as they:</i></p> <p>4.G.1 Compare and analyze attributes and other features (e.g., number of sides, faces, corners, right angles, diagonals, and symmetry) of two- and three-dimensional geometric shapes. +</p> <p>4.G.2 Describe, model, draw, compare, and classify two- and three-dimensional shapes, e.g., circles, polygons—especially triangles and quadrilaterals—cubes, spheres, and pyramids. +</p> <p>4.G.3 Recognize similar figures. +</p> <p>4.G.4 Identify angles as acute, right, or obtuse. +</p> <p>4.G.5 Describe and draw intersecting, parallel, and perpendicular lines. +</p> <p>4.G.6 Using ordered pairs of numbers and/or letters, graph, locate, identify points, and describe paths (first quadrant). ●</p> <p>4.G.7 Describe and apply techniques such as reflections (flips), rotations (turns), and translations (slides) for determining if two shapes are congruent. ▲</p> <p>4.G.8 Identify and describe line symmetry in two-dimensional shapes. ▲</p> <p>4.G.9 Predict and validate the results of partitioning, folding, and combining two- and three-dimensional shapes. ▲</p>	See next page for sample problems.

### Exploratory Concepts and Skills

- ✓ Predict and describe results of transformations (e.g., translations, rotations, and reflections) on two-dimensional shapes.
- ✓ Investigate two-dimensional representations of three-dimensional objects.

Refers to standards 4.G.4 and 4.G.5



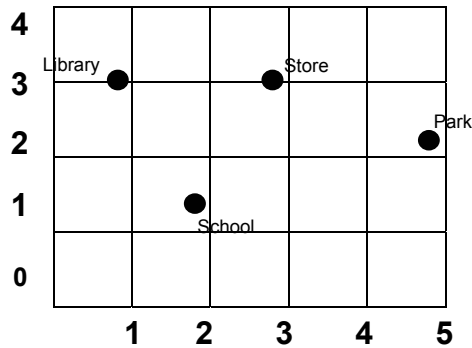
Definitions: Obtuse angle—an angle greater than a right angle; acute angle—an angle less than a right angle.

1. Draw Broadway Street *parallel* to Main Street. Write the name Broadway on this street.
2. Draw Birch Street *perpendicular* to Main Street. Write the name Birch on this street.
3. Draw Walnut Street so that it *intersects* Main Street but is not perpendicular to Main Street. Write the name Walnut on this street.
4. Determine what types of angles are present.

Refers to standard 4.G.6†

Use the map below to answer the following questions.

1. What are the coordinates of the school?
2. Which building is at 3,3? 5,2?
3. Moving along the grid lines, how many blocks is it from the library to the park?



## Measurement

### Grades 3–4

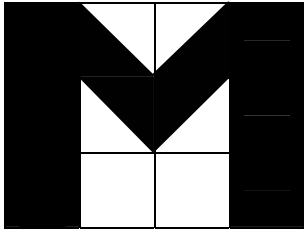
Learning Standards	Selected Problems or Classroom Activities
<p><i>Students engage in problem solving, communicating, reasoning, connecting, and representing as they:</i></p> <p>4.M.1 Demonstrate an understanding of such attributes as length, area, weight, and volume, and select the appropriate type of unit for measuring each attribute. +</p> <p>4.M.2 Carry out simple unit conversions within a system of measurement, e.g., hours to minutes, cents to dollars, yards to feet or inches, etc. +</p> <p>4.M.3 Identify time to the minute on analog and digital clocks using a.m. and p.m. Compute elapsed time using a clock (e.g., hours and minutes since...) and using a calendar (e.g., days since...). ●</p> <p>4.M.4 Estimate and find area and perimeter of a rectangle, triangle, or irregular shape using diagrams, models, and grids or by measuring. ●</p> <p>4.M.5 Identify and use appropriate metric and English units and tools (e.g., ruler, angle ruler, graduated cylinder, thermometer) to estimate, measure, and solve problems involving length, area, volume, weight, time, angle size, and temperature. ●</p>	See next page for sample problems.

### Exploratory Concepts and Skills

- ✓ Develop the concepts of area and perimeter by investigating areas and perimeters of regular and irregular shapes created on dot paper, coordinate grids, or geoboards.
- ✓ Use concrete objects to explore volumes and surface areas of rectangular prisms.
- ✓ Investigate the use of protractors to measure angles.
- ✓ Identify common measurements of turns, e.g.,  $360^\circ$  in one full turn,  $180^\circ$  in a half turn, and  $90^\circ$  in a quarter turn.
- ✓ Investigate areas of right triangles.
- ✓ Understand that measurements are approximations and investigate how differences in units affect precision.

Refers to standards 4.M.1 and 4.M.4

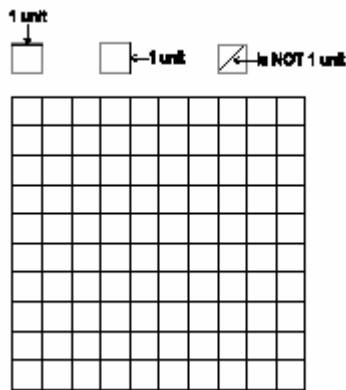
Each  $\square$  is one square centimeter. What is the area of the shaded letter?



Refers to standards 4.M.1 and 4.M.4

The City Park Committee wants to fence in an area of the neighborhood park for young children to use as a playground. It has 12 sections of fence. Each section of fence is one unit long.

1. On a grid (example shown below), draw 4 different closed shapes using all 12 sections of fence.
2. What is the area of each of the shapes? Write the area inside each shape.
3. Decide which shape would be the best one for a playground. Circle your choice. Explain why this is the best shape for a playground.



## Data Analysis, Statistics, and Probability

### Grades 3–4

Learning Standards	Selected Problems or Classroom Activities
<p><i>Students engage in problem solving, communicating, reasoning, connecting, and representing as they:</i></p> <p>4.D.1 Collect and organize data using observations, measurements, surveys, or experiments, and identify appropriate ways to display the data. †</p> <p>4.D.2 Match a representation of a data set such as lists, tables, or graphs (including circle graphs) with the actual set of data. ●</p> <p>4.D.3 Construct, draw conclusions, and make predictions from various representations of data sets, including tables, bar graphs, pictographs, line graphs, line plots, and tallies. ▲</p> <p>4.D.4 Represent the possible outcomes for a simple probability situation, e.g., the probability of drawing a red marble from a bag containing three red marbles and four green marbles. ■</p> <p>4.D.5 List and count the number of possible combinations of objects from three sets, e.g., how many different outfits can one make from a set of three shirts, a set of two skirts, and a set of two hats? ■</p> <p>4.D.6 Classify outcomes as certain, likely, unlikely, or impossible by designing and conducting experiments using concrete objects such as counters, number cubes, spinners, or coins. ■</p>	See next page for sample problems.

### Exploratory Concepts and Skills

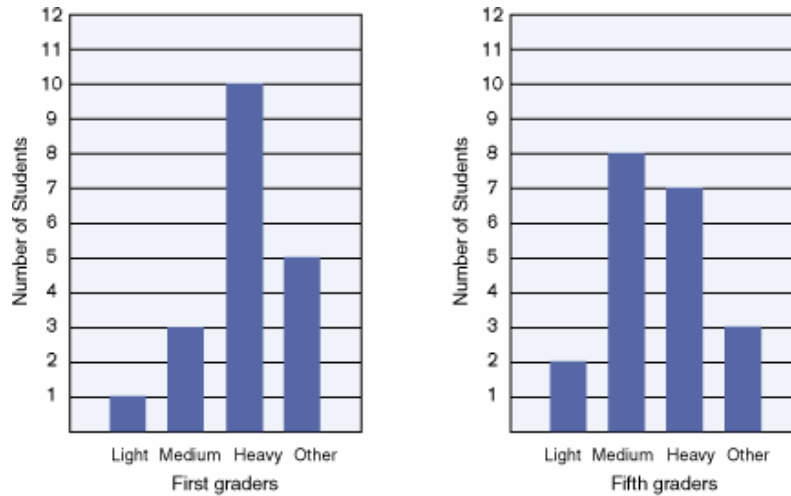
- ✓ Explore the concepts of median, mode, maximum and minimum, and range.
- ✓ Discuss what data-collection methods are appropriate for various types of investigations.
- ✓ Explore situations that involve probabilities of equally likely events.
- ✓ Investigate the construction of simple circle graphs.

*Refers to standards 4.D.1 and 4.D.3†*

During a presidential campaign, various news organizations are publishing polls that try to predict the outcome of the election. Mr. Schmid’s fourth grade class talks about how such polls are conducted. “Is it practical to ask every voter in the United States?” the teacher asks. No, it would not be practical, the children agree. Conner suggests polling all the voters in our small town. Sabina does not think this is a good idea—we live on the East Coast, and perhaps voters on the West Coast have quite different political opinions. The class discusses how they might go about finding an appropriate sample of voters.

*Refers to standards 4.D.1 and 4.D.3†*

Gather data about the sleeping habits of students in at least two different grades in your school. Be sure to define your terms. Develop an appropriate way to display the data and discuss conclusions drawn from it.



Type of Sleeper	
Light	Wakes up to the slightest noise
Medium	Wakes up to louder noises
Heavy	Sleeps through the night without waking up
Other	None of the previous three

(Russell, Schifter, and Bastable 1999)

*Refers to standards 4.D.4 and 4.D.6*

There are two decks of cards.

Deck 1 has only clubs, spades, and diamonds, the same number of each. If you pick one card without looking, is it more likely that you will get a red card or a black card? Explain.

Deck 2 has only clubs and diamonds, the same number of each. If you pick one without looking, is it more likely that you will get a red card or a black card? Explain.

**Grade 4**  
**Scope and Sequence - September**  
**Scott Foresman Math Series**

**Math Concept – Place Value / Number Sense**

<b>Lesson</b>	<b>Content</b>	<b>Standard</b>	<b>Notes/Modifications</b>
1-1	Numbers in the Thousands	4N1, 4N2	
1-2	Understanding Greater Numbers	4N1, 4N2	Mastery through 100,000's
1-3	Place Value Patterns	4N1, 4P1	
1-4	<b>Problem Solving Skill-Read and Understand</b>	4N10	Ongoing P.S. skill
1-5	Ordering and Comparing Numbers	4N1	Mastery through 100,000's only
1-6	Rounding Numbers	4N16	Mastery through 100,000's only
1-7	The size of Numbers	4N1, 4N17	
1-8	<b>Problem Solving Skill-Plan and Solve</b>	4P4, 4D5	Ongoing P.S. skill <b>Math Centers</b> Gr 4-6 Four In A Row p. 121-132
1-9	Using Money to Understand Decimals	Exploratory Skill	<b>Math Centers</b> Gr 4-6 Making Change p. 67-82
1-12	More About Decimals	Exploratory Skill	
1-13	<b>Problem Solving Skill-Look Back and Check</b>	4N10	Ongoing P.S. Skill

**Computational Focus – Addition and Subtraction**

<b>Lesson</b>	<b>Content</b>	<b>Standard</b>	<b>Notes/Modifications</b>
2-1	Mental Math – Adding	4N9, 4N12	
2-2	Mental Math – Subtracting	4N12	
2-3	Estimating Sums and Differences	4N17	
2-4	Overestimates and Underestimates	4N17	
2-5	Adding Whole Numbers and Money	4N12, 4N14	Mastery up to 5 digit numbers only
2-6	Column Addition	4N12, 4N14	
2-7	Subtracting Whole Numbers& Money	4N12, 4N14	See p.234 #2

**Algebra Focus**

**GROUNDWORKS – REASONING WITH NUMBERS BOOK**

<b>Lesson</b>	<b>Content</b>	<b>Standard</b>	<b>Notes/Modifications</b>
Grade 3	<b>Place It Right</b>	4N1, 4N2	p. 8-15
Grade 4	<b>Place It Right</b>	4N1, 4N2	p. 8-15

**GROUNDWORKS – ALGEBRAIC THINKING BOOK**

<b>Lesson</b>	<b>Content</b>	<b>Standard</b>	<b>Notes/Modifications</b>
Grade 3	<b>Back and Forth</b>	4N17	p. 29 and 30 only <b>Math Centers</b> Gr 3-4 Money Match p. 5-2

**Grade 4**  
**Scope and Sequence - October**  
**Scott Foresman Math Series**

**Math Concept & Computational Focus-Multiplication/Number Sense**

<b>Lesson</b>	<b>Content</b>	<b>Standard</b>	<b>Notes/Modifications</b>
3-1	Meaning for Multiplication	4N8	
3-2	Patterns in Multiplying	4N7,4N9,4N11,4P1	
3-3	Unknown Facts	4N8, 4N11	<b>GW Gr.4 Reasoning with Numbers p. 72-79</b>
3-4	Multiply by 10,11, and 12	4N11, 4P1	
3-6	Meaning for Division	4N8	
3-7	Relating Multiplication and Division	4N8	
3-8	Division Facts	4N11	
3-9	Special Quotients	4N11	
3-10	Multiplication and Division Stories	4P4	
3-11	<b>Problem Solving Skill-Multi Step Problems</b>	4N10	Ongoing PS Skill
After Lesson 3-11	Review Basic Facts		<b>Math Centers</b> Gr 3-4 Number Square Puzzler p.53-67

**Algebra Focus**

<b>Lesson</b>	<b>Content</b>	<b>Standard</b>	<b>Notes/Modifications</b>
2-9	<b>Problem Solving Strategy-Look for a Pattern</b>	4P1	Ongoing PS Strategy <b>Math Centers</b> Gr 3-4 Pattern Puzzles p. 171-179
2-10	<b>Problem Solving Skill-Translating Words to Expressions</b>	4P4	Ongoing PS Skill
2-11	Matching Words and Numbers Expressions	4P4, 4N10	
2-12	Evaluating Expressions	4P3,4P6	
2-13	Solving Addition and Subtraction Equations	4P3, 4P4	
3-5	Make a Table	4P1, 4P4, 4P5	
3-12	Write and Evaluate Expressions	4P2	
3-13	Find a Rule	4P1, 4P4, 4P6	<b>Math Centers</b> Gr 3-4 What's My Rule? p. 131-139

**GROUNDWORKS – ALGEBRAIC THINKING BOOK**

<b>Lesson</b>	<b>Content</b>	<b>Standard</b>	<b>Notes/Modifications</b>
Grade 3	<b>Linking Machines</b>	4P1,4P4,4P6	p. 88-95
Grade 4	<b>Function Tables</b>	4P1,4P4,4P6	p. 88-95

*\*Students will also have daily practice explaining their thinking and justifying their answers orally and/or in written form as they engage in problem solving, communicating, connecting, representing, and reasoning in mathematics.*

**Grade 4**  
**Scope and Sequence - November**  
**Scott Foresman Math Series**

**Math Concept-Time**

<b>Lesson</b>	<b>Content</b>	<b>Standard</b>	<b>Notes/Modifications</b>
4-1	Telling Time	4M3, 4N5	Reinforce Fractions and Angles
4-2	Units of Time	4M2, 4M5	
4-3	Elapsed Time	4M3	See p. 234 #1,3; <b>GW Gr. 4 Reasoning w/ Measurement p.16-23.</b> <b>Math Centers Gr 3-4 Time Marches On p. 23-35</b> <b>Math Centers Gr. 4-6 Father Time p. 133-144</b>
4-4	<b>Problem Solving Skill-Writing to Compare</b>	4M5	Ongoing PS Skill

**Computational Focus – Multiplying by One-Digit Numbers**

<b>Lesson</b>	<b>Content</b>	<b>Standard</b>	<b>Notes/Modifications</b>
5-1	Multiples of 10,100, 1000	4N1, 4P1	
5-2	Estimating Products	4N17	
5-3	Mental Math	4N8, 4N12	
5-4	Using Arrays to Multiply	4N8, 4N12	
5-5	Multiply Two-Digit and One-Digit	4N12, 4N14, 4N17	
5-6	Multiply Three-Digit and One –Digit Numbers	4N12, 4N14, 4N17	
5-7	<b>Problem Solving Strategy-Try, Check and Revise</b>	4N10	Ongoing PS Strategy <b>GW Gr. 3 Reasoning w/Number p. 96-103</b>
5-9	Multiplying Money	4N10	
5-11	<b>Problem Solving Skill-Choose an Operation</b>	4N10	Ongoing PS Skill

**Algebra Focus**

<b>Lesson</b>	<b>Content</b>	<b>Standard</b>	<b>Notes/Modifications</b>
3-14	Multiplication and Division Equations	4P3, 4P4	<b>GW Gr. 4 Algebraic Thinking p. 56-63</b>
5-10	Multiplying Three Factors	4N9, 4P4	

**GROUNDWORKS –REASONING WITH MEASUREMENT BOOK**

<b>Lesson</b>	<b>Content</b>	<b>Standard</b>	<b>Notes/Modifications</b>
Grade 3	<b>How Long-Calendar</b>	4M3, 4M5	p.16-23

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**Grade 4**  
**Scope and Sequence - December**  
**Scott Foresman Math Series**

**Math Concept-Geometry**

<b>Lesson</b>	<b>Content</b>	<b>Standard</b>	<b>Notes/Modifications</b>
8-1	Relating Solids and Plane Figures	4G1, 4G2, 4G9	<b>GW Gr 4 Geometry p.VIII-7</b> Math Centers Gr. 3-4 Solid Shapes p. 181-187
8-2	Polygons	4G1, 4G2	
8-3	Lines, Rays and Angles	4G4, 4G5	
8-4	Triangles and Quadrilaterals	4G2	
8-6	Congruent Figures and Motions	4G7	Math Centers Gr. 3-4 Transformations p. 163-169.
8-7	Symmetry	4G8	
8-8	Similar Figures	4G3, 4G7	
8-9	<b>Problem Solving Skill-Writing to Describe</b>	4G1, 4G2	Ongoing PS Skill
8-12	<b>Problem Solving Strategy-Act it Out</b>	4P1, 4M4	Ongoing PS Strategy

**Computational Focus – Multiplication**

<b>Lesson</b>	<b>Content</b>	<b>Standard</b>	<b>Notes/Modifications</b>
6-1	Multiplying Multiples of Ten	4N11, 4P1	
6-2	Estimating Products	4N17	
6-3	Using Arrays to Multiply	4N8, 4N12	Read PD Background p. 312E

**Algebra Focus**

**GROUNDWORKS –REASONING WITH GEOMETRY BOOK**

<b>Lesson</b>	<b>Content</b>	<b>Standard</b>	<b>Notes/Modifications</b>
Grade 4	<b>Block of Cubes</b>	4G1,4G2,4G9	p. 56-63

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**Grade 4**  
**Scope and Sequence - January**  
**Scott Foresman Math Series**

**Math Concept - Data**

(Emphasize interpreting data, creating appropriate scales, making an appropriate graph choice for given data i.e. use line graphs to show change over time.)

<b>Lesson</b>	<b>Content</b>	<b>Standard</b>	<b>Notes/Modifications</b>
4-6	Pictographs	4D3	<b>GW Gr. 3 Reasoning w/Data Probability p. 5-6</b>
4-7	Line Plots	4D3	
4-8	Bar Graphs	4D3	<b>GW Gr. 4 Algebraic Thinking p. 4-7</b>
4-11	<b>Problem Solving Strategy-Make a Graph</b>	4D2, 4D3	Ongoing PS Strategy
4-13	Data from Surveys	4D1, 4D2,4D3	

**Computational Focus – Multiplication & Division**

<b>Lesson</b>	<b>Content</b>	<b>Standard</b>	<b>Notes/Modifications</b>
6-4	<b>Problem Solving Strategy-Make an Organized List</b>	4D5	Ongoing PS Strategy <b>GW Gr. 4 Data and Probability p. 53-55</b> Math Centers Gr.3-4 <b>How Many Combinations? p.93-101.</b>
6-5	Multiplying Two-Digit Numbers	4N12, 4N14	Math Centers Gr. 4-6 Factor Fun p.145-158.
6-6	Multiplying Greater Numbers	4N12, 4N14	
6-8	Multiplying Money	4N10	
6-9	<b>Problem Solving Skill-Writing to Explain</b>	4P1, 4P4, 4P6	Ongoing PS Skill
7-1	Using Patterns to Divide Mentally	4N11, 4P1	
7-2	Estimating Quotients	4N17	

**Algebra Focus**

<b>Lesson</b>	<b>Content</b>	<b>Standard</b>	<b>Notes/Modifications</b>
4-9	Graphing Ordered Pairs	4G6	Math Centers Gr. 3-4 <b>Plotting a Picture p.121-129.</b>
4-10	Line Graphs	4D3	

**GROUNDWORKS – REASONING WITH DATA AND PROBABILITY BOOK**

<b>Lesson</b>	<b>Content</b>	<b>Standard</b>	<b>Notes/Modifications</b>
Grade 4	<b>Double Bars</b>	4D3	p. 8 - 15

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**Grade 4**  
**Scope and Sequence - February**  
**Scott Foresman Math Series**

**Math Concept-Fractions**

<b>Lesson</b>	<b>Content</b>	<b>Standard</b>	<b>Notes/Modifications</b>
9-1	Parts of a Region	4N3	
9-2	Parts of a Set	4N3	
9-3	Fractions, Length, and the Number Line	4N3	
9-4	Estimating Fractional Parts	4N4	

**Computational Focus – Division**

<b>Lesson</b>	<b>Content</b>	<b>Standard</b>	<b>Notes/Modifications</b>
7-3	Dividing with Remainders	4N8, 4N13	
7-4	Two-Digit Quotients	4N8, 4N13	
7-5	Dividing Two-Digit Numbers	4N13, 4N15	
7-6	<b>Problem Solving Skill-Interpreting Remainders</b>	4N10, 4N13	Ongoing PS Skill
7-7	Dividing Three-Digit Numbers	4N13, 4N15	
7-8	Zeros in the Quotient	4N13, 4N15	
7-9	Dividing Money Amounts	4N10	<b>GW Gr 4 Algebraic Thinking p. 24-39</b>
7-13	Dividing by Multiples of 10	4N11, 4P1	

**Algebra Focus**

<b>Lesson</b>	<b>Content</b>	<b>Standard</b>	<b>Notes/Modifications</b>
7-10	<b>Problem solving Strategy-Write a Number Sentence</b>	4N10, 4P4	Ongoing PS Strategy

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**Grade 4**  
**Scope and Sequence - March**  
**Scott Foresman Math Series**

**Math Concept-Fractions and Probability**

<b>Lesson</b>	<b>Content</b>	<b>Standard</b>	<b>Notes/Modifications</b>
9-5	<b>Problem solving Strategy-Draw a Picture</b>	Mixed Review	
9-6	Equivalent Fractions	4N4	<b>GW Gr. 4 Data and Probability p. 88-95</b>
9-7	Fractions in Simplest Form	4N4, 4N7	
9-8	Using Number Sense to Compare Fractions	4N4	
9-9	Comparing and Ordering Fractions	4N4	
9-10	Mixed Numbers and Improper Fractions	4N4	
9-11	Comparing Mixed Numbers	4N4	
9-12	Circle Graphs	4D2	<b>Math Centers Gr. 3-4 Read a Graph p. 69-79. Make a Graph p. 81-91.</b>
9-13	<b>Problem Solving Skill-Writing to Explain</b>	4N17	Ongoing PS Skill
12-5	Understanding Probability	4D6	
12-6	Listing Outcomes	4D4, 4D5	<b>GW Gr 4 Reasoning w/Data Probability p. 72-79</b>
12-7	Finding Probability	4D4	
12-8	Making Predictions	4D3	
12-9	<b>Problem Solving Strategy-Work Backward</b>	Mixed Review	Ongoing PS Strategy

**Computational Focus – Adding and Subtracting Fractions**

<b>Lesson</b>	<b>Content</b>	<b>Standard</b>	<b>Notes/Modifications</b>
10-2	Adding Fractions with Like Denominators	4N18	Use Models
10-4	Subtracting Fractions with Like Denominators	4N18	Use Models

**Extensive Practice should continue with Adding and Subtracting up to 5, digit numbers Multiply 3 digits by 2 digits and Division facts (4N12).**

**Algebra Focus**

<b>Lesson</b>	<b>Content</b>	<b>Standard</b>	<b>Notes/Modifications</b>
12-4	<b>Problem solving Skill-Extra or Missing Information</b>	4D2, 4D3	Include Circle Graphs - p. 697

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**Grade 4**  
**Scope and Sequence - April**  
**Scott Foresman Math Series**

**Math Concept- Measurement and Fractions**

<b>Lesson</b>	<b>Content</b>	<b>Standard</b>	<b>Notes/Modifications</b>
10-6	<b>Problem Solving Strategy - Use Logical Reasoning</b>	Mix Review	Ongoing PS Strategy <b>GW Gr. 4 Reasoning w/Numbers p. 48-55</b>
10-7	Length and Customary Units	4M5	
10-8	Fractions of an Inch	4M5	
10-9	Capacity and Customary Units	4M5	Math Centers Gr. 3-4 Fill It Up! p. 37-51.
10-10	Weight and Customary Units	4M5	
10-11	Changing Units and Comparing Measures	4M2	
10-12	<b>Problem Solving Skill – Exact Answer or Estimate</b>	Mixed Review	Ongoing PS Skill

**Computational Focus**

**Extensive Practice should continue with Adding and Subtracting up to 5, digit numbers Multiply 3 digits by 2 digits and Division facts (4N12), and Division with 3 digit dividend and 1 digit divisor (4N13).**

**Algebra Focus**

<b>Lesson</b>	<b>Content</b>	<b>Standard</b>	<b>Notes/Modifications</b>
8-10	Perimeter	4M4, 4P2	<b>GW Gr. 4 Measurement p.104- 111 Math Centers Gr. 4-6 Be a Builder p. 83-92.</b>
8-11	Area	4M4, 4P2	Math Centers Gr. 3-4 Perimeter and Area p.153- 161.
8-13	Volume	4M1, 4P2	
12-2	Translating Words to Equations	4P2, 4P4	

**GROUNDWORKS – ALGEBRAIC THINKING BOOK**

<b>Lesson</b>	<b>Content</b>	<b>Standard</b>	<b>Notes/Modifications</b>
Grade 4	<b>Pan Balances</b>	4P2	p. 48-55

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**Grade 4**  
**Scope and Sequence - May/June**  
**Scott Foresman Math Series**

**Math Concept-Decimals and Measurement**

<b>Lesson</b>	<b>Content</b>	<b>Standard</b>	<b>Notes/Modifications</b>
11-1	Decimals and Fractions	4N4, 4N5	Math Centers Gr. 3-4 Name That Part! p. 103-119
11-2	Decimal Place Value	4N6	
11-3	Comparing and Ordering Decimals	4N6	
11-8	<b>Problem Solving Strategy-Solve a Simpler Problem</b>	Mixed Review	Ongoing PS Strategy
11-9	Length and Metric Units	4M5	<b>GW Gr. 4 Measurement p. 32-39 &amp; p.48 -50 p.55</b>
11-10	Capacity and Metric Units	4M5	
11-11	Mass and Metric Units	4M5	
11-12	Changing Units and Comparing Measures	4M2	
11-13	<b>Problem Solving Skill-Writing to Explain</b>	4D3	Ongoing PS Skill
11-14	Temperature	4M5	

**TARGET AREAS OF WEAKNESS BASED ON MONTHLY DATA**

**\*This is a good time to review previous concepts and skills before the cumulative tests are administered for chapters 1-12**

**Computational Focus**

**Extensive Practice should continue with Adding and Subtracting up to 5, digit numbers Multiply 3 digits by 2 digits and Division facts (4N12) and Division with 3 digit dividend and 1 digit divisor (4N13).**

**Review for MCAS**

<b>Lesson</b>	<b>Content</b>	<b>Standard</b>	<b>Notes/Modifications</b>
12-10	Fire Fighting Helicopters		End of Year Review
Review			p. 718-719 Use Rubric with students to evaluate work.
Test Talk			p. 720-721
Vocabulary	Use Vocabulary Cards to Review		*Use Math Vocabulary Kit
Review	Key Vocabulary/Concept Review		p. 672-673

**Post MCAS Skills**

<b>Lesson</b>	<b>Content</b>	<b>Standard</b>	<b>Notes/Modifications</b>
4-12	Median, Mode, and Range	Exploratory Skill	Prep for Grade 5 <b>Math Centers Gr. 3-4 Analyze the Data p. 141-151.</b>
7-12	Finding Average (mean)	Exploratory Skill	Prep for Grade 5 <b>Math Centers Gr. 4-6 Take Me Out to the Ball Game p.57-66.</b>
7-11	Divisibility Rules	Explorator.Skill	Prep for Grade 5
7-14	Divide with 2 Digit Divisors	Explorat. Skill	Prep for Grade 5