Parent Guide for Grade 5 Mathematics--SY '09-'10

The primary goal of math instruction is conceptual understanding, but this does not mean ignoring computation skills. Concepts and skills should develop together.
In this document, following each lesson title for the Scott Foresman Addison Wesley textbook, you will find one or more of the words, "explore," "develop," and "master." These terms describe a hierarchy of actions; students explore a concept/skill, then they develop it, and finally, students master the concept/skill.

At the "explore" level, the concept or skill is introduced.

At the "develop" level, the learner has not yet acquired a skill/concept but has some initial idea of it. Guided practice is important, but DO NOT press student to perform a skill with any speed as this will only serve to reinforce incorrectly held ideas.

At the "master" level, the learner is expected to reach understanding of the component parts of a skill or concept. The student should be able to recall knowledge-level facts and perform skills rotely. Proficiency is expected.

The traditional textbook, Scott Foresman Addison Wesley Mathematics, is a resource for delivering the curriculum. Small portions of Investigations in Number, Data, and Space are also used as indicated. Teachers may use other appropriate materials.

Unit	Investigations	SFAW
Place Value and Addition and Subtraction of Whole Numbers and Decimals *August through mid-September*	Optional: Building On Numbers You Know Investigation 1	Ch. 1: 1-1 Place Value Through Billions (Master); 1-2 Comparing and Ordering Whole Numbers (Master); 1-3 Place Value Through Thousandths (Master); 1-4 Comparing and Ordering Decimals (Master); 1-5 Place Value Patterns (Master); 1-6 Problem-Solving--Read and Understand (Master); 1-7 Adding and Subtracting Mentally (Master); 1-8 Rounding Whole Numbers and Decimals (Master); 1-9 Estimating Sums and Differences (Master); 1-10 Problem-Solving--Plan and Solve (Master); 1-11 Adding and Subtracting Whole Numbers (Master); 1-12 Adding Decimals (Master); 1-13 Subtracting Decimals (Master); 1-14 Problem-Solving--Look Back and Check (Master)

Unit	Investigations	SFAW
Multiplication of Whole Numbers and Decimals *Mid-September through mid-October*	**Required:** **Mathematical Thinking at Grade 5** Investigation 1, Sessions 1,2,3,4,5 & 6 **Required:** **Building On Numbers You Know** Investigation 2, sessions 1,2,3,4,5 & 6	Ch. 2: 2-1 Multiplication Patterns (Master); 2-2 Estimating Products (Master); 2-3 Using the Distributive Property (Master use of but not naming the property); 2-4 Multiplying Whole Numbers (Master 2 by 2 now); 2-7 Decimal Patterns (Master); 2-8 Estimating Decimal Products (Master); 2-9 Multiplying Whole Numbers and Decimals (Master); 2-10 Using Grids to Multiply Decimals by Decimals (Master); 2-11 Multiplying Decimals by Decimals (Master); 2-12 Variables and Expressions (Master); 2-13 Translating Words into Expressions (Master); 2-14 Find a Rule (Master); 2-15 Solving Equations (Develop)
Division *Mid-October through early December*	Optional: Building On Numbers You Know Investigation 3, sessions 1,2,3,4,5 & 6 Investigation 4	Ch 3: 3-1 The Meaning of Division (Master); 3-2 Division Patterns (Master); 3-3 Estimating Quotients (Master); 3-5 Understanding Division (Master); 3-6 Dividing Whole Numbers (Master); 3-7 Dividing with Zeros in the Quotient (Master); 3-8 Dividing Larger Dividends (Master); 3-9 Dividing Money (Master); 3-10 Factors and Divisibility (Master, but not rules); 3-11 Prime and Composite Numbers (Master); 3-12 Interpreting Remainders (Master); 3-13 Order of Operations (Explore) Ch 4: 4-1 Dividing by Multiples of 10 (Master) For PSSA, 3-digits divided by 1-digit only. Traditional algorithm will be mastered after PSSA.

Unit	Investigations	SFAW
Performance Assessment #1 (Two multiplication methods; division story problem; factors; number puzzle) assesses material experienced up to this date. May be administered now or no later than December 11. **Basic facts tests for addition, subtraction, multiplication and division** may be given at any time. There is a time limit on each test of 5 minutes.		
Geometry *December through early January*	**Required:** **Picturing Polygons** (Integrated with SFAW) Investigation 1, sessions 1, 2, & 3 Investigation 2, sessions 1, 2, 3, 4, & 5	Ch 3: 3-14 Graphing Ordered Pairs (Master); 3-15 Rules, Tables, and Graphs (Master) Ch 12: 12-5 Understanding Integers (Master) Ch 6: 6-1 Geometric Ideas (Master), 6-2 Measuring and Classifying Angles (Develop), 6-3 Segments and Angles Related to Circles (Master); 6-9 Congruence and Similarity (Master), 6-10 Transformations (Master), 6-11 Symmetry (Master), 6-12 Problem-Solving--Skyscraper (Develop)
Fractions *January through …*	**Required:** **Name That Portion** Investigation 1, sessions 1, 2, 3, & 4	Ch 7: 7-1 Meanings of Fractions (Master); 7-2 Fractions and Division (Master); 7-3 Mixed Numbers (Master); 7-4 Estimating Fractional Amounts (Master); 7-5 Fractions and Mixed Numbers o n the Number Line (Master); 7-7 Understanding Equivalent Fractions (Master); 7-8 Finding Equivalent Fractions (Master); 7-9 Greatest Common Factor (Master); 7-10 Fractions in Simplest Form (Develop); 7-11 Understanding Comparing Fractions (Master); 7-12 Comparing and Ordering Fractions and Mixed Numbers (Master); 7-13 Fractions and Decimals (Develop); 7-14 Fractions and Decimals on the Number Line (Develop)

Unit	Investigations	SFAW
Fractions (continued) *…through late February*		Ch 8: 8-1 Adding and Subtracting Fractions with Like Denominators (Master); 8-2 Understanding Adding and Subtracting with Unlike Denominators (Master); 8-3 Least Common Denominator (Master); 8-4 Adding and Subtracting Fractions with Unlike Denominators (Master); 8-5 Understanding Adding and Subtracting Mixed Numbers (Master); 8-6 Estimating Sums and Differences of Mixed Numbers (Master); 8-7 Adding Mixed Numbers (Master); 8-8 Subtracting Mixed Numbers (Explore and Develop)
Performance Assessment #2 (Parts of a Circle; Polygon Comparisons; Fractions--Which one is greater; Fraction concepts with diagrams) assesses material experienced up to this date. May be administered now or no later than March 1.		
Data Analysis and Probability *Early to mid-March*	Optional: Between Never and Always Investigations 1 & 2 Data: Kids, Cats, and Ads Investigations 1-5	Ch 5: 5-1 Collecting Data From a Survey (Master); 5-2 Bar Graphs (Master); 5-3 Line Graphs (Master); 5-5 Make a Graph (Master); 5-6 Mean, Median, and Mode (Master); 5-7 Circle Graphs (Develop); 5-8 Choosing An Appropriate Graph (Develop); 5-9 Problem-Solving--Writing to Compare (Master); 5-10 Predicting Outcomes (Master); 5-11 Listing Outcomes (Master); 5-12 Expressing Probability as a Fraction (Master)

Unit	Investigations	SFAW
Measurement *Mid-March to mid-April*	Optional: Measurement Benchmarks Investigations 1 and 2, all sessions	Problems in sections here may be more difficult than necessary for PSSA. Conversion hints will be provided on PSSA, e.g., 4 c = 1 qt. Ch 9: 9-1 Customary Units of Length (Master); 9-2 Measuring With Fractions of an Inch (Master); 9-3 Metric Units of Length (Master); 9-4 Converting Metric Units Using Decimals (Master); 9-5 Finding Perimeter (Master); 9-6 Finding Circumference (Explore); 9-7 Finding Area (Master); 9-8 Areas of Squares and Rectangles (Master); 9-11 Problem-Solving--Draw a Picture (Master); 9-12 Time (Master); 9-13 Elapsed Time (Master); 9-14 Temperature (Master) Ch. 10: 10-1 Solid Figures (Master); 10-2 Views of Solid Figures (Develop); 10-4 Problem-Solving--Use Objects (Develop); 10-5 Volume (Develop--Use cubes--no formula); 10-6 Customary Units of Capacity (Master); 10-7 Metric Units of Capacity (Master); 10-8 Customary Units of Weight (Master); 10-9 Metric Units of Mass (Master); 10-10 Problem-Solving--Exact Answer or Estimate? (Develop); 10-11 Problem-Solving--Water (Develop)
Performance Assessment #3 (Measuring line segments; Chart and Bar Graph; Mean, median,mode,range) assesses material experienced up to this date. May be administered now or no later than March 30.		

Unit	Investigations	SFAW
PSSA window: April 7 - April 16, 2010		
Continue with **multiplication algorithm** *Mid-April through late April*		Review for mastery-- 2-digit x 2-digit multiplication and use of traditional algorithm
Division: Traditional Algorithm, 2-Digit Divisors, and Decimals *Late April through mid-May*		Ch 4: 4-2 Estimating with 2-Digit Divisors (Master); 4-4 Dividing Whole Numbers by 2-Digit Divisors (Explore, Develop, and Master); 4-5 Dividing Larger Numbers (Master); 4-6 Dividing: Choose a Computation Method (Master); 4-7 Dividing With Zeros in the Quotient (Master); 4-9 Dividing Decimals by 10, 100, and 1,000 (Master); 4-11 Dividing Decimals by Whole Numbers (Master)

Unit	Investigations	SFAW
Concept of Percent *Mid-May through late May*		Ch. 11: 11-8 Understanding Percent (Explore and Develop); 11-10 Estimating Percents (Explore and Develop)
Coordinate Graphing *End of May to end of year*		Ch 12: 12-9 The Coordinate Plane (Master)