Marsh Valley School District

Quick Referenced Curriculum Guide-3rd Math

June 2004

Skills are identified with Introduced (I), Practiced (P), Mastered (M), Reinforced (R)

Mathematical Reasoning and Problem Solving

Problem Solving

- Solve grade level appropriate problems throughout all strands (M) 288.01a-b
- Experiment with manipulatives and real world experiences to identify and solve problems (P)
- Apply the four step problem solving process: explore, plan, solve, and examine (I-P)
- Apply a variety of strategies to solve problems: Choose an Operation, Act It Out, Use a Pattern, Make a Model, or Drawing, Guess and Test, Make a Table or Systematic List, Use Logical Reasoning, Work Backwards (P) 288.01a-c
- ***Emphasis: Guess and Check***

Story Problems

- Model and solve real world and story problems using number sentences to describe the situation (P) 290.01c
- Estimate and solve story problems related to addition and subtraction using correct information, including 2-step problems (P)
- Solve story problems related to money (P)
- Solve story problems involving time and calendars (P)

Reasoning

- Use estimation to predict computation results and to evaluate the reasonableness of an answer (P) 297.03b
- Decide when to use paper/pencil, mental math, or calculators to solve computation problems (P) 297.03a
- Identify extra or missing information in word problems (P-M)
- Appropriately use a 4 function calculator to solve complex grade level questions 288.03a

Mathematic Processes

- Use appropriate grade level vocabulary within all strands (I-M) 297.02a, 03.c
- Organize and consolidate mathematical thinking to communicate with others (P)
- Express mathematical ideas using words, numbers, symbols, tables, charts, graphs, diagrams, and models (P) 288.02a, 04a

Other Processes

- Explain how numbers are used in real world contexts (P)
- Skip count by 2's (M)
- Read and write numbers in words and numerals to the hundreds place (M)
- Apply numerical patterns for numbers through the thousands place (M)
- Round to the tens and hundreds place in numbers up to 3 digits (I-P)

Place Value

- Organize base ten materials through thousands (M)
- Identify place value to the hundreds place (M)
- Identify place value to the ten thousands place (I-P) 287.01a-b
- Apply understanding place value to write numbers in standard and expanded form through the hundreds place (I-M)

Comparing/Ordering

- Compare and order numbers to 1000 using mathematical vocabulary and symbols (>,<,=) (M) 287.01a-b
- Compare and order numbers to 10,000 using mathematical vocabulary and symbols (<,>,=) (I-P) 287.01a-b, 289.01c

Number Theory

- Explore and apply number theory concepts: odd/even (P)

Money

- Express money in words and numerals using decimal notation (M)
- Count with quarters, dimes, nickels, and pennies in mixed amounts to $1.00 (M)
- Determine by counting the value of a collection of bills and coins up to $10.00 (I-P) 287.01c
- Make change from $1.00 (I-P) 287.01c
- Solve story problems related to money (P)

Fractions

- Explore and apply the concept of common fractions using set and area models and real life applications (I-P) 287.01d
- Recognize and represent common fractions using numbers, words, and pictures (I-P)

Concepts and Language of Algebra, Functions, and Mathematical Models

- Explore and use the following properties: commutative, associative, distributive, identity, and zero (P) 290.02a
- Represent vertical notation in horizontal form and vice versa (P) 290.01a
- Write a number sentence using symbols (boxes or letters) to represent an unknown number (I-P) 300.01b
- Solve an equation with an operation on both sides of the equal sign (I) 290.01a
- Reproduce, create, describe, and extend geometric and numeric patterns (P) 293.01a
- Extend a simple numeric pattern using manipulatives and pictorial representations

(M) 293.01a-b

- Solve simple missing addend problems using reversal of operations (I) 290.03a

Estimation and Accurate Computation

Addition and Subtraction

- Extend and apply the concepts of addition and subtraction in larger numbers using manipulatives, a variety of models, and real life applications (M)
- Estimate and solve story problems related to addition and subtraction using correct information, including 2-step problems (P)
- Build family of facts for any two addends (M)
- Solve simple missing addend problems using reversal of operations (I)
- Memorize addition and subtraction facts through 18 (M) 287.02b
- Add 2 or more multi-digit whole numbers with and without regrouping (M) 287.02a&c
- Subtract whole numbers without renaming 287.02 a&c
- Subtract whole numbers with renaming 287.02a&c
- Add and subtract money (I-P)

Multiplication and Division

- Explore and apply the concept of multiplication using a variety of models i.e.:repeated addition, arrays, skip counting, real life applications (I-P)
- Use thinking strategies to develop fluency (memorize) with multiplication facts through the 9's (I-P) 287.02d
- Explore the relationship between multiplication and division through models (I)

Concepts and Principles of Measurement

- Sequence events relative to time (P) 289.01f
- Solve story problems involving time and calendars (P) 289.01f
- Recite the months of the year (M)
- Determine time to the nearest minute using analog and digital clocks (I-P) 289.01e
- Recognize and order seconds, minutes, hours, days and year (I-P)
- Apply time concepts to elapsed time, a.m./p.m. (I) 289.01f
- Explore concepts of length, temperature, weight, and capacity using standard/non-standard units and tools (P) 289.01a
- Identify the best unit of measure in customary and metric systems (I)
- Recognize and order inch, foot, yard, and mile (I-P)
- Recognize and order cup, pint, quart, and gallon (I-P)
- Recognize and order milliliter and liter (I-P)
- Recognize and order ounces and pounds (I-P)
- Recognize and order grams and kilograms (I-P)
- Estimate to predict reasonable measurements. (P)
- Determine appropriate tools to measure length, mass, capacity, weight, and temperature (I) 289.01a
- Use a thermometer to determine temperature in Fahrenheit and Celsius (I) 289.01b
- Use a scale to measure weight/mass in ounces/pounds or grams/kilograms (I) 289.01b
- Use a ruler to measure to the nearest inch (M) 289.01b
- Use a ruler to measure to the nearest half inch (I-P) 289.01b
- Use a ruler to measure to the nearest centimeter (P) 289.01 b
- Determine the perimeter of polygons (I-P) 291.01c
- Investigate perimeters in real world situations 291.01c

Concepts and Principles of Geometry

- Classify two-dimensional figures and three-dimensional objects according to their properties and/or attributes (P) 291.01a
- Identify and name common regular polygons (I-P)
- Predict and describe the results of sliding, flipping, and turning two-dimensional figures (I) 291.01a
- Identify multiple lines of symmetry (I) 291.01b
- Identify common three-dimensional solids: sphere, cube, cone, cylinder, rectangle prism(P) 291.01a
- Identify and name attributes of three dimensional solids: edge, corner, face (P)
- Identify, name and draw intersecting lines (I)
- Show congruence, similarity and symmetry 291.01b

Data Analysis, Probability, and Statistics

- Make predictions or decisions based on probable results or past experiences (P)
- Make predictions, perform simple probability experiments, and record results (P)292.03a
- Analyze, predict, summarize, and draw conclusions from data in charts, data files, tables, schedules, and story problems (P) 292.01a-b
- Interpret simple pictographs (M)
- Interpret simple line graphs (I-P)
- Use tally marks to record data. (P)
- Collect and display data in a variety of graphic forms (I-P) 292.02a
- Construct a line, bar, pictograph, and table to record data (I) 292.02a
- Create graphs, charts, and diagrams from data in story problems (I)