THIRD GRADE MATH

By the end of Third grade, a student will be able to . . .

NUMBERS

- read, write, order and compare whole numbers up to 10,000
- recognize equivalent names by their place value
  (e.g. 123=100+20+3)
- extend knowledge of multiplication and division facts to related facts
  (e.g. 3*4=12, 30*4=120)
- use inverse relationship/Fact Families between addition and subtraction; and multiplication and division
  (e.g. 3*4=12, 4*3=12,
  12÷3=4, 12÷4=3)
- understand identity of 1
  1*3=3, 1*34=34
  and identity of zero (zero times any number is 0)
- express mathematical relationships using number sentences
  (e.g. 3*4=10+2 or 40=4*10)
- use >, <, and = to describe a relationship between sets.
- memorize multiplication facts/tables through 10*10
- identify odd and even numbers
- subtract 2 and 3 digits using a variety of methods (partial sum, counting up)
- model and explain multiplication in a variety of ways including repeated addition, rectangular arrays, and skip counting
- model and explain division in a variety of ways

MEASUREMENT & GEOMETRY

- use a ruler to measure to the nearest inch, half-inch, and one-fourth inch, and one centimeter or one-half centimeter
- measure time to the nearest minute and temperature to the nearest degree
- solve problems involving perimeter of a polygon with given side lengths
- solve problems involving area of a figure when whole and half square units are shown within the figure
- perform simple unit conversions within the same system
  (e.g. 3 feet = 1 yard)
- determine the volume of a solid figure

MEASUREMENT & GEOMETRY, cont.

- draw and classify polygons and polyhedra (solid figures) using appropriate vocabulary: faces, angles, edges, and vertices, (polygons: triangles, squares, rectangles, pentagons, hexagons, and octagons)
- know the difference between polygons and non-polygons
- identify and model symmetry, lines of symmetry, and congruence with manipulatives (e.g. pattern blocks) and drawings
- observe and describe geometry in the environment
- identify images resulting from flips, slides, or turns
- identify and draw: lines, line segments, rays, parallel lines, intersecting lines, perpendicular lines and right angles
- locate points using numbers and symbols on a coordinate grid
- plot positions named by ordered pairs on a coordinate grid
- identify the two-dimensional components of a three dimensional object (e.g. a cube has square faces)

MONEY & TIME

- determine the value of a set of coins and bills up to $10.00 and create equivalent amounts with different coins or bills.
- estimate and compute the cost of items up to $10.00; make change up to $10.00
- determine elapsed time between events
  (e.g. left at 6:00 and arrived at 9:45 for an elapsed time of 3 hours and 45 minutes)

APPLYING MATH, PROBLEM-SOLVING, GRAPHING

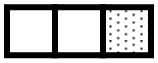
- gather and organize data from surveys and classroom experiments to create pictographs, bar graphs, tally charts, or a table from that set of data
- construct graphs where symbols or scale represent multiple units

APPLYING MATH, PROBLEM-SOLVING, GRAPHING, cont.

- read and interpret pictographs, tally charts, tables, and bar graphs as sources of information; identify the main idea, draw conclusions and make predictions
- determine the mode, given a set of data or a graph
- describe the chances of an event using such terminology as “5 out of 8” or as a fraction $\frac{5}{8}$
- create and perform a probability experiment (e.g. spin a spinner with 3 colors: red/most likely, blue/least likely, and green) and make predictions based on the results of that experiment
- use estimation techniques in determining solutions to problems
- solve meaningful, multi-step problems involving addition, subtraction, and multiplication using a variety of strategies (e.g. guess and check, make a list, make a model)
- know when and how to use a calculator as appropriate
- solve problems using calculations and words to explain the solutions (how you solved the problem and why you solved it in that way)
- use patterns to make predictions and solve problems
- organize objects or ideas into groups; describe attributes of groups and rules for sorting.

DECIMALS, FRACTIONS, PERCENTAGES

- represent a fraction with a pictorial model for part of a whole:



$\frac{2}{3}$ unshaded $\frac{1}{3}$ shaded,

and part of a set:

$\frac{2}{3}$ happy, $\frac{1}{3}$ sad.

- compare and order fractions using models; describe the comparisons (e.g. Using a specified length of paper, divide it into $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{8}$)
- model equivalent fractions using manipulatives (e.g. fraction circles) and pictures.

PATTERNS, FUNCTIONS, ALGEBRA

- represent the idea of a variable as an unknown quantity using a letter or a symbol in a number sentence (4*N=12)

This document was developed by parents serving on the U-46 CAC Standards Committee.
It is based on the School District U-46 Curriculum Roadmap. -- December 2005