FIFTH GRADE MATHEMATICS MONITORING SHEETS

Number Sense and Estimation

___Tri.__ M.5.1 Applying a variety of strategies to solve problems including multi-step, non-routine, and real life problems

_____ a. Trial and error
_____ b. Lists or tables
_____ c. Diagrams
_____ d. Patterns
_____ e. Act it out
_____ f. Guess and test
_____ g. Use manipulatives
_____ h. Simplify the problem
_____ i. Write an equation
_____ j. Work backwards

___Tri.__ M.5.2 Verifying that a solution is reasonable with respect to the original problem situation

___Tri.__ M.5.3 Understanding the use of technology for appropriate problem-solving activities

___Tri.__ M.5.4 Using mathematics to draw conclusions from concrete situations and to justify mathematical arguments

___Tri.__ M.5.5 Expressing mathematical ideas in oral, written, pictorial, graphic, and symbolic forms

___Tri.__ M.5.6 Understanding the magnitude of whole numbers through millions (reading and writing in word, standard, and expanded form)

___Tri.__ M.5.7 Applying the following properties when working with addition and multiplication: commutative, associative, zero, identity, and distributive

___Tri.__ M.5.8 Rounding whole numbers to the nearest million and decimals to the nearest thousandth

___Tri.__ M.5.9 Reading, writing and identifying the place values of decimals through ten-thousandths

___Tri.__ M.5.10 Comparing whole numbers, fractions, decimals, and percents

___Tri.__ M.5.11 Using 0 as a place holder in decimals

___Tri.__ M.5.12 Reading and locating negative integers on a number line

___Tri.__ M.5.13 Understanding negative integers through familiar applications such as temperatures below zero, yards lost and gained in football, etc.

Computation and Fluency

___Tri.__ M.5.14 Creating and solving problems using the order of operations involving addition, subtraction, multiplication and division of whole numbers and decimals, using paper and pencil, estimation, mental computation, and calculators

___Tri. **M.5.15 Finding the quotient and remainder given a dividend of four digits or less and a divisor of three digits or less**

___Tri. **M.5.16 Finding the product of two numbers expressed as decimals through thousandths, using an appropriate method of calculation including paper and pencil, estimation, mental computation, and calculators**

___Tri. **M.5.17 Finding the quotient given a dividend expressed as a decimal through ten-thousandths and a single digit divisor**

___Tri. **M.5.18 Making equivalent fractions for a given fraction**

___Tri. **M.5.19 Adding and subtracting with fractions and mixed numerals with and without regrouping and expressing answers in simplest form including like and unlike denominators**

___Tri. **M.5.20 Multiplying and dividing fractions and mixed numbers**

___Tri. **M.5.21 Using short division to divide 1, 2, 3, and 4-digit dividends by 1-digit divisors, with and without a remainder**

Measurement, Time, and Money

___Tri. **M.5.22 Using appropriate measuring devices and unit of measure (customary and metric) to solve problems involving**
_____Length (inches, feet, yards, centimeters, and meters)
_____Capacity (cups, pints, quarts, gallons, and liters)
_____Weight (ounces, pounds, and tons)
_____Mass (grams and kilograms)
_____Temperature (degrees Fahrenheit and degrees Celsius)

___Tri. **M.5.23 Developing strategies for estimating the perimeters, areas, and volumes of irregular shapes**

___Tri. **M.5.24 Determining and using elapsed time to solve problems**

___Tri. **M.5.25 Estimating the conversion of Fahrenheit and Celsius units relative to familiar situations (freezing and boiling points of water, normal body temperatures, etc.)**

___Tri. **M.5.26 Identifying and describing the diameter, radius, chord and circumference of a circle**

___Tri. **M.5.27 Describing and determining the perimeter of regular and irregular polygons, and finding the area of squares, triangles and rectangles**

___Tri. **M.5.28 Exploring what happens to measurements of a two-dimensional figure, such as perimeter and area, when the shape is changed in some way**

___Tri. **M.5.29 Developing strategies to determine the surface area (square units) and volume (cubic units) of rectangular solids**

___Tri. **M.5.30 Using measurement to explore and describe the environment**

Geometry

__Tri.__ **M.5.31 Recognizing, drawing, and constructing three-dimensional geometric figures from two-dimensional representations or from nets**

__Tri.__ **M.5.32 Identifying, defining, and representing points, lines, line segments, rays, angles, and planes**

__Tri.__ **M.5.33 Identifying the ordered pair for a point and locating the point for an ordered pair in all four quadrants of a coordinate plane**

__Tri.__ **M.5.34 Finding the distance between points along horizontal and vertical lines of a coordinate graph**

__Tri.__ **M.5.35 Identifying, measuring and drawing acute, right, obtuse, and straight angles using appropriate tools**

__Tri.__ **M.5.36 Classifying triangles by sides (scalene, isosceles, equilateral) and angles (acute, right, obtuse)**

__Tri.__ **M.5.37 Using geometrical figures to solve problems involving numbers and number sense, measurement, and real-life problem-solving situations**

Data Analysis and Probability

__Tri.__ **M.5.38 Constructing, collecting, organizing, reading and interpreting data represented on:**

_____Bar graphs
_____Line graphs
_____Circle graphs
_____Venn diagrams
_____Tables
_____Coordinate graphs

__Tri.__ **M.5.39 Finding and using**

_____Mean
_____Median
_____Mode
_____Range

__Tri.__ **M.5.40 Understanding that the measure of the likelihood of an event can be represented as a fraction or a decimal**

Patterns, Functions and Algebra

__Tri.__ **M.5.41 Investigating, describing and extending numerical and geometric patterns using concrete materials and calculators**

_____Powers of 10
_____Perfect squares
_____Triangular numbers

_____Arithmetic sequences

___Tri. **M.5.42 Investigating, describing and applying the concept of variables**

___Tri. **M.5.43 Using a variable to represent a given verbal quantitative expression, involving one operation**

___Tri. **M.5.44 Solving problems involving pattern identification and completion of patterns**

___Tri. **M.5.45 Writing an open sentence with addition, subtraction, multiplication and division, using a variable to represent a missing number**

___Tri. **M.5.46 Creating a problem situation based on a given open sentence using a single variable**

___Tri. **M.5.47 Investigating how changes in one variable affect a second variable**