|  |  |  |  |
| --- | --- | --- | --- |
| 3 | 3MD 2. Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).1 Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are  given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. | Measurement—mass and volume in metric: Grams, kilograms, liters using a balance and graduated cylinders, beakers. |  |
| 3 MD 3. Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and  two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. | Graphing – picture, bar, relationships in graphs! |  |
| 3 MD4. Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers,  halves, or quarters. | Measuring length- fractions.  Graph – line plots (with respect to fractions). X-axis is marked. |  |
| 4 | 4 MD 1. Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr,  min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit.  Record measurement equivalents in a two-column table. | Conversions (basic) with respect to size – metric for length and mass. Time. Use data tables. |  |
| 4 MD 2. Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of  objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale. | Measurement scales and diagrams for volume and mass in a word problem. |  |
| 4 MD 4. **Represent and interpret data.** Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems  involving addition and subtraction of fractions by using information presented in line plots. | Graph – line plot with fractions (have students plot on X-axis). |  |
| 5 | 5 MD1. **Convert like measurement units within a given measurement system.**  Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5  cm to 0.05 m), and use these conversions in solving multi-step, real world problems. | Metric conversions in a word problem. |  |
| 5 MD 2. **Represent and interpret data.**  2. Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on  fractions for this grade to solve problems involving information presented in line plots. *For example, given different*  *measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount*  *in all the beakers were redistributed equally.* | Graphing and data – line plots for fractions. Have students create axes. Solve problems with graph with science measurement (volume, mass and/or length). |  |
| 5 G1. **Graph points on the coordinate plane to solve real-world and mathematical problems.**  1. Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the  lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., *x*-axis and *x*coordinate, *y*-axis and *y*-coordinate). | Graph – axes (X and Y and zero is intersection). Students create a proper and consistent interval. |  |
|  |  |  |  |