Unit 4a-Measurement: Find Equivalence in Units of Measure

Content Area: **Math**
Course(s): **Math 4**
Time Period: **Marking Period 4**
Length: **MP4 Topic 13 13-1 to 13-7**
Status: **Published**

Essential Questions

- How can you convert from one unit to another?
- How can you be precise when solving math problems?

Big Ideas

- **Convert Measurements:** Students develop the ideas and procedures for using multiplication to convert larger measurement units to smaller measurement units. The students will multiply the given measure by the conversion factor.
- **Use Tables:** Students will use tables to record measurement equivalents.
- **Solve Real-World Problems:** Students use what they have learned to attend to precision to solve real-world problems. The problems involve conversions, or area and perimeter formulas.
- **Fraction Computation:** Students use fraction operations to solve measurement problems involving measurements given in fraction form.

CSDT Technology Connection

8.1.5.AP.1: Compare and refine multiple algorithms for the same task and determine which is the most appropriate.

Enduring Understandings

Number and Operations—Fractions

4.NF.B.3d Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.

4.NF.B.4c Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem.

4.NF.C.7 Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model.

Measurement and Data

4.MD.A.1 [M] Know relative sizes of measurement units within one system of units including km, m, cm, mm; 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.

4.MD.A.2 [M] 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.

4.MD.A.3 [M] Apply the area and perimeter formulas for rectangles in real world and mathematical problems.

Operations and Algebraic Thinking

4.OA.A.3 Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

Mathematical Practices Focus

6. Attend to precision.