MP4a-Measurement : Find Equivalence In Units Of Measure

Content Area: **Mathematics**
Course(s): **Math 4 Resource Room**
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 use multiplication to convert larger measurements to smaller measurement units.
- **Area and Perimeter Problems:** Students use formulas with symbols to solve for area and perimeter.
- **Fraction Computation:** Students use fraction operations to solve simple measurement problems.

Cross-Curricular Integration

Integration Area: Science

4-ESS1-1 Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time

Activity:

Students will use the Internet and other sources to learn about the Grand Canyon and the Colorado River. Where is the Grand Canyon? How was it formed? What do the different rock layers tell us? Predict how you think the canyon dimensions will change in a million years. Using the information students will describe the canyon's and the Colorado River's dimensions. Students will convert the dimensions between miles, feet, and inches.

Enduring Understandings

Number and Operations in Base Ten

4.NBT.B.4 Fluently add and subtract multi-digit whole numbers using the standard algorithm.

4.NBT.B.5 Multiply a whole number of up to four digits by a one-digit whole number, (and multiply two two-digit numbers), using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

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.

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.

Mathematical Practices Focus

6. Attend to precision.