



Dear Fourth Grade Families,

In Unit 9, students will work on the following fourth grade Common Core standards in the Measurement and Data (MD) domain:

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.
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.

Unit 9 Concepts:

- Explore length/distance, weight (mass), volume, and time
- Convert units for time and length/distance, weight, and volume, within either one system
- Solve word problems that include simple fractions or decimals, and require conversion

Unit 9 Vocabulary:

- US Customary & Metric systems
- Convert
- Length: inch (in), feet (ft), yards (yd); centimeters (cm), meters (m), kilometers (km)
- Weight (mass): ounces (oz), pounds (lb); grams (g), kilograms (kg)
- Liquid volume: fluid ounces (fl oz), cups (c), pints (pt), quarts (qt), gallons (g); milliliter (mL), liter (L)
- Time: seconds (s), minutes (min), hours (h)

Ask questions like these to help your child become a productive mathematical thinker:

- Which is larger, a centimeter (cm), a meter (m), or a kilometer (km)? How do you know?
- How many grams in a kilogram (kg)? How many milliliters (mL) in a liter (L)? What hint do the prefixes "kilo-" and "milli-" give you?
- How many ounces in a pound?
- Which seems most efficient to you, the US Customary or the metric system? Why?
- It's 1:12. The game started 15 minutes ago and goes for 30 minutes. What time did it start? What time will it end?
- I have a quart of milk and four kids. If they each have an equal amount, how much milk can each kid have with breakfast?
- The package label says it contains 20 ounces of sausage. How many pounds is that?
- A can of soda contains 12 fluid ounces. What is the liquid volume of a six-pack of soda?

Need a review? Check out our lesson videos on-line!

**[swunmath.com/student-videos](http://swunmath.com/student-videos)**



If you don't know the class's special name, ask your child's teacher.

We encourage you to talk with your child daily about what was learned in math class.

Thank you for your support!

# Measurement Conversions (US Customary & Metric)



US Customary System 	Metric System 
<b>Length/Distance</b>	
12 inches (in) = 1 foot (ft) 1 foot (ft) = 1 yard (yd)	100 centimeters (cm) = 1 meter (m) 1,000 meters (m) = 1 kilometer (km)
<b>Weight (Mass)</b>	
16 ounces (oz) = 1 pound (lb)	1,000 grams (g) = 1 kilogram (kg)
<b>Liquid Volume</b>	
8 fluid ounces (fl oz) = 1 cup (c) 2 cups (c) = 1 pint (pt) 2 pints (pt) = 1 quart (qt) 4 quarts (qt) = 1 gallon (g)	1,000 milliliters (mL) = 1 liter (L) 1,000 liters (L) = 1 kiloliter (kL)
<b>Time</b>	
60 seconds (sec) = 1 minute (min) 60 minutes (min) = 1 hour (hr) 24 hours (hr) = 1 day	