

**ANTOINE FRAME-OF-REFERENCE quick reference table for metric units** by Valerie Antoine

Type of Measurement	SI Metric Unit	Symbol* (short form)	Approx Size of Unit It Replaces	To Remember SI Unit's Size, Visualize This Item
length/distance	meter	m	1.1 yard	a yardstick plus a length of chalk
	centimeter	cm	0.4 (4/10 <sup>th</sup> ) inch	approx width of your small finger
	millimeter	mm	4/100 <sup>th</sup> inch	thickness of a dime
	kilometer	km	6/10 <sup>th</sup> mile	a little over 1/2 mile
mass (sometimes called weight)	gram	g	1/28 <sup>th</sup> ounce	heaviness of a pack of Sweet'N Low or Equal sugar substitute
	kilogram	kg	2.2 pounds	2 and 1/5 <sup>th</sup> lbs of butter
volume (liquid contents)	milliliter	mL or ml	1/5 <sup>th</sup> teaspoon	scant 1/4 tsp of water
	liter	L or l**	1.06 quarts	a quart carton of milk plus 1/4 cup of milk
temperature	degrees Celsius	°C	1.8 x °C + 32 = °F	20 °C = comfortable room temp 0 °C = freezing (32 °F) 35 °C = beach weather (95 °F) 37 °C = normal body temp (98 °F)
length/width/height (body measurements, cooking utensils, linens, etc.)	centimeter	cm	a little less than 1/2 inch	see centimeter in length description
pressure (tires, pressure cookers)	kilopascal	kPa	0.145 lb per sq in. (psi)	approx 7 kPa for each pound per square inch
energy (food/dieting)	kilojoule	kJ	0.239 Calories	multiply the number of Calories by 4 for the approx number of kilojoules

\* These **symbols** must be written as given in this table (using capital letters and lowercase letters, with no periods). Changing a lowercase letter to a capital letter in an SI metric symbol can change the meaning of that symbol. For example:

mL = milliliter (which is 1/1000<sup>th</sup> of a liter or about 1/5<sup>th</sup> teaspoon)  
ML = megaliter (which is one million liters and totals over one million quarts)

\*\* In the U.S., Canada, and Australia, the capital el (L) is used as the **symbol for liter**; however, in many countries the lowercase el is used. Both are correct, but the capital el is preferred in the U.S.

The **spellings** meter and metre [and liter and litre] are both correct. In the U.S., the meter and liter spellings are used most often. Some other English-speaking countries use the metre and litre spellings.

The preferred **pronunciation** of the word kilometer is KILL-oh-meet-ur (*not* kill-AHM-it-ur) with accent on the first syllable, as in CENT-i-meet-ur and MILL-i-meet-ur.

Many errors can be found in symbols printed on the labels of food packages that give contents in inch-pound units and their equivalents in SI metric units, so be sure to use the symbols given in this table. Some examples of wrong usage:

**CORRECT:** g is the (only) symbol (short form) for gram and grams. [Don't add an "s" to any symbol to make it plural.]

**INCORRECT:** (for gram or grams): gm gms GM G. gr. grms. g. gm. GRMS GMS

**This table is furnished courtesy of the U.S. Metric Association, 10245 Andasol Avenue, Northridge CA 91325-1504.**