

| Measurement                | Unit and Abbreviation                      | Metric Equivalent  | Metric to English conversion factor   | English to metric conversion factor   |
|----------------------------|--|--|---|---|
| Length                     | 1 kilometer (km)                           | = 1000 (10 <sup>3</sup> ) meters                           | 1 km = 0.62 mile  | 1 mile = 1.61 km  |
|                            | 1 meter (m)                                | = 100 (10 <sup>2</sup> ) centimeters<br>= 1000 millimeters | 1 m = 1.09 yards<br>1 m = 3.28 feet<br>1 m = 39.37 inches                         | 1 yard = 0.914 m<br>1 foot = 0.3048 m   |
|                            | 1 centimeter (cm)                          | = 0.01 (10 <sup>-2</sup> ) meter                           | 1 cm = 0.394 inch   | 1 foot = 30.48 cm<br>1 inch = 2.54 cm   |
|                            | 1 millimeter (mm)                          | = 0.001 (10 <sup>-3</sup> ) meter                          | 1 mm = 0.039 inch   |   |
|                            | 1 micrometer (μm)                          | = 0.000001 (10 <sup>-6</sup> ) meter                       |   |   |
|                            | 1 nanometer (nm)                           | = 0.000000001 (10 <sup>-9</sup> ) meter                    |   |   |
|                            | 1 picometer                                | = 0.000000000001 (10 <sup>-12</sup> ) meter                |   |   |
| Area                       | 1 square meter (m <sup>2</sup> )           | = 10,000 square centimeters                                | 1 m <sup>2</sup> = 1.1960 square yards<br>1 m <sup>2</sup> = 10.764 square feet   | 1 square yard = 0.8361 m <sup>2</sup>   |
|                            | 1 square centimeter (cm <sup>2</sup> )     | = 100 square millimeters                                   | 1 cm <sup>2</sup> = 0.155 square inch   | 1 square inch = 6.4516 cm <sup>2</sup>  |
| Mass                       | 1 metric ton (t)                           | = 1000 kilograms   | 1 t = 1.102 ton   | 1 ton = 0.907t  |
|                            | 1 kilogram (kg)                            | = 1000 grams   | 1 kg = 2.205 pounds   | 1 pound = 0.4536 kg   |
|                            | 1 gram (g)                                 | = 1000 milligrams  | 1 g = 0.0353 ounce<br>1 g = 15.432 grains   | 1 ounce = 28.35 g   |
|                            | 1 milligram (mg)                           | = 0.001 gram   | 1 mg = approx. 0.015 grain  |   |
|                            | 1 microgram (μg)                           | = 0.000001 gram  |   |   |
| Volume (solid)             | 1 cubic meter (m <sup>3</sup> )            | = 1,000,000 cubic centimeters (cm <sup>3</sup> or cc)      | 1 m <sup>3</sup> = 1.3080 cubic yards<br>1 m <sup>3</sup> = 35.315 cubic ft.      | 1 cubic yard = 0.7646 m <sup>3</sup><br>1 cubic foot = 0.0283 m <sup>3</sup>            |
|                            | 1 cubic centimeter (cm <sup>3</sup> or cc) | = 0.000001 cubic meter<br>= 1 cubic millimeter             | 1 cm <sup>3</sup> = 0.0610 cubic inch   | 1 cubic inch = 16.387 cm <sup>3</sup>   |
|                            | 1 cubic millimeter (mm <sup>3</sup> )      | = 0.000000001 cubic meter                                  |   |   |
| Volume (liquids and gases) | 1 kiloliter (kL)                           | = 1000 liters  | 1 kL = 264.17 gallons   | 1 gallon = 3.785 L  |
|                            | 1 liter (L)                                | = 1000 milliliters   | 1 L = 0.264 gallons<br>1 L = 1.057 quarts   | 1 quart = 0.946 L   |
|                            | 1 milliliter (mL)                          | = 0.001 liter<br>= 1 cubic centimeter                      | 1 mL = 0.034 fluid ounce<br>1 mL = .203 tsp.<br>1 mL = approx. 15-16 drops (gft.) | 1 quart = 946 mL<br>1 pint = 473 mL<br>1 fluid ounce = 29.57 mL<br>1 teaspoon = 4.93 mL |
|                            | 1 microliter (μL)                          | = 0.000001 liter   |   |   |
| Time                       | 1 second (s)                               | = 1/60 minute  |   |   |
|                            | 1 millisecond (ms)                         | = 0.001 second   |   |   |
| Temperature                | Degrees Celsius ( C )                      |  | F = 2/5 C + 32  | C = 5/9 ( F - 32)   |