

LC 1069

# METRIC STYLE GUIDE FOR THE NEWS MEDIA



U.S. DEPARTMENT OF COMMERCE  
National Bureau of Standards

# METRIC STYLE GUIDE

In most cases, familiarity with the following metric units will be sufficient for everyday transactions:

|          | Name       | Symbol | Approximate Size                      |
|----------|------------|--------|---------------------------------------|
| length   | meter      | m      | 39½ inches                            |
|          | kilometer  | km     | 0.6 mile                              |
|          | centimeter | cm     | width of a paper clip                 |
|          | millimeter | mm     | thickness of paper clip               |
| area     | hectare    | ha     | 2½ acres                              |
| weight   | gram       | g      | weight of a paper clip                |
|          | kilogram   | kg     | 2.2 pounds                            |
|          | metric ton | t      | long ton (2240 pounds)                |
| volume   | liter      | L      | one quart and 2 ounces                |
|          | milliliter | mL     | 1/5 teaspoon                          |
| pressure | kilopascal | kPa    | atmospheric pressure is about 100 kPa |

Units of **time** and **electricity** will not change.

The Celsius **temperature** scale should be used, familiar points on which are:

|                              | °C    | °F    |
|------------------------------|-------|-------|
| Freezing point of water      | 0     | 32    |
| Boiling point of water       | 100   | 212   |
| Normal body temperature      | 37    | 98.6  |
| Comfortable room temperature | 20–25 | 68–77 |

## Prefixes

Some of the metric units listed above include prefixes such as kilo, centi, and milli. Prefixes, added to a unit name, create larger or smaller units by factors that are powers of 10. For example, add the prefix kilo, which means a thousand, to the unit gram, to indicate 1000 grams; thus 1000 grams become 1 kilogram. The more common prefixes are shown in Table 1.

## Conversions

Conversions should follow a rule of reason: don't include figures that imply more accuracy than justified by the original data. For example, 36 inches would be converted to 91 centimeters, not 91.44 centimeters (36 inches  $\times$  2.54 centimeters per inch = 91.44 centimeters), and 40.1 inches would convert to 101.9 centimeters, not 101.854. Table 2 lists many of the more commonly used conversion factors.

## Spelling

All units and prefixes should be spelled as shown in this guide.

## Capitals

**Units:** The *names* of all units start with a lower-case letter except, of course, at the beginning of the sentence. There is one exception: in “degree Celsius” the unit “degree” is lower case but the modifier “Celsius” is capitalized.

**Symbols:** Unit symbols are written in lower-case letters except for liter and those units derived from the name of a person (m for meter but W for watt, Pa for pascal, etc.).

**Prefixes:** Symbols of prefixes that mean a million or more are capitalized and those less than a million are lower case (M for mega, k for kilo).

## Plurals

**Units:** Names of units are made plural only when the numerical value that precedes them is more than 1. For example, 0.25 liter or  $\frac{1}{4}$  liter but 250 milliliters. Zero degrees Celsius is an exception to this rule.

**Symbols:** Symbols for units are never pluralized (250 mm = 250 millimeters).

## Spacing

A space is left between the number and the symbol to which it refers. For example 7 m, 31.4 kg.

In names or symbols for units having prefixes, no space is left between letters making up the symbol or name. Examples: milligram, mg; kilometer, km.

## Period

DO NOT use a period with metric unit names and symbols except at the end of a sentence.

## Decimal Point

The dot or period is used as the decimal point within numbers. In numbers less than one, zero should be written before the decimal point. Examples: 7.038 g; 0.038 g.

## Pronunciation

The pronunciation of the common metric units is well known except for pascal which rhymes with rascal and hectare which rhymes with bare. Celsius is pronounced sell•see•us.

The first syllable of every prefix is accented, not the second syllable. Examples: kilometer as in kilowatt; centimeter as in centiment.

## For More Detail

Approximate conversions for many units are given in Table 2. Some writers will require detailed information on units peculiar to their fields. For example, the British thermal unit, calorie, and therm are replaced by the metric unit, joule. Further information is available in “NBS Guidelines for Use of the Metric System,” LC1056, free, from the Metric Information Office, National Bureau of Standards, Washington, D.C. 20234, 301/921-2658. Also useful is the “NBS Metric Kit,” (SP410), complete with references, charts, a conversion card, and the history of the metric system, available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402; price: \$2.

**Table 1****COMMON PREFIXES FOR METRIC UNITS**

| Factor      |           | Prefix | Symbol |
|-------------|-----------|--------|--------|
| 1 000 000   | $10^6$    | mega   | M      |
| 1000        | $10^3$    | kilo   | k      |
| 1/100       | $10^{-2}$ | centi  | c      |
| 1/1000      | $10^{-3}$ | milli  | m      |
| 1/1 000 000 | $10^{-6}$ | micro  | $\mu$  |

**Table 2****METRIC CONVERSION FACTORS (Approximate)**

| Symbol                     | When You Know<br>Number of  | Multiply By                   | To Find<br>Number of | Symbol          |
|----------------------------|-----------------------------|-------------------------------|----------------------|-----------------|
| <b>LENGTH</b>              |                             |                               |                      |                 |
| in                         | inches                      | 2.54                          | centimeters          | cm              |
| ft                         | feet                        | 30                            | centimeters          | cm              |
| yd                         | yards                       | 0.9                           | meters               | m               |
| mi                         | miles                       | 1.6                           | kilometers           | km              |
| <b>AREA</b>                |                             |                               |                      |                 |
| in <sup>2</sup>            | square inches               | 6.5                           | square centimeters   | cm <sup>2</sup> |
| ft <sup>2</sup>            | square feet                 | 0.09                          | square meters        | m <sup>2</sup>  |
| yd <sup>2</sup>            | square yards                | 0.8                           | square meters        | m <sup>2</sup>  |
| mi <sup>2</sup>            | square miles                | 2.6                           | square kilometers    | km <sup>2</sup> |
|                            | acres                       | 0.4                           | hectares             | ha              |
| <b>WEIGHT (mass)</b>       |                             |                               |                      |                 |
| oz                         | ounces                      | 28                            | grams                | g               |
| lb                         | pounds                      | 0.45                          | kilograms            | kg              |
|                            | short tons<br>(2000 pounds) | 0.9                           | metric tons          | t               |
| <b>VOLUME</b>              |                             |                               |                      |                 |
| tsp                        | teaspoons                   | 5                             | milliliters          | mL              |
| Tbsp                       | tablespoons                 | 15                            | milliliters          | mL              |
| in <sup>3</sup>            | cubic inches                | 16                            | milliliters          | mL              |
| fl oz                      | fluid ounces                | 30                            | milliliters          | mL              |
| c                          | cups                        | 0.24                          | liters               | L               |
| pt                         | pints                       | 0.47                          | liters               | L               |
| qt                         | quarts                      | 0.95                          | liters               | L               |
| gal                        | gallons                     | 3.8                           | liters               | L               |
| ft <sup>3</sup>            | cubic feet                  | 0.03                          | cubic meters         | m <sup>3</sup>  |
| yd <sup>3</sup>            | cubic yards                 | 0.76                          | cubic meters         | m <sup>3</sup>  |
| <b>PRESSURE</b>            |                             |                               |                      |                 |
| inHg                       | inches of mercury           | 3.4                           | kilopascals          | kPa             |
| psi                        | pounds per square inch      | 6.9                           | kilopascals          | kPa             |
| <b>TEMPERATURE (exact)</b> |                             |                               |                      |                 |
| °F                         | degrees Fahrenheit          | 5/9 (after<br>subtracting 32) | degrees Celsius      | °C              |





**W**HEN President Ford signed the Metric Conversion Act on December 23, 1975, the United States established for the first time a national policy to coordinate the use of the metric system in this country. The policy will become evident over the next few months and years as more and more U.S. businesses, industrial firms, schools, and government agencies adopt the metric system. Every American will be affected by the changeover.

The news media will have a singularly important role in assisting the American public through this period of transition. Most Americans will need to know only a few metric units for everyday activities. The cooperation of everyone, including the government and media, will help ensure a smooth transition period with minimal disruption and confusion.

The Commerce Department's National Bureau of Standards has produced this metric style guide to give guidance to newspaper and magazine editors. In general it is believed that the metric changeover will be smoother if the media are communicating with the same language and symbols. Although not intended for the editors of trade and technical publications, they may find the guide useful also.

The National Bureau of Standards, the Federal government's physical sciences and measurement laboratory, has long been a focal point for metric information, especially since 1971 when it produced a 13-volume set of metric reports for the Congress. Since then NBS has maintained a Metric Information Program to respond to requests. Many of these functions will be assumed by the U.S. Metric Board, a separate entity established by the 1975 Act.

For general information about the National Bureau of Standards, contact the Office of Information Activities, Room A621, Administration Building, National Bureau of Standards, Washington, D.C. 20234.

