

Bionic Buffalo Tech Note #17: Numeric Prefixes

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OVERVIEW

Certain numeric prefixes are in common use. These are also sometimes called “scientific” prefixes. Examples include *kilo-* (as in kilometer), *mega-* (as in megabyte), and *centi-* (as in centimeter). This paper lists the common numeric prefixes, and their etymologies.

STANDARD PREFIXES

These are the common standard prefixes:

Prefix	Abbreviation	Value	Origin
yotta	Y	10^{24}	Latin <i>octo</i> , “eight”
zetta	Z	10^{21}	Latin <i>septem</i> , “seven”
exa	E	10^{18}	Greek <i>hex</i> , “six”
peta	P	10^{15}	Greek <i>pente</i> , “five”
tera	T	10^{12}	Greek <i>teras</i> , “monster”
giga	G	10^9	Greek <i>gigas</i> , “giant”
mega	M	10^6	Greek <i>megas</i> , “great” or “large”
kilo	k	10^3	Greek <i>khilioi</i> , “thousand”
hecto	h	10^2	Greek <i>hecton</i> , “hundred”
deca <i>or</i> deka	da	10	Greek <i>deka</i> , “ten”
deci	d	10^{-1}	Latin <i>decimus</i> , “tenth”

Prefix	Abbreviation	Value	Origin
centi	c	10^{-2}	Latin <i>centum</i> , “hundred”
milli	m	10^{-3}	Latin <i>mille</i> , “thousand”
micro	μ or mc	10^{-6}	Greek <i>mikros</i> , “small”
nano	n	10^{-9}	Greek <i>nanos</i> , “dwarf”
pico	p	10^{-12}	Spanish <i>pico</i> , “small quantity”
femto	f	10^{-15}	Norse <i>fimmt an</i> , “fifteen”
atto	a	10^{-18}	Norse <i>attjan</i> , “eighteen”
zepto	z	10^{-21}	Latin <i>septem</i> , “seven”
yocto	y	10^{-24}	Greek <i>okto</i> , “eight”

Note that, in some cases, the distinction between upper and lower case is crucial for the abbreviations. For instance, mega- uses M, while milli- uses m. The upper-case abbreviation is used for the larger quantity.

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