Physical Science Reference Tables

SI Prefixes and Values				
Prefix	**Symbol**	**Magnitude**	**Means base unit times…**	
Tera-	T	10^{12}	1,000,000,000,000	trillion
Giga-	G	10^{9}	1,000,000,000	billion
Mega-	M	10^{6}	1,000,000	million
kilo-	k	10^{3}	1,000	thousand
hecto-	h	10^{2}	100	hundred
deka-	da	10^{1}	10	ten
BASE UNIT(m,L,g)		10^{0}	1	one
deci-	d	10^{-1}	.1	tenth
centi-	c	10^{-2}	.01	hundreth
milli-	m	10^{-3}	.001	thousandth
micro-	μ	10^{-6}	.000 001	millionth
nano-	n	10^{-9}	.000 000 001	billionth

SI Standard Base Units		
Property	**Name**	**Symbol**
length	meter	m
mass	kilogram	kg
time	second	s
volume	liter	L
temperature	kelvin	K
electric current	ampere	A
electric resistance	ohms	Ω
potential difference	volt	V
energy	joule	J
force	newton	N
frequency	hertz	Hz

Metric-imperial Conversions		
Meters	**Yards**	**Inches**
1.000	1.093	39.37
.914	1.000	36.00

centimeters	inches	feet
1.000	.394	.0328
2.54	1.000	.0833

kilometers	mile
1.000	.621
1.609	1.000

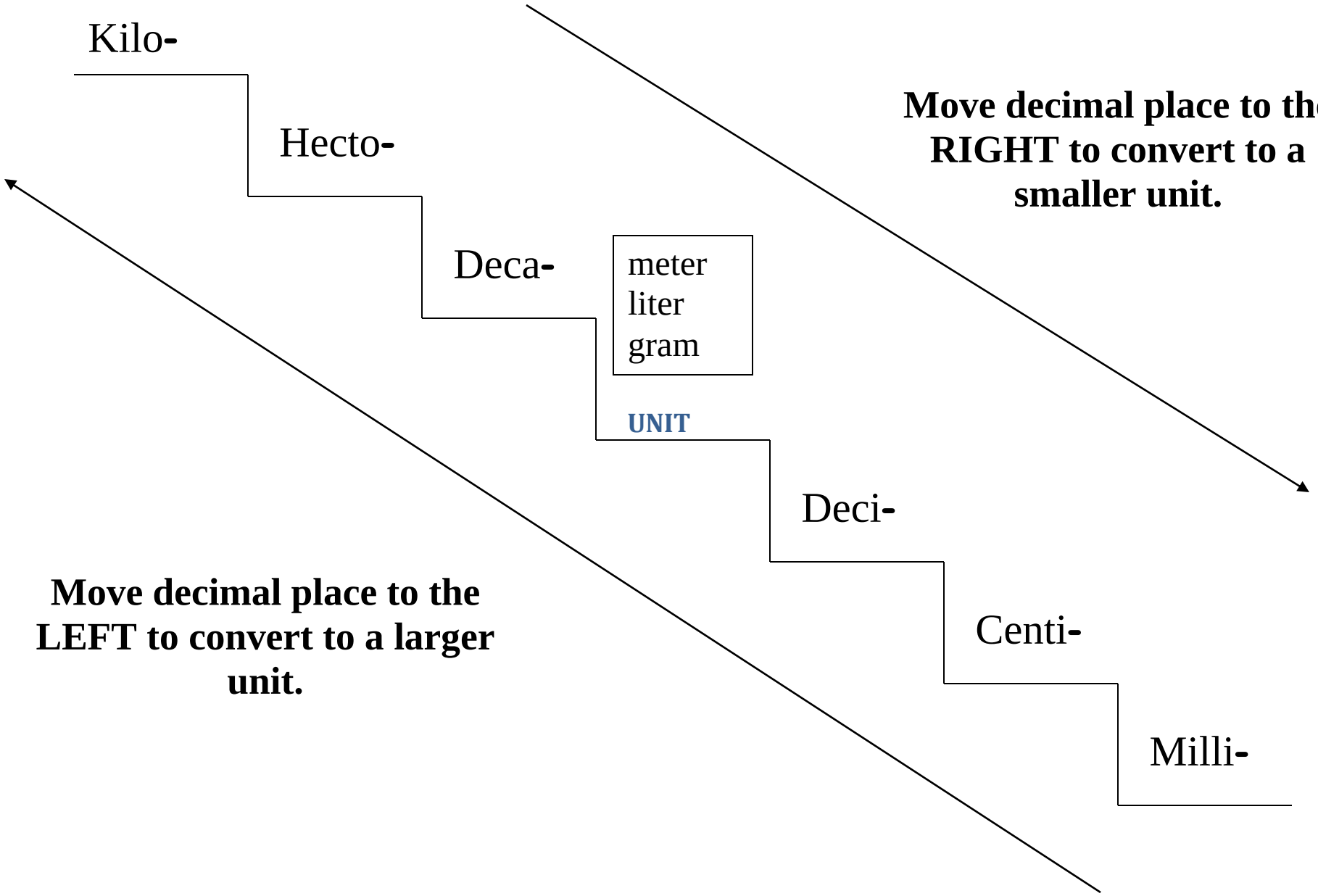
grams	ounces	pounds
1.00	.035	.002
28.35	1.000	.0625
453.59	16.000	1.000

kilograms	ounces	pounds
1.000	35.274	2.205
.028	1.000	.0625
.454	16.000	1.000

liters	pints	quarts	gallons
1.000	2.113	1.057	.264
.473	1.000	.500	.125
.946	2.000	1.000	.250
3.785	8.000	4.000	1.000

Derived Metric Units				
Measurement of property	**unit name**	**unit symbol**	**derivation**	**base derivation**
Frequency	hertz	Hz	-	s^{-1}
Force	newton	N	-	$m \cdot kg \cdot s^{-2}$
Pressure, stress	pascal	Pa	N/m^2	$m^{-1} \cdot kg \cdot s^{-2}$
Energy, work	joule	J	$N \cdot m$	$m^2 \cdot kg \cdot s^{-2}$
Power, radiant flux	watt	W	J/s	$m^2 \cdot kg \cdot s^{-3}$
Electric charge, quantity of electricity	coulomb	C	-	$s \cdot A$
Electromotive force (potential difference)	volt	V	W/A	$m^2 \cdot kg \cdot s^{-3} \cdot A^{-1}$
Electric resistance	ohm	Ω	V/A	$m^2 \cdot kg \cdot s^{-3} \cdot A^{-2}$

Temperature Conversions			
From…	**To Fahrenheit**	**To Celsius**	**To Kelvin**
Fahrenheit (F)	F	$5/9 \times ({}^0F - 32)$	$((F - 32) \times 5/9) + 273.15$
Celsius (C)	$({}^0C \times 9/5) + 32$	C	$C + 273.15$
Kelvin (K)	$(K - 273.15) \times 9/5 + 32$	$K - 273.15$	K



Memory Hook: King Henry Died; U Didn't Care Much