

# BASIC PREFIXES AND UNITS

THINGS THAT YOU HAVE TO KNOW THAT YOU KNOW

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Alpha	A	α	A
Beta	B	β	B
Gamma	Γ	γ	G
Delta	Δ	δ	D
Epsilon	Ε	ε	E
Zeta	Ζ	ζ	Z
Eta	Η	η	H
Theta	Θ	θ	TH
Iota	Ι	ι	I
Kappa	Κ	κ	K
Lambda	Λ	λ	L
Mu	Μ	μ	M
Nu	Ν	ν	N
Xi	Ξ	ξ	X
Omicron	Ο	ο	O
Pi	Π	π	P
Rho	Ρ	ρ	R
Sigma	Σ	σ	S
Tau	Τ	τ	T
Upsilon	Υ	υ	U
Phi	Φ	φ	PH
Chi	Χ	χ	CH
Psi	Ψ	ψ	PS
Omega	Ω	ω	O

**GREEK ALPHABET**



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Multiple	Prefix	Symbol	Common Name
$(10^{10})^{100}$	antoni	A	antioptex
$(10^{10})^{100}$	-	-	googolplex
$10^{100}$	-	-	googol
$10^{24}$	yotta	Y	heptillion
$10^{21}$	zetta	Z	hexillion
$10^{18}$	exa	E	quintillion
$10^{15}$	peta	P	quadrillion
$10^{12}$	tera	T	trillion
$10^9$	giga	G	billion
$10^6$	mega	M	million
$10^3$	kilo	k	thousand
$10^2$	hecto	h	hundred
$10^1$	deca	da	ten
$10^{-1}$	deci	d	tenth
$10^{-2}$	centi	c	hundredth
$10^{-3}$	milli	m	thousandth
$10^{-6}$	micro	μ	millionth
$10^{-9}$	nano	n	billionth
$10^{-12}$	pico	p	trillionth
$10^{-15}$	femto	f	quadrillionth
$10^{-18}$	atto	a	quintillionth
$10^{-21}$	zepto	z	hexillionth
$10^{-24}$	yocto	y	heptillionth

**PREFIXES**

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**PREFIXES YOU MUST KNOW**

Power of 10	Exponent	Prefix	Symbol	Common Name
9	$10^9$	giga	G	billion
6	$10^6$	mega	M	million
3	$10^3$	kilo	k	thousand
2	$10^2$	hecto	h	hundred
1	$10^1$	deca	da	ten
-1	$10^{-1}$	deci	d	tenth
-2	$10^{-2}$	centi	c	hundredth
-3	$10^{-3}$	milli	m	thousandth
-6	$10^{-6}$	micro	μ	millionth
-9	$10^{-9}$	nano	n	billionth

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	Metric		British Imperial
	mks	cgs	
length			
mass			
time			
temperature			

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	Metric		British Imperial
	MKS	CGS	
<b>length</b>	meter (m)	centimeter (cm)	foot or inch
<b>mass</b>			
<b>time</b>			
<b>temperature</b>			

0 5 10 15 20 25  
 mm  
 inch

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	Metric		British Imperial
	MKS	CGS	
<b>length</b>	meter (m)	centimeter (cm)	foot or inch
<b>mass</b>	kilogram (kg)	gram (g)	slug
<b>time</b>			
<b>temperature</b>			

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	Metric		British Imperial
	MKS	CGS	
<b>length</b>	meter (m)	centimeter (cm)	foot or inch
<b>mass</b>	kilogram (kg)	gram (g)	slug
<b>time</b>	seconds (s)	seconds (s)	seconds
<b>temperature</b>			

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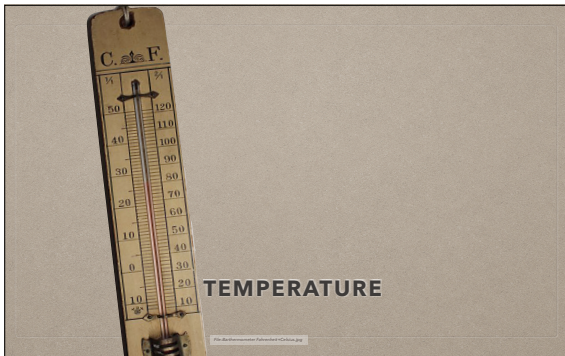
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	Metric		British Imperial
	MKS	CGS	
<b>length</b>	meter (m)	centimeter (cm)	foot or inch
<b>mass</b>	kilogram (kg)	gram (g)	slug
<b>time</b>	seconds (s)	seconds (s)	seconds
<b>temperature</b>	Kelvin (K) Degrees Celsius (°C)		Fahrenheit (°F)

°C - A single temperature  
 °C° - A change in temperature

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## A BRAND NEW UNIT YOUR HOMEWORK TONIGHT

Introduce to the class a new unit; one that represents you.

Name the unit, and the symbol for it.

Tell us what it measures, counts, or represents.

Tell us the conversions to other units or amounts.

Tell us why the scientific community has honored you with the namesake of the unit.

Picture. Story. Design.

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## THE HAINE COFFEE SERVING H<sub>50</sub>

- Ignore Grande and the Venti, 16 or 20 ounce servings of coffee are for amateurs.
- Private teams of master potters developed the H50 mugs in the 1990's so that Jim Haine could finish his masters degree while teaching.
- 1 H50 = 2.5 Venti
- 1 H50 = 4.17 Tall



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## THE GORDIE HOWE HAT TRICK GH

- In Hockey a Hat Trick is three goals
- The Gh is, in one game, a goal, an assist, and a fight.
- Although named after Howe, currently Rick Tocchet holds the record with 18 Gh games (9 with the Flyers).



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## ENGINEERING BOOT CAMP INTRODUCTIONS

Introduce to the class to your favorite invention, process, or technology.

State the problem that existed.  
Explain how the problem was solved.  
Tell us how that CHANGED YOUR LIFE.  
Can it be better?

PHOTO / DIAGRAM  
SHORT PARAGRAPH

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## THE STARBUCKS SPLASH STICK

- Simple motion often caused me to lose some coffee, or leave drips on (all) of my shirts.
- This closes the opening in the lid, keeps the coffee hot a little bit longer, and stops the splash.
- With the splash stick, I can walk faster and with more confidence. My shirts are not stained.
- I don't know if they are made of recycled materials, or the cost it adds to my coffee purchase.



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