Talk Like an Astronomer!

FYI: Appendix 4 in the textbook gives a good explanation of scientific notation.

Common Metric Prefixes*

10^{-9}	nano (n)	10^{3}	kilo (k)
10^{-6}	micro (μ)	10^{6}	mega (M)
10^{-3}	milli (m)	10^{9}	giga (G)
10^{-2}	centi (c)	10^{12}	tera (T)

Translating SI/MKS units to cgs units

Quantity	SI/MKS	cgs	conversion
length	meter (m)	centimeter (cm)†	1 m = 10^2 cm
mass	kilogram (kg)	gram (g)	1 kg = 10^3 g
time	second (s)	second (s)	you figure it out :-)
force	newton (N)	dyne (dyne)	1 N = 10^5 dyne
energy	joule (J)	erg (erg)	1 J = 10^7 erg
power‡	watt (W)§	erg s^{-1}	1 W = 10^7 erg s^{-1}
electric charge	coulomb (C)	electrostatic unit (esu)	1 C = 3×10^9 esu
magnetic field	tesla (T)	gauss (G)	1 T = 10^4 G

Other useful jargon you might hear in class

- The axes on a graph are often in *logarithmic* units. One factor of ten (usually one tick mark) is called one "decade" or one "dex".
- In astronomy, a "metal" is any element after hydrogen and helium on the periodic table.

*Astronomers love to use gigayears (Gyr), megameters (Mm), micrometers (or microns, μm), and other weird-sounding units!

†A common unit of length in astronomy is the *angstrom* (Å), where 1 Å = 10^{-10} m.

‡The term *luminosity* is used to describe the power output of a star.

§One watt is just 1 joule per second (J s^{-1}).