

ASTR 100 Week 5 Study Guide

This is where it starts to get a little rugged, folks. Buckle up!

In addition to all the stuff up to Week 4, you're expected to **know**:

1. Astronomic scales

- a. Astronomic Unit (A.U.) : What is it, how many miles, kilometers, meters?
- b. Light Year (LY) : What is it, how many miles?
- c. Parscec (pc) What is it, how many LY, **approximately** how many A.U.'s?

2. Scientific Notation

- a. Converting numbers in standard notation to scientific notation and vice-versa
- b. Manipulating exponents versus decimals
- c. Operations using scientific notation (multiply, divide, add, subtract, square, cube, square root, cube root)

3. Prefixes

- a. Know the power of ten equivalences of Giga, Mega, Kilo, Centi, Milli, Micro, Nano
- b. Convert quantities using appropriate metric prefixes

4. Standard Units (**this is critical when you are using Newton's formulas!**)— you have to be able to convert the more common units (kilometers, hours, etc.) to:

- a. Meter
- b. Kilogram
- c. Second

5. Lookback time:

- a. The speed of light ("c"): mi/sec, km/sec, m/sec
- b. The concept that distant observations are direct observations of the distant past