

Physics Skills

PART III. UNIT CONVERSION

Science uses the **KMS** system (**SI**: System Internationale). **KMS** stands for kilogram, meter, second. These are the units of choice of physics. The equations in physics depend on unit agreement. So you must convert to **KMS** in most problems to arrive at the correct answer. Convert the following units using the **DIMENSIONAL ANALYSIS (AKA FACTOR-LABEL METHOD.)**

In order to get credit you **MUST** show all your work.

1. 28 km to cm.
2. 45 kg to mg.
3. 85 cm/min to m/s.
4. 8.8×10^{-8} m to mm
5. Convert the speed of light, 3×10^8 m/s, to km/day.
6. 450 m/s to km/h.
7. Convert 150 km/h to m/s
8. How many seconds are in a year?
9. 4008 g to kg
10. 1.5×10^{11} m to μm
11. 1.2 km to m

12. 25.0 μm to m

13. 6.23×10^{-7} m to nm

14. 75 m/s to km/h

15. 275 km/h to m/s