

# Metric Conversions Worksheet

Conversion statements written as equalities

|       |                      |                     |                     |
|-------|----------------------|---------------------|---------------------|
| Terra | 1Tm = 1000000000000m | 1TL= 1000000000000L | 1Ts= 1000000000000s |
| Giga  | 1Gm= 1000000000m     | 1GL= 1000000000L    | 1Gs= 1000000000s    |
| Mega  | 1Mm= 1000000m        | 1ML= 1000000L       | 1Ms= 1000000s       |
| Kilo  | 1Km= 1000m           | 1KL= 1000L          | 1Ks= 1000s          |

Base units include meters, liters, joules, gram, seconds, bytes, hertz, ampere or any root

|       |                  |                  |                  |
|-------|------------------|------------------|------------------|
| Centi | 1m= 100cm        | 1L= 100cL        | 1s= 100cs        |
| Milli | 1m= 1000mm       | 1L= 1000mL       | 1s= 1000ms       |
| Micro | 1m= 1000000µm    | 1L= 1000000µL    | 1s= 1000000µs    |
| Nano  | 1m= 1000000000nm | 1L= 1000000000nL | 1s= 1000000000ns |

Other important conversions

| Length           | Mass to weight          | Volume                 |
|------------------|-------------------------|------------------------|
| 1 inch = 2.54cm  | 1 Kg = 2.2 pounds (lbs) | 3.78L= 1gallon         |
| 1 mile = 1.6 Km  |                         | 1cm <sup>3</sup> = 1mL |
| 12 inches = 1 ft |                         |                        |
| 3 ft = 1 yd      |                         |                        |
| 5280 ft = 1 mile |                         |                        |

1. Convert the following to km:

|                    |                  |                  |
|--------------------|------------------|------------------|
| 1600.0 m = _____   | 2050 cm = _____  | 1.033 Mm = _____ |
| 245 565 mm = _____ | 20 099 m = _____ | 499 m = _____    |

2. Convert the following:

|                       |                       |
|-----------------------|-----------------------|
| 10.034 ms = _____ cs  | 36.45 cL = _____ µL   |
| 0.05 cm = _____ mm    | 1202.5 mL = _____ L   |
| 0.42101 Gg = _____ Mg | 25.5 km = _____ m     |
| 0.12907 cm = _____ mm | 756 900 µs = _____ ms |
| 5600.4 Ms = _____ Gs  | 268 000 cm = _____ km |

# Metric Conversions Worksheet

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Convert the following:

$$0.0075 \text{ Gm} = \underline{\hspace{2cm}} \text{ km}$$

$$0.00091 \text{ TL} = \underline{\hspace{2cm}} \text{ ML}$$

$$0.00046 \text{ ks} = \underline{\hspace{2cm}} \text{ cs}$$

$$244475.3 \text{ } \mu\text{s} = \underline{\hspace{2cm}} \text{ hs}$$

$$4096 \text{ Ms} = \underline{\hspace{2cm}} \text{ Gs}$$

$$210 \text{ hm} = \underline{\hspace{2cm}} \text{ cm}$$

$$0.0002 \text{ } \mu\text{g} = \underline{\hspace{2cm}} \text{ mg}$$

$$448.5 \text{ cg} = \underline{\hspace{2cm}} \text{ g}$$

$$0.00034 \text{ } \mu\text{L} = \underline{\hspace{2cm}} \text{ cL}$$

$$2103.55 \text{ s} = \underline{\hspace{2cm}} \text{ ks}$$

$$11120.33 \text{ ng} = \underline{\hspace{2cm}} \text{ cg}$$

$$0.0000012 \text{ GL} = \underline{\hspace{2cm}} \text{ cL}$$

## Word Problems

1. The distance from here to the airport is 0.0000075 Gm. How far is this in km (a quantity that we are more used to talking about)
  
  
  
  
  
  
  
  
  
  
2. There are 10 computers in the computer lab that each have 20 GB hard drives. How many bytes (B) of disk space do we have in the computer lab in total.
  
  
  
  
  
  
  
  
  
  
3. A challenge: convert 100125368477004 ng to Teragrams.