

Name: _____
Hour: _____ Date: _____

Chemistry: Conversion Factors

Below are some conversion factors used in the SI System, and which we will use in this class.

<u>kilo- = 1000</u>	<u>centi- = 1/100</u>	<u>milli- = 1/1000</u>	<u>Other Conversions</u>
1 kg = 1000 g 1 km = 1000 m 1 kL = 1000 L	100 cm = 1 m	1000 mg = 1 g 1000 mm = 1 m 1000 mL = 1 L	1 mL = 1 cm ³ 1 L = 1 dm ³ 1 cm = 10 mm

Solve each of the following problem using dimensional analysis. Remember to always use units.

- Determine the number of mm in 1600 m.
- Determine the number of m in 1600 mm.
- Determine the number of mm in 14.3 cm.
- How many seconds are in 4.3 years?
- Convert 2875 cm³ to liters.
- The density of water is 1 g/mL. Convert the density of water into kg/m³.
omit
- Convert 5.2 cm of magnesium (Mg) ribbon to mm of Mg ribbon.

8. Convert 0.049 kg sulfur (S) to g of S.

9. Convert 0.020 kg of tin (Sn) to mg of Sn.

10. Convert 150 mg of acetylsalicylic acid (aspirin) to g of aspirin.

11. Convert 2500 mL of hydrochloric acid (HCl) to L of HCl.

12. A metallurgist is making an alloy that consists of 325 g of chromium (Cr) and 2.5 kg of iron (Fe). Find the total mass of the mixture in kg.

13. How many mL of water (H_2O) will it take to fill a 2 L bottle that already contains 1.87 L of H_2O ?

14. Convert 150 cm of copper (Cu) wire into mm of Cu wire.

15. Convert 0.5 g of sodium (Na) to kg of Na.