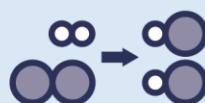




## Relative Formula Mass

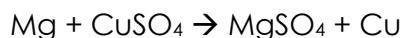
Answer the following questions.

1. Circle the correct word to complete the sentence.
  - a. Relative atomic mass can also be written as **M<sub>r</sub>** / **A<sub>r</sub>**
  - b. Relative formula mass can also be written as **M<sub>r</sub>** / **A<sub>r</sub>**
  - c. The relative atomic mass of an **element** / **compound** can be found using the Periodic Table
  - d. The relative atomic mass can be found next to the chemical symbol, on a Periodic Table, and it is always the **bigger** / **smaller** / **top** / **bottom** number.
2. State the relative atomic mass (Ar) for the following elements:
  - a. Nitrogen **14**
  - b. Bromine **80**
  - c. Neon **20**
  - d. Thallium **204**
  - e. Vanadium **51**
  - f. Helium **4**
  - g. Hydrogen **1**
  - h. Oxygen **16**
  - i. Carbon **12**
  - j. Osmium **190**
  - k. Gold **197**
  - l. Copper **63.5**
3. Calculate the relative formula mass (M<sub>r</sub>) of each of the following compounds.  
Show your working.
  - a. Cl<sub>2</sub> **71**
  - b. H<sub>2</sub> **2**
  - c. H<sub>2</sub>O **18**
  - d. CO<sub>2</sub> **44**
  - e. HCl **36.5**
  - f. CuSO<sub>4</sub> **159.5**
  - g. NaOH **40**
  - h. Al<sub>2</sub>O<sub>3</sub> **102**
  - i. Zn(OH)<sub>2</sub> **99**
  - j. Mg(NO<sub>3</sub>)<sub>2</sub> **148**
  - k. Ca(HCO<sub>3</sub>)<sub>2</sub> **162**
  - l. (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub> **132**



4. Prove that the  $M_r$  of products =  $M_r$  of reactants using the following equation.

(Ar: Mg = 24; Cu = 63.5; S = 32; O = 16)



$$24 + 159.5 = 120 + 63.5$$

$$\text{both sides} = 183.5$$

5. A metal oxide has the formula MO, where M is the chemical formula for the metal and O is oxygen.

The relative formula mass for this compound is 40.

What is the metal?

$$A_r \text{ of } M + M_r \text{ of } O = 40$$

$$A_r \text{ of } M + 16 = 40$$

$$A_r \text{ of } M = 24$$

M = Magnesium.

