

Relative Mass and the Mole

(How far you go is up to you)

What?

Calculate the following masses for a chemical formula: H_2 , H_2O , CO_2 & MgO

Think of the mass you have for each atom of the element and use this to find an average value for the formula. For example, the first atom in the formula H_2 has two hydrogen atoms. It has a relative atomic mass of 1.008. The second atom in the formula H_2 also has two hydrogen atoms. It has a relative atomic mass of 1.008. The total mass of the formula H_2 is 2.016. The relative atomic mass of oxygen is 16.00. The relative atomic mass of carbon is 12.01. The relative atomic mass of magnesium is 24.31. The relative atomic mass of oxygen is 16.00. The relative atomic mass of magnesium is 24.31. The relative atomic mass of oxygen is 16.00. The relative atomic mass of magnesium is 24.31.

Model 1 – Eggs

Chicken		Duck		Mass of chicken eggs	Mass of duck eggs
Number of eggs	Mass of one egg	Number of eggs	Mass of one egg		
1	50g	1	100g	1.1	10.1
20		20			
100		100			
1000		1000			
10000		10000			

1. Complete the table above.
 - a. What will the mass of 10000 chicken eggs?
 - b. What will the mass of 10000 duck eggs?
 - c. How many times heavier is the 10000 duck eggs than the 10000 chicken eggs? (10000 : 1)
2. The O relative atomic mass is 16.00. The Mg relative atomic mass is 24.31. The relative atomic mass of MgO is 40.31. The relative atomic mass of CO_2 is 44.01. The relative atomic mass of H_2O is 18.02. The relative atomic mass of H_2 is 2.02.