Calculate the mass of each compound which must be used to make a 1000 ml solution with the following composition:

0.8 M Na_2CO_3 (RMM: 105.9888 Da)
0.1 M Na_3PO_4 (RMM: 163.94 Da)
80 mM Na_2HPO_4 (RMM: 141.96 Da)

The relationship between the concentration (in moles/litre expressed as molL^{-1}), volume (in litres, L), mass (in grams, g) and relative molecular mass (RMM, also referred to as *gram formula mass* or *molar mass*) is given by the formula below

$$\text{concentration} = \frac{\text{mass}}{\text{RMM} \times \text{volume}}$$

This can be rearranged for mass to give

$$\text{mass} = \text{concentration} \times \text{volume} \times \text{RMM}$$

Calculate the concentration of each compound in a solution of volume 7500 ml with the following composition:

715.4244 g Na_2CO_3 (RMM: 105.9888 Da)
25.2021 g $NaHCO_3$ (RMM: 84.007 Da)
958.23 g Na_2HPO_4 (RMM: 141.96 Da)

The relationship between the concentration (in moles/litre expressed as molL^{-1}), volume (in litres, L), mass (in grams, g) and relative molecular mass (RMM, also referred to as *gram formula mass* or *molar mass*) is given by the formula below

$$\text{concentration} = \frac{\text{mass}}{\text{RMM} \times \text{volume}}$$

This can be rearranged for mass to give

$$\text{mass} = \text{concentration} \times \text{volume} \times \text{RMM}$$