

Determine the formula weight of H₂O (water).

Determine the formula weight of NaCl (sodium chloride, salt).

Determine the formula weight of $C_6H_{12}O_6$ (glucose).

Determine the formula weight of CaCl_2 (calcium chloride).

Determine the formula weight of $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$ (magnesium sulfate heptahydrate).

Determine the formula weight of CH_3COOH (acetic acid).

Determine the formula weight of NH_4NO_3 (ammonium nitrate).

Determine the formula weight of KNO_3 (potassium nitrate).

Determine the formula weight of CaCO_3 (calcium carbonate).

Determine the formula weight of C_2H_5OH (ethanol).

Determine the formula weight of H₂O (water).

$$\text{H}_2\text{O} = 2(\text{H}) + (\text{O})$$

$$= 2(1.008) + (15.999)$$

$$= 18.015$$

$$= 18.015 \frac{\text{g}}{\text{mole}}$$

Determine the formula weight of NaCl (sodium chloride, salt).

$$\text{NaCl} = (\text{Na}) + (\text{Cl})$$

$$= (22.9898) + (35.453)$$

$$= 58.4428$$

$$= 58.443 \frac{\text{g}}{\text{mole}}$$

Determine the formula weight of $C_6H_{12}O_6$ (glucose).

$$C_6H_{12}O_6 = 6(C) + 12(H) + 6(O)$$

$$= 6(12.0107) + 12(1.008)$$

$$+ 6(15.999)$$

$$= 180.1542$$

$$= 180.154 \frac{g}{mole}$$

Determine the formula weight of CaCl_2 (calcium chloride).

$$\begin{aligned}\text{CaCl}_2 &= (\text{Ca}) + 2(\text{Cl}) \\ &= (40.078) + 2(35.453) \\ &= 110.984\end{aligned}$$

$$= 110.984 \frac{\text{g}}{\text{mole}}$$

Determine the formula weight of $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$ (magnesium sulfate heptahydrate).

$$\text{MgSO}_4 \cdot 7\text{H}_2\text{O} = (\text{Mg}) + (\text{S}) + 4(\text{O}) + 7[2(\text{H}) + (\text{O})]$$
$$= (24.3050) + (32.065)$$

$$+ 4(15.999)$$

$$+ 7[2(1.008) + (15.999)]$$

$$= 246.471$$

$$= 246.471 \frac{\text{g}}{\text{mole}}$$

Determine the formula weight of CH_3COOH (acetic acid).

$$\text{CH}_3\text{COOH} = (\text{C}) + 3(\text{H}) + (\text{C}) + (\text{O}) + (\text{O}) + (\text{H})$$

$$= (12.0107) + 3(1.008) + (12.0107)$$

$$+ (15.999) + (15.999) + (1.008)$$

$$= 60.0514$$

$$= 60.051 \frac{\text{g}}{\text{mole}}$$

Determine the formula weight of NH_4NO_3 (ammonium nitrate).

$$\begin{aligned}\text{NH}_4\text{NO}_3 &= (\text{N}) + 4(\text{H}) + (\text{N}) + 3(\text{O}) \\ &= (14.0067) + 4(1.008) \\ &\quad + (14.0067) + 3(15.999) \\ &= 80.0424\end{aligned}$$

$$= 80.042 \frac{\text{g}}{\text{mole}}$$

Determine the formula weight of KNO_3 (potassium nitrate).

$$\begin{aligned}\text{KNO}_3 &= (\text{K}) + (\text{N}) + 3(\text{O}) \\ &= (39.0983) + (14.0067) \\ &\quad + 3(15.999) \\ &= 101.102\end{aligned}$$

$$= 101.102 \frac{\text{g}}{\text{mole}}$$

Determine the formula weight of CaCO_3 (calcium carbonate).

$$\text{CaCO}_3 = (\text{Ca}) + (\text{C}) + 3(\text{O})$$

$$= (40.078) + (12.0107) + 3(15.999)$$

$$= 100.0857$$

$$= 100.086 \frac{\text{g}}{\text{mole}}$$

Determine the formula weight of C_2H_5OH (ethanol).

$$\begin{aligned}C_2H_5OH &= 2(C) + 5(H) + O + H \\&= 2(12.0107) + 5(1.008) + \\&\quad (15.999) + (1.008) \\&= 46.0684\end{aligned}$$

$$= 46.068 \frac{g}{mole}$$