Name: KEY

Percent Composition

1. Find the % composition of H_2O = 18.0g/mol

$\%H = \frac{2.0g}{18.0g} \times 100\% = 11\%$

$\%O = \frac{16.0g}{18.0g} \times 100\% = 88.9\%$

2. Find the % composition of $FeSO_4$ = 151.9 g/mol

$\%Fe = \frac{55.8g}{151.9g} \times 100\% = 36.7\%$

$\%O = \frac{64.0g}{151.9g} \times 100\% = 42.1\%$

$\%S = \frac{32.1g}{151.9} \times 100\% = 21.1\%$

3. Find the % composition of C_2H_5OH = 46.0g/mol

$\%C = \frac{24.0g}{46.0g} \times 100\% = 52.2\%$

$\%O = \frac{16.0g}{46.0g} \times 100\% = 34.8\%$

$\%H = \frac{6.0g}{46.0g} \times 100\% = 13\%$

4. Find the % composition of $(NH_4)_3PO_4$ = 149.0g/mol

$\%N = \frac{42.0g}{149.0g} \times 100\% = 28.2\%$

$\%P = \frac{31.0g}{149.0g} \times 100\% = 20.8\%$

$\%H = \frac{12.0g}{149.0g} \times 100\% = 8.05\%$

$\%O = \frac{64.0g}{149.0g} \times 100\% = 43.0\%$

5. Find the % composition of water in $CaSO_4 \cdot 2H_2O$ = 172.2g/mol

$\%H_2O = \frac{36.0g}{172.2g} \times 100\% = 20.9\%$

6. Analysis of a compound shows that it consists of 352g of Cu and 48g of oxygen. What is the % composition of the compound? 352g + 48g = 400g

$\%Cu = \frac{352g}{400g} \times 100\% = 88.0\%$

$\%O = \frac{48g}{400g} \times 100\% = 12\%$

7. If you had 126.9g of H_2CO_3, what mass would be due to hydrogen? What mass would be due to carbon? Oxygen? H_2CO_3 = 62.0g/mol

$\%H = \frac{2.0g}{62.0g} \times 100\% = 3.2\%$ $0.03226 \times 126.9g = 4.1g$ due to hydrogen

$\%C = \frac{12.0g}{62.0g} \times 100\% = 19.4\%$ $.19355 \times 126.9g = 24.6g$ due to carbon

$\%O = \frac{48.0g}{62.0g} \times 100\% = 77.4\%$ $0.7749 \times 126.9g = 98.2g$ due to oxygen