

Name:

Class:



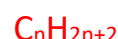
Complete the table by giving the three missing formulae.

Name of compound	Formula of compound	Formula of cation in compound	Formula of anion in compound
Lithium oxide	Li_2O	Li^+	O^{2-}
Lithium carbonate	Li_2CO_3	Li^+	CO_3^{2-}

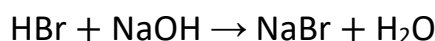
State the formula of aluminium oxide.



State the general formula of an alkane.



The equation for a reaction is:

A solution of hydrobromic acid has a concentration of 0.200 mol/dm^3 .i. Calculate the amount, in moles, of HBr in 20.0 cm^3 of the hydrobromic acid solution.

$$\begin{aligned} \text{Moles of HBr} &= \text{conc} \times \text{vol (dm}^3\text{)} \\ \text{Moles of HBr} &= 0.200 \times 0.020 \text{ (dm}^3\text{)} \end{aligned}$$

$$\text{Amount of HBr} = 0.004 \text{ mol}$$

ii. Calculate the volume of 0.100 mol/dm^3 sodium hydroxide solution needed to exactly neutralise the hydrobromic acid.

$$\text{Volume dm}^3 = \frac{\text{moles}}{\text{Concentration}} = \frac{0.004}{0.100} = 0.04 \text{ dm}^3 = 40 \text{ cm}^3$$

$$\text{Volume of sodium hydroxide} = 40 \text{ cm}^3$$

State the formula of a sulfate ion.

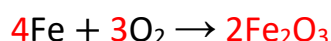
State the electronic configuration of Na^+ .

2, 8

Define diffusion.

Diffusion is the movement of a substance from an area of high concentration to an area of low concentration moving down its concentration gradient.

Balance the following equations.



Explain, in terms of bonding, why graphite conducts electricity.

An explanation to include the following points:

- In graphite each carbon is bonded to three other carbons.
- This leaves a delocalised electron.
- Which can move and carry charge.