



Chem!stry

Name: ()

Class:

Date: / /

Dot-and-Cross Diagrams to Represent the Structures of Compounds – Foundation – Answers

Draw dot-and-cross (• and ×) diagrams to show the arrangement of the electrons, and hence the bonding, in the following compounds. There is no need to draw the inner electron shells – draw the valence electron shells only. Remember to include a key in your answer.

<p>Sodium Chloride – Formula: NaCl</p> $\text{Na}^{1+} \left[\begin{array}{c} \bullet \bullet \\ \times \text{Cl} \bullet \\ \bullet \bullet \end{array} \right]^{1-}$ <p>Key: • = electron of Cl × = electron of Na</p>	<p>Water – Formula: H₂O</p> $\begin{array}{c} \bullet \bullet \\ \text{H} \times \text{O} \bullet \\ \times \bullet \\ \text{H} \end{array}$ <p>Key: • = electron of O × = electron of H</p>
<p>Magnesium Oxide – Formula: MgO</p> $\text{Mg}^{2+} \left[\begin{array}{c} \bullet \bullet \\ \times \text{O} \bullet \\ \times \bullet \end{array} \right]^{2-}$ <p>Key: • = electron of O × = electron of Mg</p>	<p>Ammonia – Formula: NH₃</p> $\begin{array}{c} \bullet \bullet \\ \text{H} \times \text{N} \times \text{H} \\ \times \bullet \\ \text{H} \end{array}$ <p>Key: • = electron of N × = electron of H</p>
<p>Potassium Sulfide – Formula: K₂S</p> $2 \text{K}^{1+} \left[\begin{array}{c} \bullet \bullet \\ \times \text{S} \bullet \\ \times \bullet \end{array} \right]^{2-}$ <p>Key: • = electron of S × = electron of K</p>	<p>Methane – Formula: CH₄</p> $\begin{array}{c} \text{H} \\ \bullet \times \\ \text{H} \times \text{C} \times \text{H} \\ \times \bullet \\ \text{H} \end{array}$ <p>Key: • = electron of C × = electron of H</p>