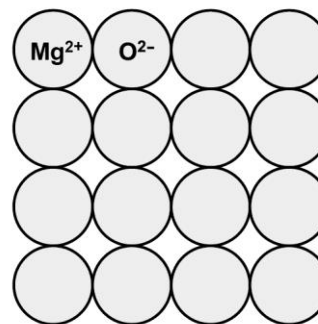


You will need a copy of the periodic table to answer some of these questions.

- 1 An incomplete diagram of the lattice of magnesium oxide is shown on the right.



- What is meant by a **lattice structure**?
 - Copy and complete the diagram.
 - What is the formula of this compound?
 - If a lattice contained 1000 magnesium ions, how many oxide ions would be present?
 - In terms of numbers of ions, how would a magnesium chloride (MgCl_2) lattice be different from the magnesium oxide lattice?
- 2 Name and explain the forces involved in the formation of an ionic lattice.
- 3 Write the formulae for the **ionic compounds** named below.
- | | |
|-----------------------|----------------------|
| a sodium iodide | b magnesium bromide |
| c caesium chloride | d barium oxide |
| e magnesium phosphide | f calcium nitride |
| g aluminium sulfate | h calcium nitrate |
| i strontium hydroxide | j ammonium carbonate |
- 4 Explain the difference between the compound name endings ‘-ate’ and ‘-ide’ in terms of the elements that they contain.

Extra challenge

- 5 For each of the following formulae, name the compound and write the formulae of both the positive and negative ions present.
- | | | | | |
|-------------------|---------------------------|----------------------------|-------------------------------|--------------------------------|
| a CoCl_3 | b K_3BO_3 | c Na_3PO_4 | d $\text{Mg}(\text{ClO}_3)_2$ | e $\text{Co}_2(\text{CO}_3)_3$ |
|-------------------|---------------------------|----------------------------|-------------------------------|--------------------------------|