

**Revised August 2011**

## HONORS WORKSHEET 10b: ANSWERS

1.  $\text{KBr} = -392$ ,  $\text{MgCl}_2 = -643$  ( $\text{kJ mol}^{-1}$ )
2. Too much energy required to form the 2+ and 3+ ions of potassium that is not compensated for by subsequent processes.
3.
  - (a)  $\text{Sr}_{(g)} \rightarrow \text{Sr}_{(g)}^+ + e^-$
  - (b)  $\text{Sr}_{(g)}^+ \rightarrow \text{Sr}_{(g)}^{2+} + e^-$
  - (c)  $\text{F}_{(g)} + e^- \rightarrow \text{F}_{(g)}^-$
  - (d)  $\text{Sr}_{(s)} \rightarrow \text{Sr}_{(g)}$
  - (e)  $\frac{1}{2} \text{F}_{2(g)} \rightarrow \text{F}_{(g)}$
  - (f)  $\text{Sr}_{(s)} + \text{F}_{2(g)} \rightarrow \text{SrF}_{2(s)}$
  - (g)  $\text{Sr}_{(g)}^{2+} + 2\text{F}_{(g)}^- \rightarrow \text{SrF}_{2(s)}$
4. Born Haber cycles assume 100% ionic character which is sometimes an invalid assumption. The introduction of covalent character introduces discrepancies.