

## 10 Group 2 – Part 2 — Answers

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### Answers

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Work through these after trying the questions yourself.

**10.1** Breaking a compound apart by heating it.

**10.2**  $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$ .

**10.3** Thermal stability increases down the group; the metal ion gets larger, so it pulls (distorts) the carbonate ion less, making it harder to break apart, so a higher temperature is needed.

**10.4** (a) the hydroxides become more soluble \ (b) the sulfates become less soluble.

**10.5** Barium hydroxide.

**10.6** Magnesium carbonate. The  $\text{Mg}^{2+}$  ion is small, so it distorts the carbonate ion strongly, weakening it so it breaks apart at a lower temperature. The large  $\text{Ba}^{2+}$  ion distorts it far less, so barium carbonate is more stable and needs a higher temperature.