AP® Chemistry
2003 Sample Student Responses

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USE THIS PAGE FOR ANSWERING QUESTION 4.
PLEASE WRITE THE LETTER FOR THE REACTION IN THE SQUARE AT THE LEFT END OF EACH BOX. ONLY THE ANSWERS IN THE BOXES WILL BE SCORED.

\[ \text{a} \quad \text{PO}_4^{3-} + \text{Ca}^{2+} \rightarrow \text{Ca}_3(\text{PO}_4)_2 \]

\[ \text{c} \quad \text{H}_2\text{O}_2 \rightarrow \text{H}_2\text{O} + \text{O}_2 \]

\[ \text{f} \quad \text{Mg} + \text{O}_2 \rightarrow \text{MgO} \]

\[ \text{g} \quad \text{Sr} + \text{Cu}^{2+} \rightarrow \text{Sr}^{2+} + \text{Cu} \]

\[ \text{h} \quad \text{N}_2\text{O}_5 + \text{H}_2\text{O} \rightarrow \text{H}^+ + \text{NO}_3^- \]
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\[ \text{a} \quad \text{PO}_4^{3-} + \text{Ca}^{2+} \rightarrow \text{Ca}_3(\text{PO}_4)_2(s) \]

\[ \text{e} \quad \text{NH}_3 + \text{Ag}^+ \rightarrow \text{Ag(NH}_3)_2^+ \]

\[ \text{g} \quad \text{Sr} + \text{Cu}^{2+} \rightarrow \text{Sr}^{2+} + \text{Cu} \]

\[ \text{h} \quad \text{Na}_2\text{O}_5 + \text{H}_2\text{O} \rightarrow \text{H}^+ + \text{NO}_3^- \]

\[ \text{f} \quad \text{Mg} + \text{O}_2 \rightarrow \text{MgO} \]
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b \[ \text{ZnCO}_3 + \text{H}^+ + \text{HSO}_4^- \rightarrow \text{CO}_2 + \text{H}_2\text{O} + \text{ZnS} \]

d \[ \text{H}^+ + \text{Cl}^- + \text{Ca}^{2+} + 2\text{OH}^- \rightarrow \text{CaCl}_2 + \text{H}_2\text{O} \]

e \[ \text{NH}_3 + \text{AgCl}_2 \rightarrow \text{AgCl}_2(\text{NH}_3) \]

f \[ \text{Mg} + \text{O}_2 \rightarrow \text{MgO} \]

g \[ \text{Sr} + \text{Cu}^{2+} + \text{NO}_3^{-} \rightarrow \text{Sr}^{2+} + \text{Cu} \]