



# MORE REDOX REACTIONS

1	Write a half equation to convert $\text{Br}^- \rightarrow \text{Br}_2$	$2 \text{Br}^- \rightarrow \text{Br}_2 + 2 \text{e}^-$
	Write a half equation to convert $\text{SO}_3 \rightarrow \text{SO}_2$	$\text{SO}_3 + 2 \text{e}^- + 2 \text{H}^+ \rightarrow \text{SO}_2 + \text{H}_2\text{O}$
	Combine these two half equations to give a redox reaction.	$\text{SO}_3 + 2 \text{Br}^- + 2 \text{H}^+ \rightarrow \text{SO}_2 + \text{H}_2\text{O} + \text{Br}_2$

2	Write a half equation to convert $\text{Zn} \rightarrow \text{Zn}^{2+}$	$\text{Zn} \rightarrow \text{Zn}^{2+} + 2 \text{e}^-$
	Write a half equation to convert $\text{VO}_2^+ \rightarrow \text{V}^{2+}$	$\text{VO}_2^+ + 3 \text{e}^- + 4 \text{H}^+ \rightarrow \text{V}^{2+} + 2 \text{H}_2\text{O}$
	Combine these two half equations to give a redox reaction.	$3 \text{Zn} + 2 \text{VO}_2^+ + 8 \text{H}^+ \rightarrow 3 \text{Zn}^{2+} + 2 \text{V}^{2+} + 4 \text{H}_2\text{O}$

3	Write a half equation to convert $\text{MnO}_4^- \rightarrow \text{Mn}^{2+}$	$\text{MnO}_4^- + 8 \text{H}^+ + 5 \text{e}^- \rightarrow \text{Mn}^{2+} + 4 \text{H}_2\text{O}$
	Write a half equation to convert $\text{SO}_3^{2-} \rightarrow \text{SO}_4^{2-}$	$\text{SO}_3^{2-} + \text{H}_2\text{O} \rightarrow \text{SO}_4^{2-} + 2 \text{e}^- + 2 \text{H}^+$
	Combine these two half equations to give a redox reaction.	$2 \text{MnO}_4^- + 5 \text{SO}_3^{2-} + 6 \text{H}^+ \rightarrow 2 \text{Mn}^{2+} + 5 \text{SO}_4^{2-} + 3 \text{H}_2\text{O}$

4	Write a half equation to convert $\text{C}_6\text{H}_{12}\text{O}_6 \rightarrow \text{CO}_2$	$\text{C}_6\text{H}_{12}\text{O}_6 + 6 \text{H}_2\text{O} \rightarrow 6 \text{CO}_2 + 24 \text{e}^- + 24 \text{H}^+$
	Write a half equation to convert $\text{ClO}_3^- \rightarrow \text{Cl}^-$	$\text{ClO}_3^- + 6 \text{e}^- + 6 \text{H}^+ \rightarrow \text{Cl}^- + 3 \text{H}_2\text{O}$
	Combine these two half equations to give a redox reaction.	$\text{C}_6\text{H}_{12}\text{O}_6 + 4 \text{ClO}_3^- \rightarrow 4 \text{Cl}^- + 6 \text{CO}_2 + 6 \text{H}_2\text{O}$

5	Write a half equation to convert $\text{Cr}_2\text{O}_7^{2-} \rightarrow \text{Cr}^{3+}$	$\text{Cr}_2\text{O}_7^{2-} + 14 \text{H}^+ + 6 \text{e}^- \rightarrow 2 \text{Cr}^{3+} + 7 \text{H}_2\text{O}$
	Write a half equation to convert $\text{CH}_3\text{CH}_2\text{OH} \rightarrow \text{CH}_3\text{COOH}$	$\text{CH}_3\text{CH}_2\text{OH} + \text{H}_2\text{O} \rightarrow \text{CH}_3\text{COOH} + 4 \text{e}^- + 4 \text{H}^+$
	Combine these two half equations to give a redox reaction.	$2 \text{Cr}_2\text{O}_7^{2-} + 3 \text{CH}_3\text{CH}_2\text{OH} + 16 \text{H}^+ \rightarrow 4 \text{Cr}^{3+} + 3 \text{CH}_3\text{COOH} + 11 \text{H}_2\text{O}$

