

Iron: a fiery future

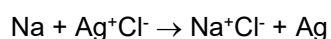
Education in Chemistry

November 2021

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Answers

1. sodium + silver(I) chloride → sodium chloride + silver

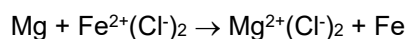


Explanation: *sodium is more reactive than silver*

Metal that is **oxidised**: *sodium* $\text{Na} - 1\text{e}^- \rightarrow \text{Na}^+$

Metal that is **reduced**: *silver* $\text{Ag}^+ + 1\text{e}^- \rightarrow \text{Ag}$

2. magnesium + iron(II) chloride → magnesium(II) chloride + iron

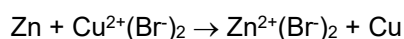


Explanation: *magnesium is more reactive than iron*

Metal that is **oxidised**: *magnesium* $\text{Mg} - 2\text{e}^- \rightarrow \text{Mg}^{2+}$

Metal that is **reduced**: *iron* $\text{Fe}^{2+} + 2\text{e}^- \rightarrow \text{Fe}$

3. zinc + copper(II) bromide → zinc(II) bromide + copper

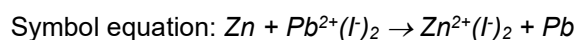


Explanation: *zinc is more reactive than copper*

Metal that is **oxidised**: *zinc* $\text{Zn} - 2\text{e}^- \rightarrow \text{Zn}^{2+}$

Metal that is **reduced**: *copper* $\text{Cu}^{2+} + 2\text{e}^- \rightarrow \text{Cu}$

4. zinc + lead(II) iodide → zinc(II) iodide + lead

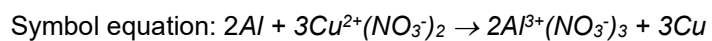


Explanation: *zinc is more reactive than lead*

Metal that is **oxidised**: *zinc* $\text{Zn} - 2\text{e}^- \rightarrow \text{Zn}^{2+}$

Metal that is **reduced**: *lead* $\text{Pb}^{2+} + 2\text{e}^- \rightarrow \text{Pb}$

5. aluminium + copper(II) nitrate → aluminium nitrate + copper



Explanation: *aluminium is more reactive than copper*

Metal that is **oxidised**: *aluminium* $Al - 3e^- \rightarrow Al^{3+}$

Metal that is **reduced**: *copper* $Cu^{2+} + 2e^- \rightarrow Cu$

What do you notice about the more reactive metal in all the examples above?

The more reactive metal is always oxidised. They have a greater tendency to lose electrons and become positive ions.