# Iron: a fiery future

***Education in Chemistry***November 2021  
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Answers

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

Na + Ag+Cl- → Na+Cl- + Ag

Explanation: *sodium is more reactive than silver*

Metal that is **oxidised**: *sodium Na – 1e- → Na+*

Metal that is **reduced**: *silver Ag+ + 1e- → Ag*

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

Mg + Fe2+(Cl-)2 → Mg2+(Cl-)2 + Fe

Explanation: *magnesium is more reactive than iron*

Metal that is **oxidised**: *magnesium Mg – 2e- → Mg2+*

Metal that is **reduced**: *iron Fe2+ + 2e- → Fe*

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

Zn + Cu2+(Br-)2 → Zn2+(Br-)2 + Cu

Explanation: *zinc is more reactive than copper*

Metal that is **oxidised**: *zinc Zn – 2e- → Zn2+*

Metal that is **reduced**: *copper Cu2+ + 2e- → Cu*

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

Symbol equation: *Zn + Pb2+(I-)2 → Zn2+(I-)2 + Pb*

Explanation: *zinc is more reactive than lead*

Metal that is **oxidised**: *zinc Zn – 2e- → Zn2+*

Metal that is **reduced**: *lead Pb2+ + 2e- → Pb*

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

Symbol equation: 2*Al + 3Cu2+(NO3-)2 → 2Al3+(NO3-)3 + 3Cu*

Explanation: *aluminium is more reactive than copper*

Metal that is **oxidised**: *aluminium Al – 3e- → Al3+*

Metal that is **reduced**: *copper Cu2+ + 2e- → 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.*