

Chemistry AS90171
Describe chemical reactions: Oxidation-Reduction

Use this to quickly identify the areas you need to study
Fold along the dotted line so that the answers are hidden.
Try the questions and check your answers.

QUESTION	YOUR ANSWER	CORRECT ANSWER
Oxidation is the addition of _____ or the removal of hydrogen		oxygen
Oxidation is the _____ of electrons		loss
Another name for an oxidising agent is:		oxidant
In this equation $\text{CuO} + \text{H}_2 \rightarrow \text{Cu} + \text{H}_2\text{O}$, the CuO is oxidised / reduced (<i>choose</i>)		reduced
In this equation $2\text{PbO} + \text{C} \rightarrow 2\text{Pb} + \text{CO}_2$ the C is oxidised / reduced (<i>choose</i>)		oxidised
Balance this: ____Mg + ____O ₂ → ____MgO		2 (1) 2
A useful mnemonic is "Leo the Lion says _____"		GER
A reducing agent reduces / oxidises something else (<i>choose</i>)		reduces
When metals form ions they always lose / gain electrons (<i>choose</i>)		lose
What is the correct symbol to represent solid Mg, magnesium atoms?		Mg(s)
What "species" is responsible for the blue colour of CuSO ₄ (aq)?		Cu ²⁺ (aq)
What colour is a solution of magnesium sulfate?		colourless
What colour is zinc metal?		(silvery) grey
What colour are salt solutions containing the Fe ²⁺ (aq) ion?		pale green
(aq) means aqueous which means _____ in water		dissolved
Which of these is iron(II) sulfate. Fe ₂ (SO ₄) ₃ or FeSO ₄ ? (<i>choose</i>)		FeSO ₄

Complete: copper + silver nitrate → copper nitrate + _____ (<i>complete</i>)	silver
Iron + copper(II) sulfate → iron(II) sulfate + copper; Name the spectator ion	sulfate
What are the missing state symbols? $\text{Cu(s)} + 2\text{AgNO}_3\text{(s)} \rightarrow \text{Cu(NO}_3)_2(\quad) + 2\text{Ag}(\quad)$	(aq) (s)
What colour is Cu(s)?	pinky orange
What colour is copper(II) nitrate solution?	blue
Which would be an orange colour, iron(III) nitrate solution or iron(II) sulfate solution?	iron(III) nitrate
$\text{Cu(s)} \rightarrow \text{Cu}^{2+}\text{(aq)} + 2\text{e}^-$: Is this oxidation or reduction?	oxidation
Balance this equation: $\text{Cl}_2 + __\text{KI} \rightarrow __\text{KCl} + \text{I}_2$	2 2
Chlorine solution is: colourless / brown / pale yellow (<i>choose</i>)	pale yellow
What is brown yellow, KI(aq) or I ₂ (aq)? (<i>choose</i>)	I ₂
$\text{Zn} + \text{CuSO}_4 \rightarrow \text{ZnSO}_4 + \text{Cu}$: what colour change would occur in the solution?	blue to colourless
What would form on pieces of copper? $\text{Cu(s)} + 2\text{Ag}^+\text{(s)} \rightarrow \text{Cu}^{2+}\text{(aq)} + 2\text{Ag(s)}$	deposit of silver / silver crystals
$\text{Zn(s)} + \text{Fe}^{2+}\text{(aq)} \rightarrow \text{Zn}^{2+}\text{(aq)} + \text{Fe(s)}$: What has been oxidised? And to what?	Zn to Zn ²⁺
What colour is zinc sulfate solution?	colourless
$\text{Fe}^{2+}\text{(aq)} + ______ \rightarrow \text{Fe(s)}$: Balance it	2e-
Mg is placed in copper(II) nitrate solution. What colour change would you expect?	blue to colourless
$\text{Cu} + 2\text{AgNO}_3 \rightarrow \text{Cu(NO}_3)_2 + 2\text{Ag}$: What colour does the solution turn?	blue
Balance this: $__\text{Fe}^{3+} + __\text{Mg} \rightarrow ______\text{Fe} + ______\text{Mg}^{2+}$: Balance it	2 3 2 3
$\text{Zn} + \text{CuSO}_4 \rightarrow \text{ZnSO}_4 + \text{Cu}$: What are the <u>atoms</u> in this equation?	Zn & Cu
$\text{Fe} + \text{CuSO}_4 \rightarrow \text{FeSO}_4 + \text{Cu}$: What are the THREE ions in this equation?	Cu ²⁺ , SO ₄ ²⁻ , Fe ²⁺