

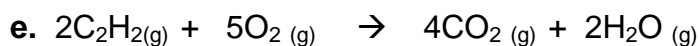
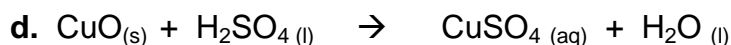
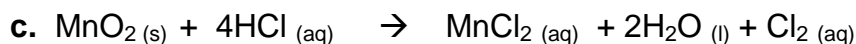
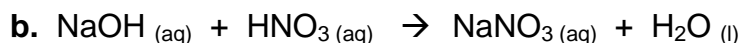
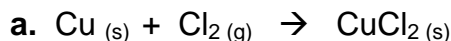
1. Give the oxidation number of the following ions:

a. H^+ b. Cl^- c. Ag^+ d. S^{2-} e. Mg^{2+} f. Mn^{4+} g. Sr^{2+} h. Al^{3+} i. K^+ j. F^-

2. By referring to your periodic table, predict the oxidation number of these elements when they form ions:

a. I b. Sn c. C d. Li e. B f. O g. Ba h. Rb i. Si j. Br k. Be

3. Examine each of the following reactions and decide which are 'redox' reactions. Explain your choice:



4. Work out the oxidation number of the first element in each of the following compounds:

a. PbO_2 b. ZnO c. SF_6 d. Fe_2O_3 e. MnO f. $\text{Cr}(\text{NO}_3)_3$ g. NiCO_3

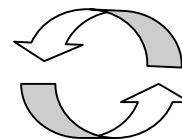
h. PCl_3 i. Cu_2SO_4 j. V_2O_5 k. N_2O l. FeS m. SiCl_4 n. Hg_2S

5. There are 3 metals in the above problems that showed *variable valency* (or more than one oxidation number other than zero). Find them and give their oxidation states. Where are they positioned in the periodic table?

6. Complete these sentences:

Oxidation is _____ of electrons, while _____ is gain (OILRIG). When carbon is burnt in oxygen, the carbon is _____ and the oxygen is _____.

Carbon's O.N. (oxidation number) changes from _____ to _____, while oxygen's changes from _____ to _____. Because oxygen is doing the oxidising, we call it the _____ agent. Carbon is therefore the _____ agent.



1. Give the oxidation number of the following ions:

a. +1 b. -1 c. +1 d. -2 e. +2 f. +4 g. +2 h. +3 i. +1 j. -1

2. By referring to your periodic table, predict the oxidation number of these elements when they form ions:

a. -1 b. +4 c. +4 d. +1 e. +3 f. -2 g. +2 h. +1 i. +4 j. -1 k. +2

3. Examine each of the following reactions and decide which are 'redox' reactions. Explain your choice:

a. Cu changes to Cu^{2+} & Cl changes to Cl^-

b. No changes in oxidation numbers – not a redox reaction.

c. O^- changes to O^{2-} & Cl^- changes to Cl

d. No changes in oxidation numbers – not a redox reaction.

e. O changes to O^{2-} & C^- changes to C^{4+}

4. Work out the oxidation number of the first element in each of the following compounds:

a. 2+ b. 2+ c. 6+ d. 3+ e. 2+ f. 3+ g. 2+

h. 3+ i. 1+ j. 5+ k. 1+ l. 2+ m. 4+ n. 1+

5. Fe 3+, Fe 2+, Cu 2+, Cu 1+, Mn 4+, Mn 2+, All transition metals

6. Complete these sentences:

Oxidation is loss of electrons, while reduction is gain (OILRIG). When carbon is burnt in oxygen, the carbon is oxidised and the oxygen is reduced.

Carbon's oxidation number changes from 0 to +4, while oxygen's changes from 0 to -2. Because oxygen is doing the oxidising, we call it the oxidising agent. Carbon is therefore the reducing agent.