

TABLE 3.5 Rules for assigning oxidation numbers

Work through the following rules in the order given. Stop as soon as the oxidation number has been assigned.

	Oxidation number
1. The sum of the oxidation numbers of all the atoms in the species is equal to its total charge.	
2. For atoms in their elemental form	0
3. For elements of Group I	+1
Group II	+2
Group III (except B)	+3 for M^{3+}
Group IV (except C, Si)	+1 for M^+
	+4 for M^{4+}
	+2 for M^{2+}
4. For hydrogen	+1 in combination with nonmetals -1 in combination with metals
5. For fluorine	-1 in all its compounds
6. For oxygen	-2 unless combined with F -1 in peroxides (O_2^{2-}) $-\frac{1}{2}$ in superoxides (O_2^-) $-\frac{1}{3}$ in ozonides (O_3^-)

TABLE 3.6 The metal activity series*

Element	Reduced form	Oxidized form
<i>Most strongly reducing</i>		
potassium	K	K^+
sodium	Na	Na^+
magnesium	Mg	Mg^{2+}
chromium	Cr	Cr^{2+}
zinc	Zn	Zn^{2+}
iron	Fe	Fe^{2+}
nickel	Ni	Ni^{2+}
tin	Sn	Sn^{2+}
lead	Pb	Pb^{2+}
(hydrogen)	H_2	H^+
copper	Cu	Cu^{2+}
mercury	Hg	Hg_2^{2+}
silver	Ag	Ag^+
platinum	Pt	Pt^{2+}
gold	Au	Au^+
<i>Least strongly reducing</i>		