**Redox Reactions Worksheet**

For each of the following:

* Identify the oxidation number of each element in the ion or compound using the five steps to assigning oxidation numbers.

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| --- | --- | --- | --- | --- |
| Cr2O72- | H2SO4 | O2 | Cl2 | H2O2 |
| NO3- | NO | N2O4 | NO2 | NH3 |
| SO42- | HSO3 | SO2 | SH2 | SO32- |
| NaBr | HCl | SO3 | S2O42- | S2O32- |
| FeCl2 | FeCl3 | Zn(SO4) | Ag(NO3) | O3 |

For each reaction:

1. Write the oxidation numbers for each element.
2. Identify which compound is reduced and which is oxidised.
3. Write the two half equations (ignoring any spectator ions).
4. Balance the half equations.
5. Combine both half equations to get a final balanced equation.
6. Fe (s) + CuSO4 (aq) 🡪 Fe(II)SO4 (aq) + Cu (s)
7. Fe (s) + O2 (g) 🡪 Fe2O3 (s)
8. H2 (g) + F2 (g) -> HF (g)
9. Na (s) + Cl2 (g) 🡪 NaCl (s)
10. Na (s) + FeCl2 🡪Fe (s) + NaCl (s)
11. H2 (g) + O2 (g) 🡪 H2O (l)
12. AgNO3 (aq) + Cu (s) 🡪 Ag (s) + Cu(NO3)2 (aq)
13. HNO3 (aq) + Cu (s) 🡪 Cu(NO3)2 (aq) + H2 (g)
14. Fe(NO3)3 (aq) + Sn(NO3)2 (aq) 🡪 Fe(NO3)2 (aq) + Sn(NO3)4 (aq)
15. Mg (s) + HCl (aq) 🡪 MgCl2 (aq) + H2 (g)