3.3 Single Displacement Reactions

Definitions

- Single displacement reaction
- Activity series
- Corrosion
- Galvanizing

Single Displacement Reactions and the Activity Series

- $A + BC \rightarrow AC + B$
- E.g. $Zn_{(s)} + 2AgCN_{(aq)} \rightarrow 2Ag_{(s)} + Zn(CN)_{2(aq)}$
- Activity series are determined by single displacement reactions. (See reaction above)

Extracting Metals

- Copper found in ore is usually in the form of a carbonate or oxide. After dissolving it with sulphuric acid it turns into copper (II) sulphate. When copper (II) sulphate is reacted with iron, iron sulphate forms leaving behind pure copper. (Iron is higher on the reactivity series so it reacts)

Corrosion and Protection

- Rust is iron oxide. Make note of the different properties of each.
- Easiest method to protect iron is to seal it within a coating.
- Galvanization covers the iron with a more reactive metal that will undergo reaction first leaving the iron untouched.

Alloys

- Alloys are solutions of metals
- Check out the tables in this chapter for common alloys.

Homework

- Practice Questions: 1,2,3,4,5,6,7,8,10