**Reactivity Series – Metal Reactions**

When metals react with water they form the metal hydroxide and hydrogen gas.

E.g. sodium + water 🡪 sodium hydroxide + hydrogen



When metals react with acids they produce the metal salt and hydrogen gas.

E.g. magnesium + sulfuric acid 🡪 magnesium sulfate + hydrogen



\*\*the salt produced depends on the acid used\*\*

Sulfuric acid –



Hydrochloric acid –



**Reactivity series**

We can list metals according to how reactive they are. There is a simple way to remember the order

|  |  |  |  |
| --- | --- | --- | --- |
| Metal | Hint! | React with water | React with acid |
| Potassium |  |  |  |
| Sodium |
| Lithium |
| Calcium |  |
| Magnesium |
| Aluminium |  |  |
| Carbon |  |
| Zinc |  |
| Iron |
| Hydrogen |  |  |
| Copper |  |
| Silver |
| Gold |

**Displacement**

*\*A more reactive metal will displace a less reactive metal from its compound\**



E.g. metals plus metal oxides



Mg(s) + ZnO(s) 🡪



Mg(s) + Na2O(s) 🡪



E.g. metals plus metal salt solutions



Mg(s) + CuSO4 (aq)  🡪



Zn(s) + LiCl(aq) 🡪

