**Extraction and Uses of Metals**

Most metals are found in ores in the Earth. An ore is a rock that contains enough metal to make it financially worthwhile to extract.

The method of extraction depends on how reactive the metal is.



|  |  |
| --- | --- |
| Metal | Extraction Method |
| Potassium |  |
| Sodium |
| Lithium |
| Calcium |
| Magnesium |
| Aluminium |
| Carbon |  |
| Zinc |  |
| Iron |
| Copper |  |
| Silver |
| Gold |

**Alloys**

An alloy is a mixture of a metal and other elements, usually metals or carbon.

Alloys have different properties to the metals they are made from. E.g. bronze is an alloy of copper and tin. Bronze is much harder than either copper or tin. This is because the different sized atoms disrupt the layers in the metal structure, so they cannot easily slide over each other.

**Uses of Metals**

Metals can be used in a variety of ways depending on their properties. At GCSE you can be asked to suggest a use based on a list of property.

|  |  |  |
| --- | --- | --- |
| Metal | Property | Use |
| Aluminum | Low density |  |
| Conductor of heat |  |
| Copper | Ductile |  |
| Unreactive |  |
| Iron | Cheap |  |
| Low-carbon steel | Strong |  |
| Malleable |  |
| High-carbon steel | Hard |  |