

## % Mass Calculations Homework

It is very useful for chemistry to know how much metal is contained in an ore before energy is used to extract the metal. This is calculated in a % by mass calculation.

**Example - Calculate the % by mass of aluminium in the ore Bauxite,  $\text{Al}(\text{OH})_3$**

**Step 1:** Calculate the **gram formula mass (gfm)** of the ore (using Ls)

**Step 2:** Divide the mass of aluminium in the ore by the gfm of the ore and multiply your answer by 100 to convert to %

Now calculate the % by mass of each **metal** in the following ores.

- Copper (II) Oxide       $\text{CuO}$
- Cuprite                       $\text{Cu}_2\text{O}$
- Haematite                   $\text{Fe}_2\text{O}_3$
- Sphalerite                   $\text{ZnS}$
- Magnetite                   $\text{Fe}_3\text{O}_4$
- Chromite                       $\text{CrO}_2$

## % Mass Calculations Homework

It is very useful for chemistry to know how much metal is contained in an ore before energy is used to extract the metal. This is calculated in a % by mass calculation.

**Example - Calculate the % by mass of aluminium in the ore Bauxite,  $\text{Al}(\text{OH})_3$**

**Step 1:** Calculate the **gram formula mass (gfm)** of the ore (using Ls)

**Step 2:** Divide the mass of aluminium in the ore by the gfm of the ore and multiply your answer by 100 to convert to %

Now calculate the % by mass of each **metal** in the following ores.

- Copper (II) Oxide       $\text{CuO}$
- Cuprite                       $\text{Cu}_2\text{O}$
- Haematite                   $\text{Fe}_2\text{O}_3$
- Sphalerite                   $\text{ZnS}$
- Magnetite                   $\text{Fe}_3\text{O}_4$
- Chromite                       $\text{CrO}_2$