







WJEC GCSE Unit 1 Lesson 2

More chemicals

In this lesson you will learn about:

-  Chemical and Physical change
-  Equations
-  Balancing Equations
-  Relative atomic mass
-  Relative molecular mass
-  Relative ionic mass

Physical Change

What would you observe with physical change?

Physical change is _____

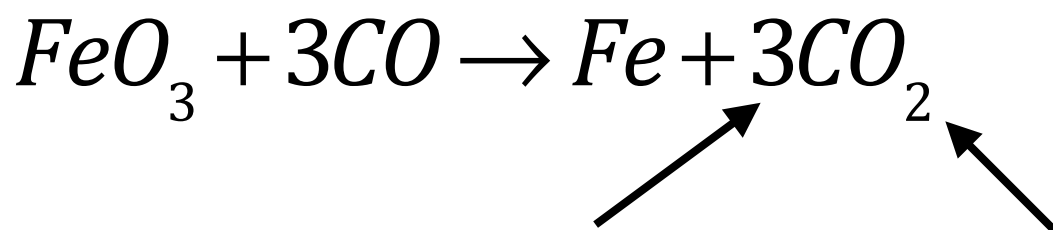
Chemical Change

What would you observe with chemical change?

Chemical change is _____

Chemical Equations

Iron Oxide + Carbon Monoxide \longrightarrow Iron + Carbon Dioxide

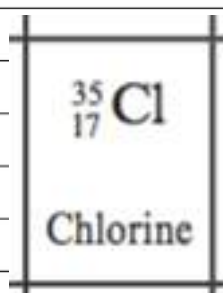
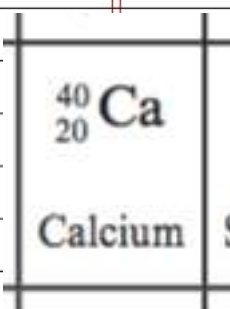
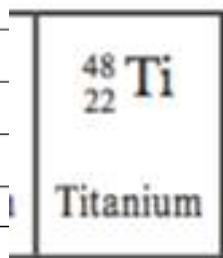
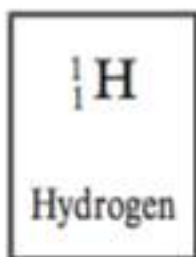
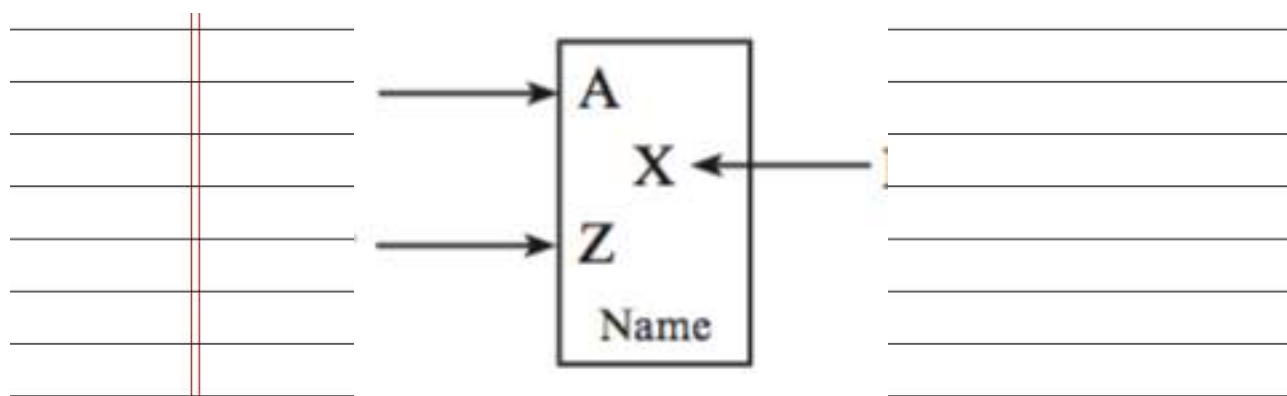


1. _____ $SiCl_4(l)$ + _____ $H_2O(l)$ \longrightarrow _____ $SiO_2(s)$ + _____ $HCl(aq)$
2. _____ As + _____ $NaOH$ \longrightarrow _____ Na_3AsO_3 + _____ H_2
3. _____ Au_2S_3 + _____ H_2 \longrightarrow _____ Au + _____ H_2S
4. _____ V_2O_5 + _____ HCl \longrightarrow _____ $VOCl_3$ + _____ H_2O

Relative Atomic Mass

Different elements have different numbers of protons, neutrons and electrons.

The mass of an element comes from the neutrons and protons in its nucleus (an electron's mass is negligible).



Relative Molecular Mass

- The relative molecular mass can be worked out by adding up the relative atomic masses of the elements in the molecule.
- It can also be written as Mr or relative formula mass

Calculating the relative molecular mass of CH₄

CH₄ contains 1 x C and 4 x H atoms (remember the small number applies to the H only)

Ar for C = 12

Ar for H = 1

$$\begin{aligned} \text{So Mr} &= (1 \times 12) + (4 \times 1) \\ &= 16 \end{aligned}$$

Calculate the Mr of the following substances:
(the first 2 have been done for you)

$\text{H}_2\text{O} = 1 + 1 + 16$ $= 18$	(b) $\text{CO}_2 = 12 + 16 + 16$ $= 44$	(c) $\text{Ca(OH)}_2 = 40$ $+ (16 + 1) \times 2 = 74$
(d) $\text{O}_2 =$	(e) $\text{KOH} =$	(f) $\text{HCl} =$
(g) $\text{NaOH} =$	(h) $(\text{NH}_4)_2\text{Cr}_2\text{O}_7 =$	(i) $\text{MgO} =$

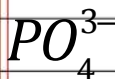
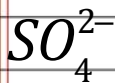
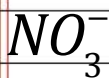
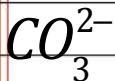
Relative Ionic Mass Triple only

- The relative Ionic mass can be worked out by adding up the relative atomic masses of the elements in the Ion.
- It can also be written as Ir

Calculating the relative molecular mass of Cl⁻

Ar for C = 35

So Ir = 35



MORE CHEMICALS

HW

When asked to copy and complete do so.

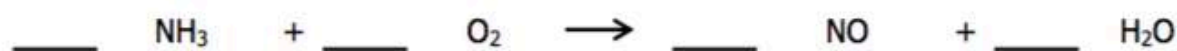
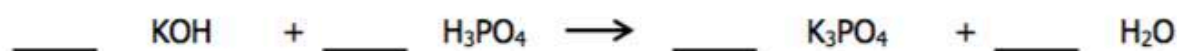
Otherwise answer in full sentences that include the question.

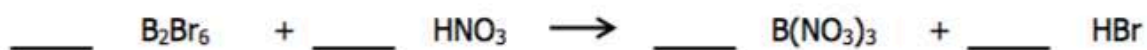
Complete in black pen.

Calculate these masses

(j) $CO =$	(k) $(NH_4)_2S_2O_3 =$	(l) $C_2H_6 =$
(m) $CH_4 =$	(n) $C_4H_{10} =$	(o) $C_5H_{12} =$
(p) $C_6H_6 =$	(q) $S_8 =$	(r) $Al_2O_3 =$

Balance these equations





Calculate these masses

