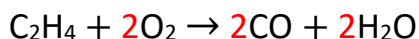
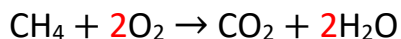


Name:

Class:



Balance the chemical equations for the following combustion reactions.



Complete the table by giving the formulae of the missing compounds.

	Cu^{2+}	Fe^{3+}	NH_4^+
Cl^-	CuCl_2	FeCl_3	NH_4Cl
SO_4^{2-}	CuSO_4	$\text{Fe}_2(\text{SO}_4)_3$	$(\text{NH}_4)_2\text{SO}_4$
CO_3^{2-}	CuCO_3	$\text{Fe}_2(\text{CO}_3)_3$	$(\text{NH}_4)_2\text{CO}_3$

Give the correct name of the compound with the formula CuSO_4 .

Copper sulfate

Give the electronic configuration of a Magnesium 2+ ion.

2, 8

Give the electronic configuration of an Aluminium atom.

2, 8, 3

Describe a test to show that a sample of CuCO_3 contains the CO_3^{2-} ion.

Test: add any acid to the sample.

Positive result: bubble any gases through limewater. If the gas turns cloudy the ions were carbonate ions.

Calculate the relative formula mass of MgCl_2 .

$$24 + 2(35.5) = 95$$

The word equation for the reaction that occurs in this experiment is:

ammonia + hydrogen chloride $\rightarrow$ ammonium chloride.

Complete the chemical equation for this reaction.



Magnesium (Mg) is an element with three stable isotopes.

A scientist analysed a sample of magnesium and found the following composition:

Magnesium-24 79.0%

Magnesium-25 10.0%

Magnesium-26 11.0%

Using this data, calculate the relative atomic mass (A_r) of magnesium.

Give your answer to one decimal place.

$$A_r = (24 \times 79.0) + (25 \times 10.0) + (26 \times 11.0) \div 100$$

relative atomic mass = **24.3**