

Worksheet 1.2

Combustion

1 Complete these sentences using the words below to fill the gaps.

combustion oxygen react nitrogen oxides

The air is roughly four-fifths and one-fifth

..... When things burn, theywith

the oxygen present in the air. New chemical compounds called

are formed, and energy is given out. The scientific word for burning is

.....

2 a When carbon burns completely in air, it forms the colourless gas carbon dioxide.

Complete the word equation for this reaction.

carbon + →

b i When hydrogen burns, it forms hydrogen oxide vapour.

What is the common name we give to this new chemical?

.....

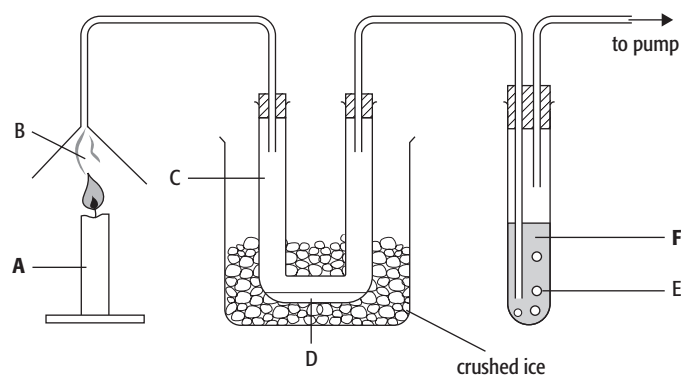
ii Complete the word equation for this reaction.

hydrogen + →

c The apparatus shown in the diagram can be used to identify the gases produced when a candle burns.

The following comments are useful in understanding the experiment:

- ◆ Candle wax contains carbon and hydrogen.
- ◆ The waste gases rise into the funnel.
- ◆ The waste gases are drawn through the apparatus by the pump.
- ◆ The crushed ice cools the gases.
- ◆ A colourless liquid condenses and collects.
- ◆ The remaining gas bubbles through limewater.
- ◆ The limewater turns milky.
- ◆ The colourless liquid turns white anhydrous copper sulfate powder blue.



What do the labels A to F represent in the diagram?

A = B =

C = D =

E = F =

3 Carbon monoxide alert

Every year in the United Kingdom more than 50 people are killed, and a further 150 people are hospitalised, by a simple gas formed during the inefficient burning of carbon-containing fuels such as gas, wood, oil and paraffin. This gas is carbon monoxide.

The aim here is for you to do some research to find out about this deadly gas and then present your findings as a warning poster or leaflet. You can choose the target audience of your leaflet or poster.

Your leaflet or poster

Your leaflet or poster should be aimed at one of these groups of people:

- ◆ students
- ◆ the elderly
- ◆ families with young children.

What you need to find out

- ◆ How and under what circumstances is carbon monoxide formed?
- ◆ Why is this gas poisonous – what effects can it have and what are the symptoms to look out for?
- ◆ Which group of people is most at risk?
- ◆ How can carbon monoxide poisoning be cured?
- ◆ How can carbon monoxide poisoning be prevented?

The following websites may be good places to start your search:

- ◆ <http://www.hse.gov.uk/gas/domestic/co.htm> – this is a UK government website
- ◆ www.carbonmonoxidekills.com
- ◆ www.howstuffworks.com – you should enter a search for ‘carbon monoxide’ at this site.