



The
Atmosphere –
Exam questions

2012 - Higher

- What substance is formed when carbon is burned in oxygen?
- Give the effect of this substance on moist litmus paper.

- The table gives the % by volume of five
- gases/ vapours found in our atmosphere.

- Which two of these gases/ vapours are produced when a fossil fuel is burned?

- The amount of water vapour present in air is the most variable. Suggest a reason for this.

Formula	% Volume
N₂	78.08
O₂	20.95
H₂O	0 to 4
Ar	0.93
CO₂	0.036

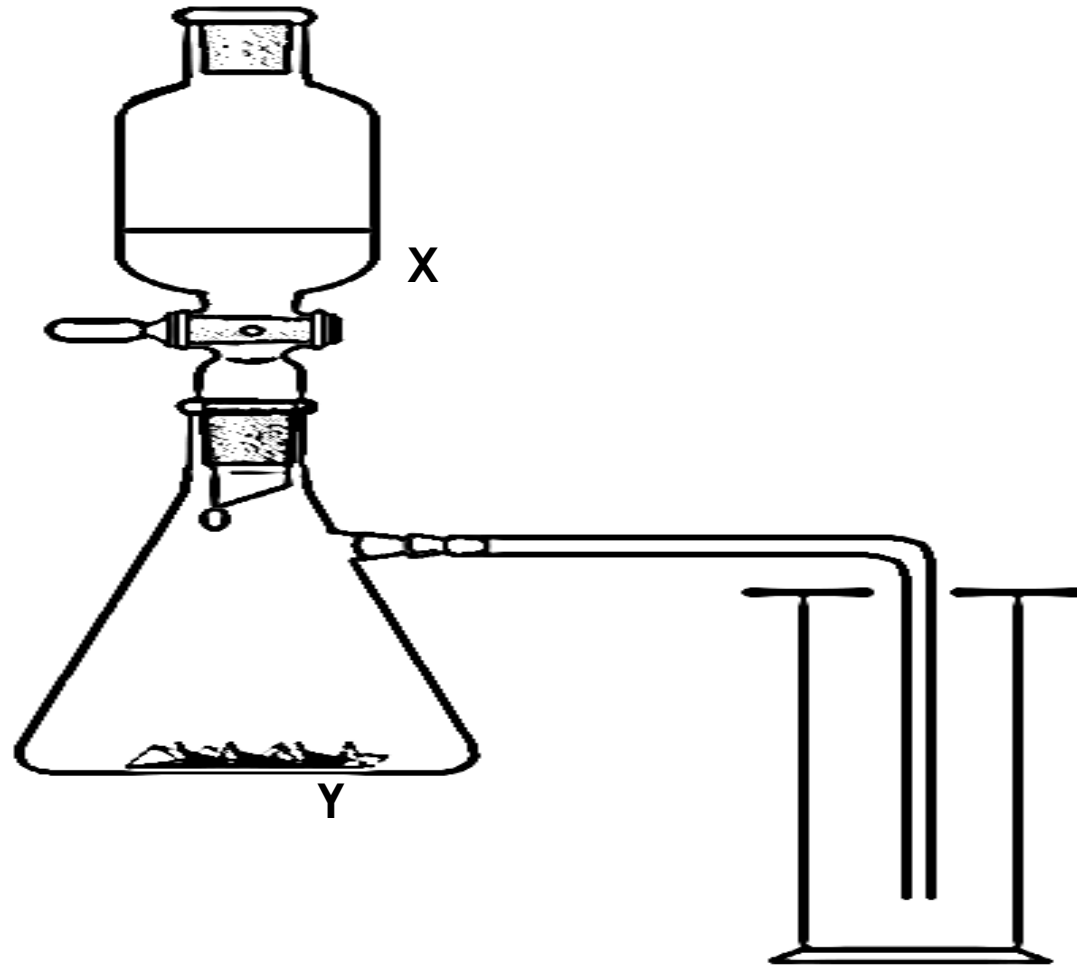
- Describe an experiment, using a labelled diagram in the box provided to show the presence of carbon dioxide in air

- Give a test to show that the droplets formed on the outside of a glass containing a cold drink are water.



2012 - Ordinary

- The diagram shows an arrangement of apparatus suitable for the preparation of **carbon dioxide gas** in a school laboratory.
- **Name** a suitable substance for **liquid X** and **solid Y** from which carbon dioxide can be made.
- **Limewater** is used to test for the presence of carbon dioxide gas. What happens to limewater when carbon dioxide gas is bubbled through it?



2011 - Higher

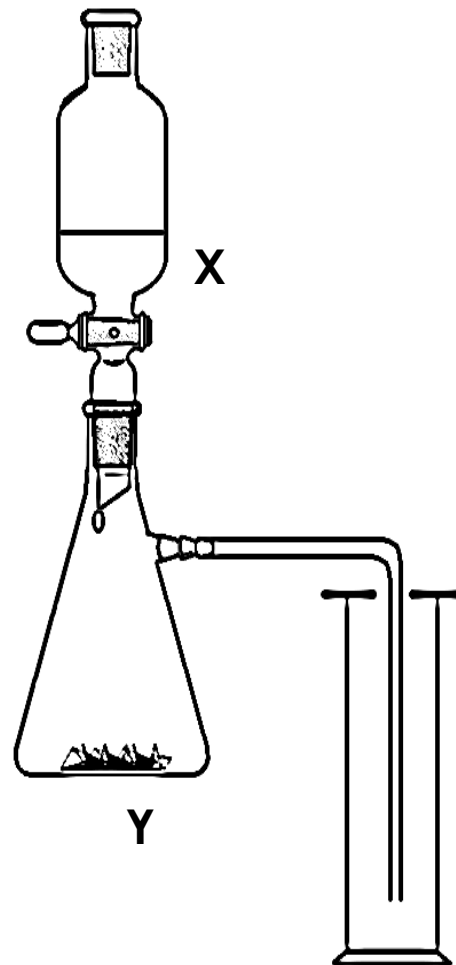
- Complete the equation:



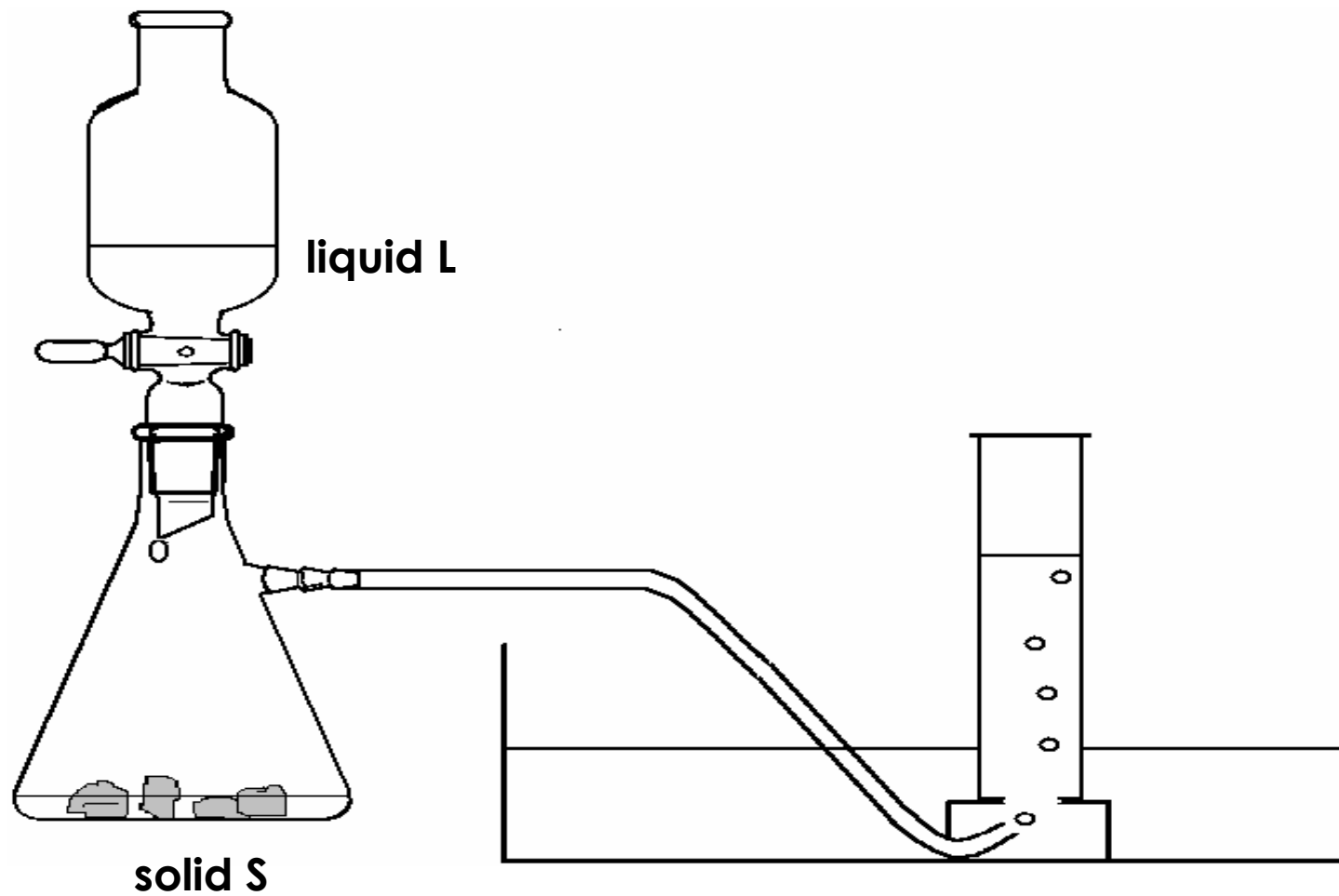
- Name a catalyst that you have used in the school laboratory and give a reaction that it catalyses.

2011 – Ordinary

- **Name** suitable substances for liquid **X** and solid **Y** (catalyst) from which oxygen can be made.



2010 - Ordinary

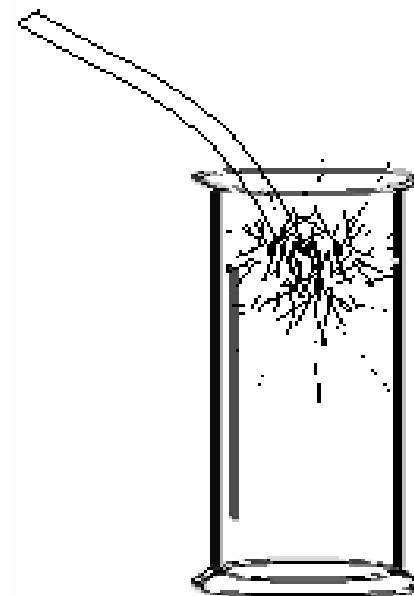




	Manganese Dioxide
	Hydrochloric Acid
	Hydrogen Peroxide
	Fire Extinguisher
	Respiration
	Combustion

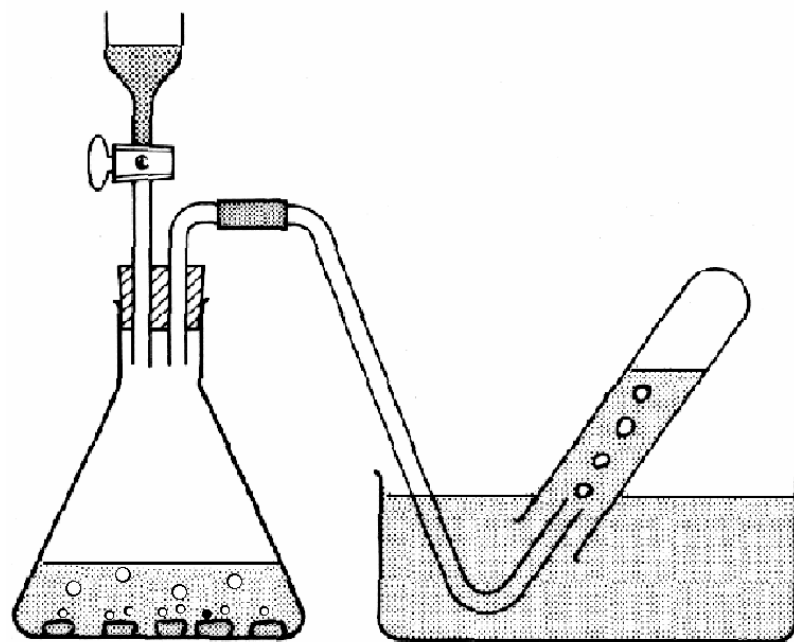
- In the table write the letter **S** opposite the name of the **solid** used in the preparation of oxygen.
- Write the letter **L** opposite the name of the **liquid** used in preparation of oxygen.
- Write the letter **U** beside **two uses** for oxygen gas.

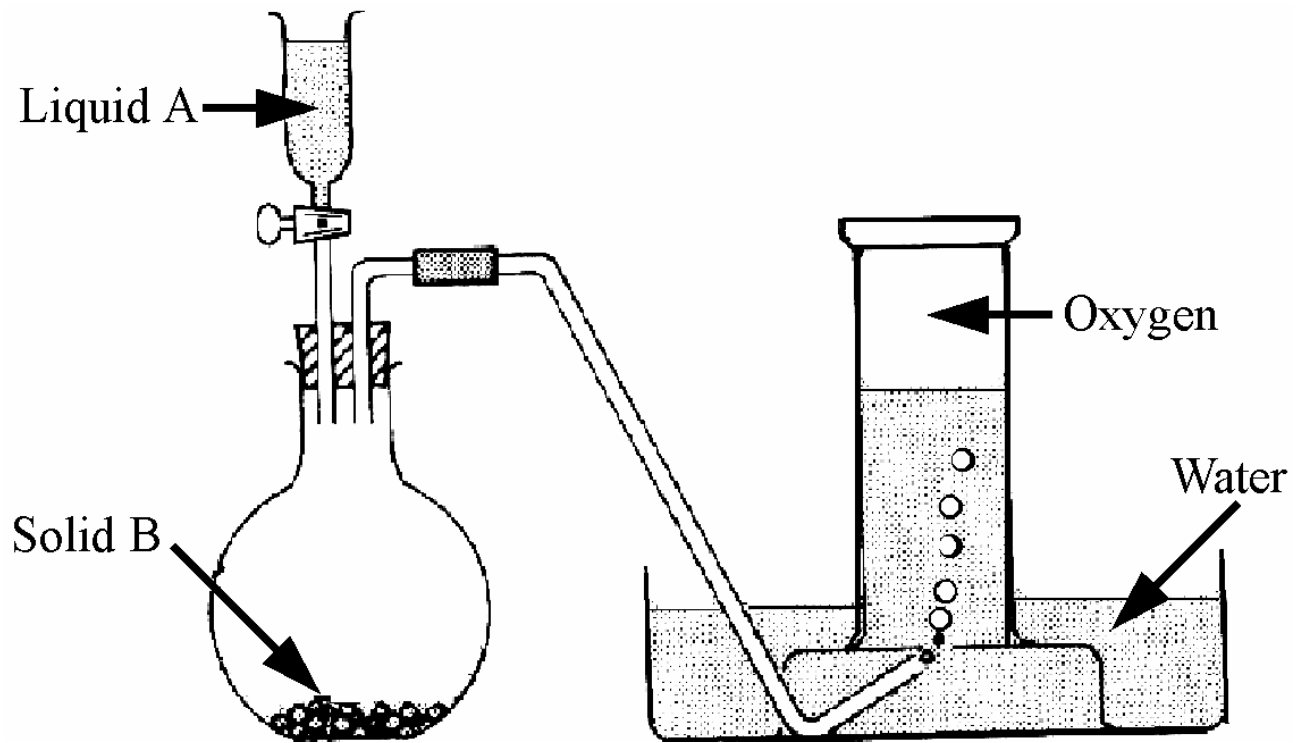
- The diagram shows magnesium being burned in oxygen to form magnesium oxide (MgO).
- What effect does this substance have on moist litmus paper?



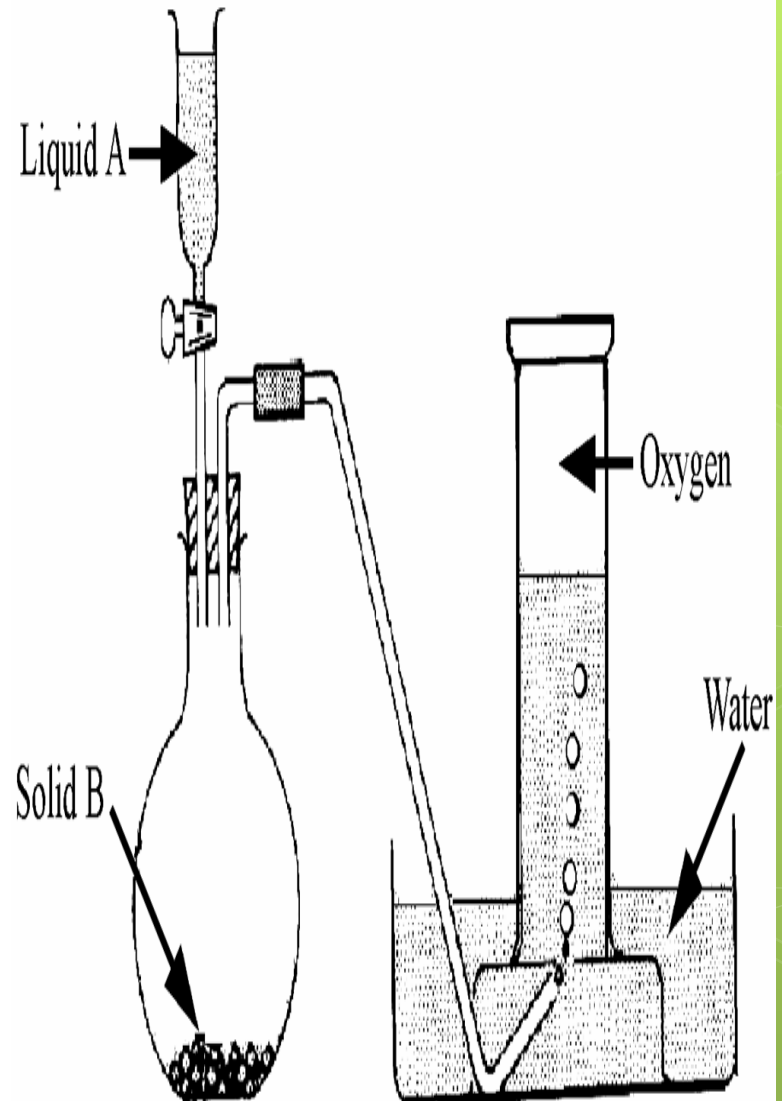
2009 - Higher

- The apparatus shown in the diagram was used to investigate the reaction of zinc with hydrochloric acid. Hydrogen gas is produced.
- Describe a **test for hydrogen**.
- Write a **chemical equation** for the reaction of zinc with hydrochloric acid.



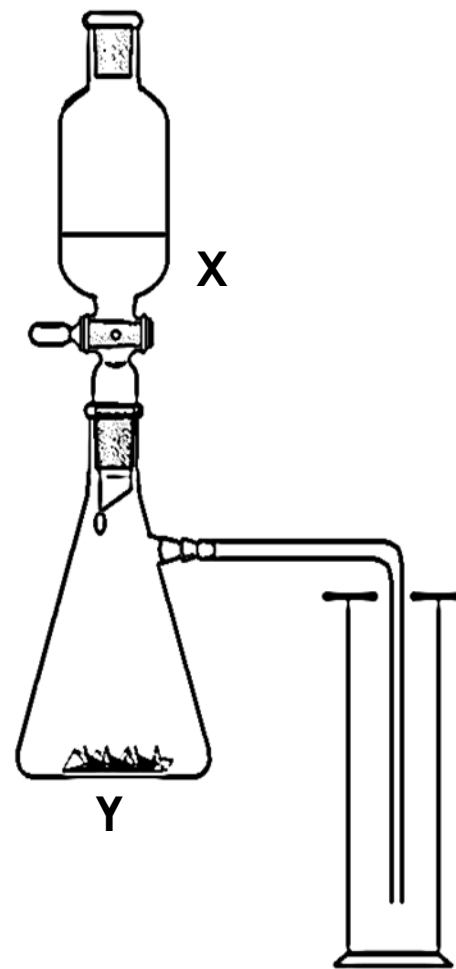


- Name **liquid A**.
- Name **solid B**.
- What is a **catalyst**?
- Carbon was burned in oxygen and the products tested with pieces of moist red and blue litmus paper. Give the **result of the litmus test** described above and make a **conclusion** based on this result.



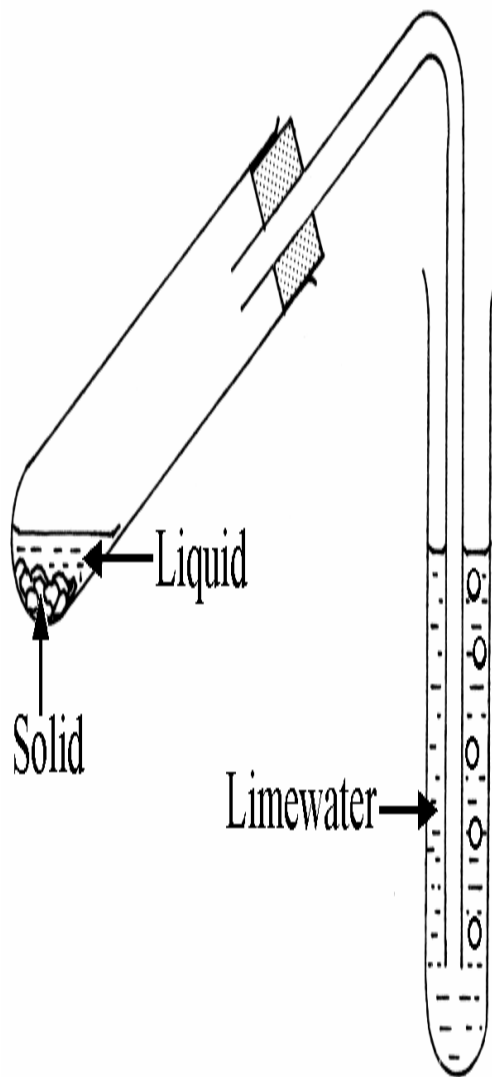
2009 – Ordinary

- The diagram shows an arrangement of apparatus suitable for the preparation of **carbon dioxide gas** in a school laboratory.
- **Name** suitable substances **X** and **Y** from which carbon dioxide can be made.

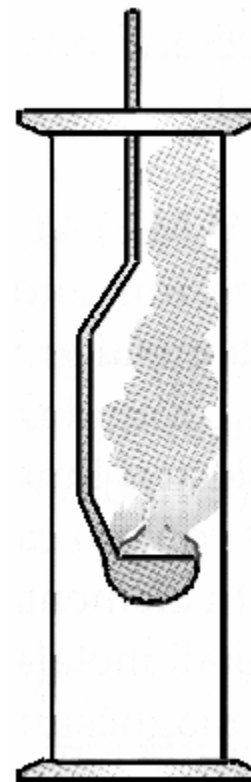


2008 - Higher

- The *liquid and solid* shown in the diagram react together to produce a gas that turns limewater milky.
- Name a **liquid** and a **solid** that react together in this way. Names of **specific substances** are required.



- Magnesium was burned in oxygen as shown in the diagram.
- What **colour** was the flame?
- Pieces of *moist blue* and *red litmus paper* were mixed with the product of the combustion. What **result** was seen?
- What **conclusion** can be made from the result of the litmus test?



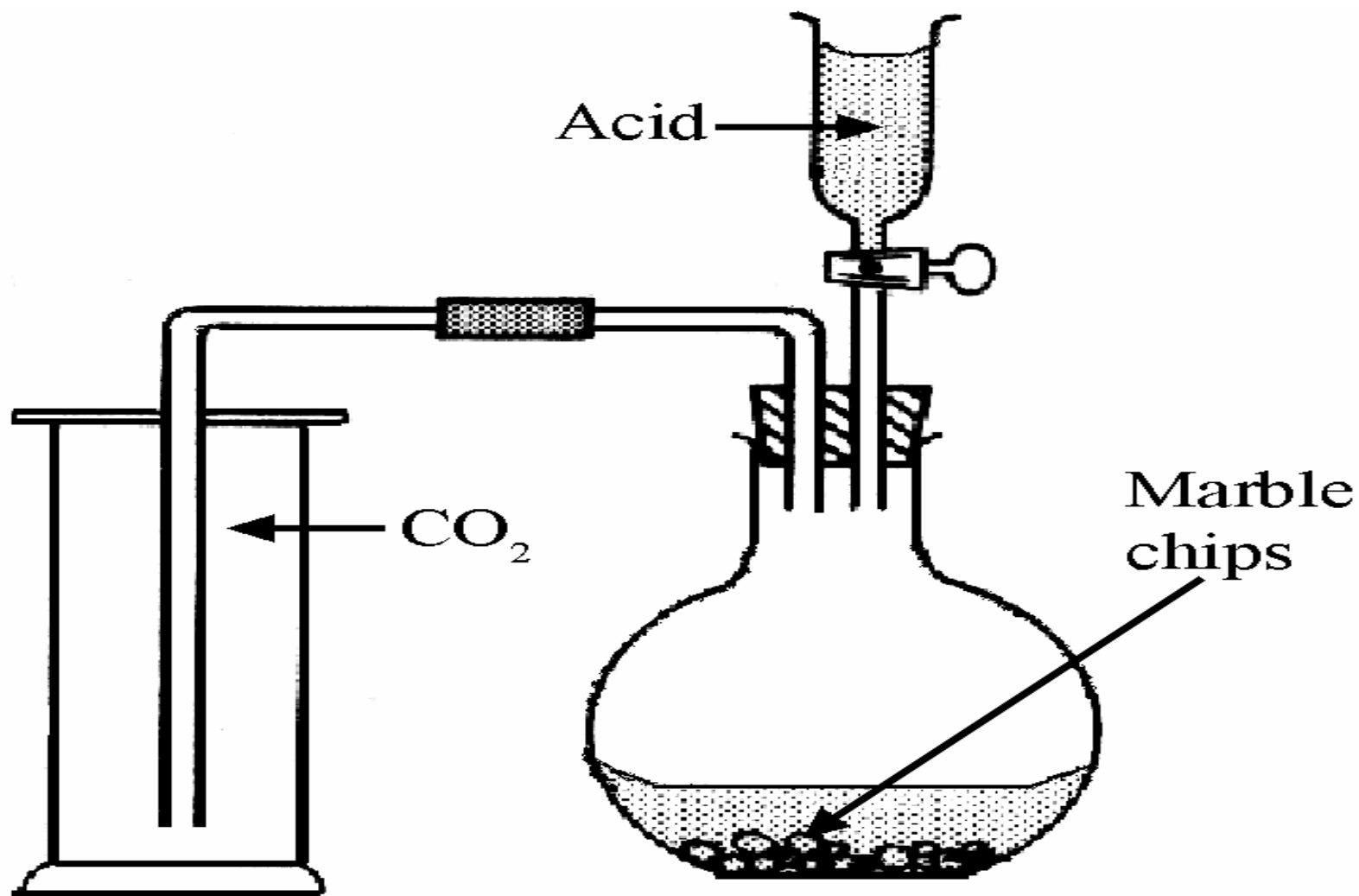
2008 - Ordinary

- Magnesium is burned in air. Magnesium oxide is formed.
- When magnesium oxide is tested with moist red litmus indicator it changes colour to blue.
- What does this tell us about magnesium oxide?

- Oxygen gas is one of the gases found in clean air. Name any **two** other gases normally found in clean air.

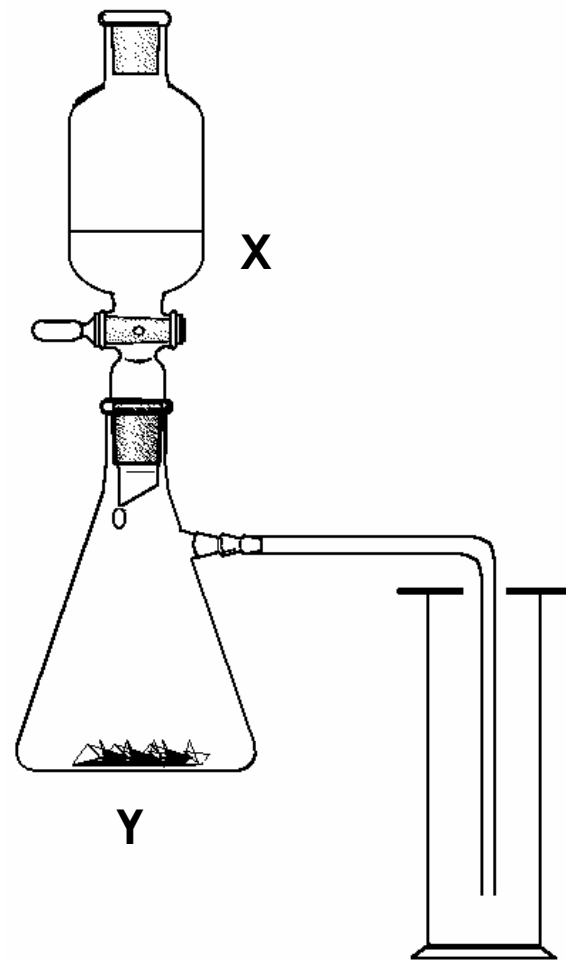
2007 - Higher

- The diagram shows an apparatus that can be used for the preparation and collection of carbon dioxide.
- Give the **formula** of a **suitable acid**.
- Give the **chemical name** for marble. (Note If you used some substance other than marble to react with the acid to give carbon dioxide, then give the **chemical name** of that substance.)
- What **physical property** of carbon dioxide allows the gas to be collected in the manner shown in the diagram?
- If a strip of moist blue litmus paper and a strip of moist red litmus paper are put into a jar of carbon dioxide what **effect**, if any, does the gas have on them?
- Give **two uses** of carbon dioxide.

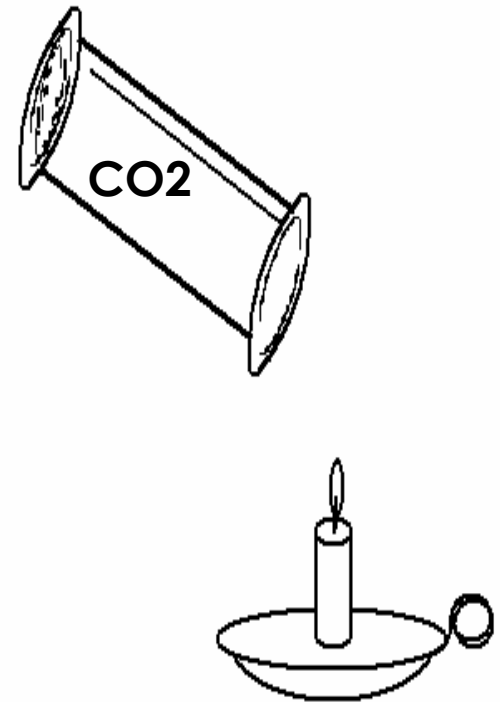


2007 - Ordinary

- The diagram shows an arrangement of apparatus suitable for the preparation of **carbon dioxide gas** in a school laboratory.
- **Name** suitable substances **X** and **Y** from which carbon dioxide can be made.

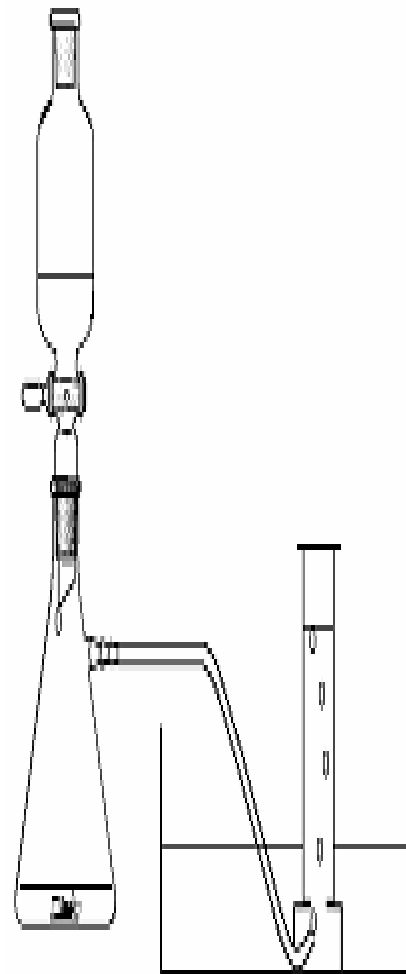


- The diagram shows a gas jar of **carbon dioxide** gas being poured onto a lighting candle. The candle quenches (goes out).
- This test **demonstrates two properties** of carbon dioxide gas.
- **State** these two properties.

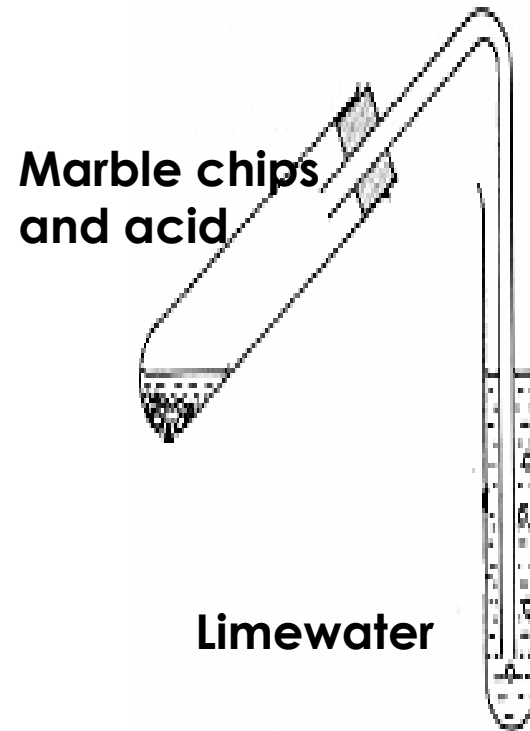


2006 - Higher

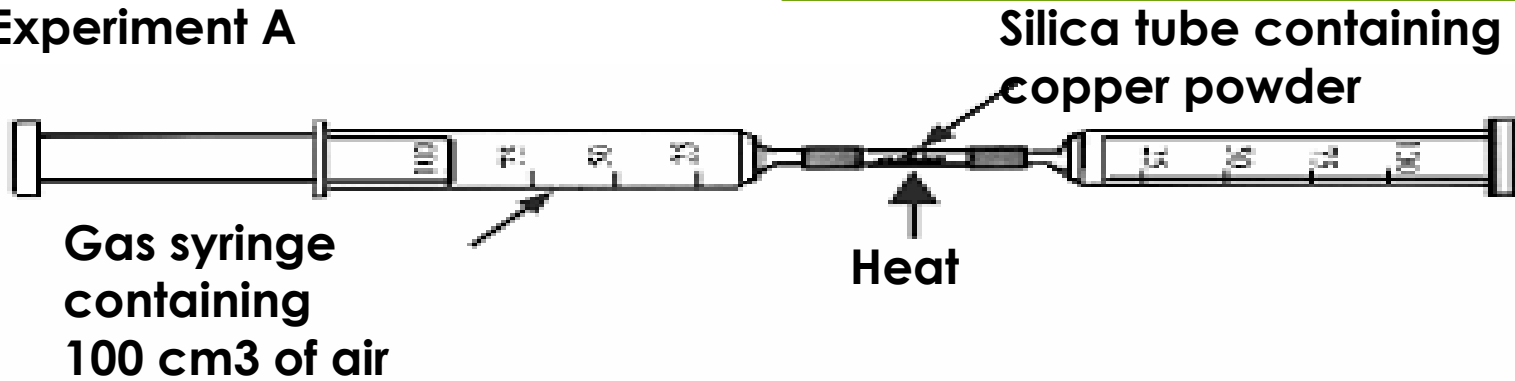
- Name the **two chemicals** that you reacted together to **prepare oxygen** in the school laboratory.
- One of the chemicals acted as a **catalyst**. Which one of the two chemicals used was the **catalyst**?



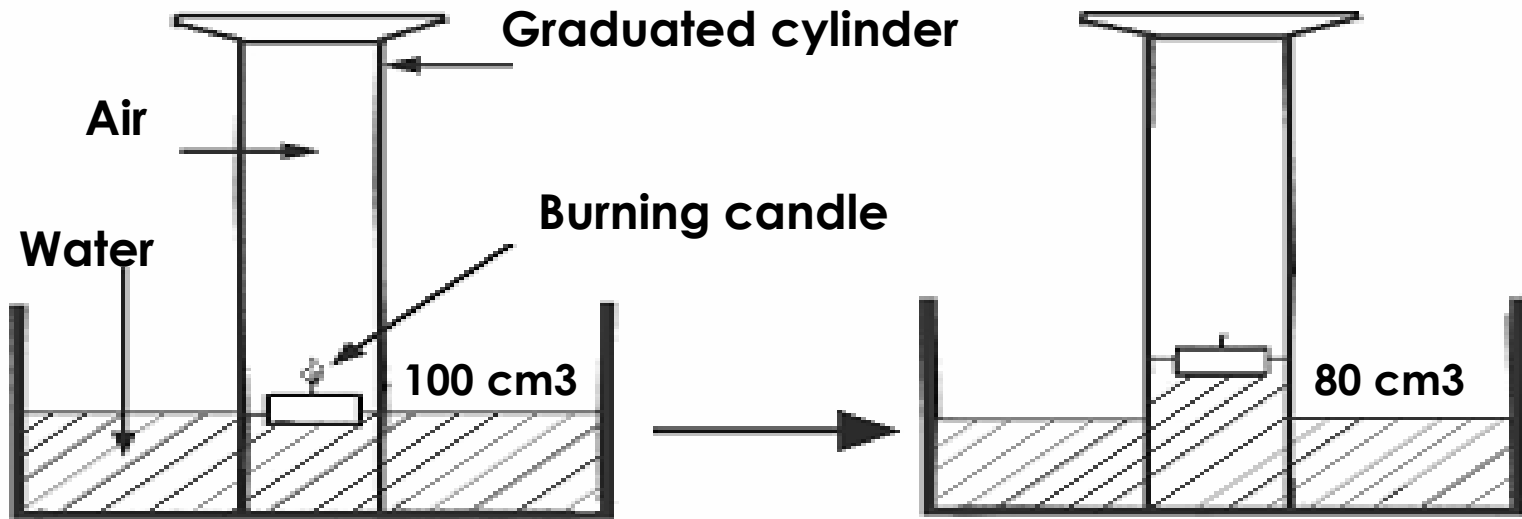
- Carbon dioxide turns limewater milky.
- Complete the **chemical equation** for the reaction of carbon dioxide with limewater.
- $\text{Ca(OH)}_2 + \text{CO}_2 \rightarrow$



Experiment A



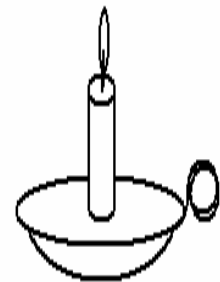
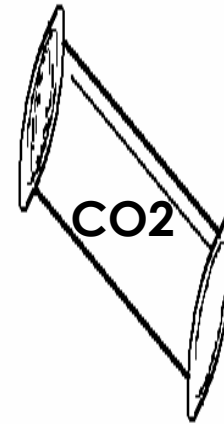
Experiment B



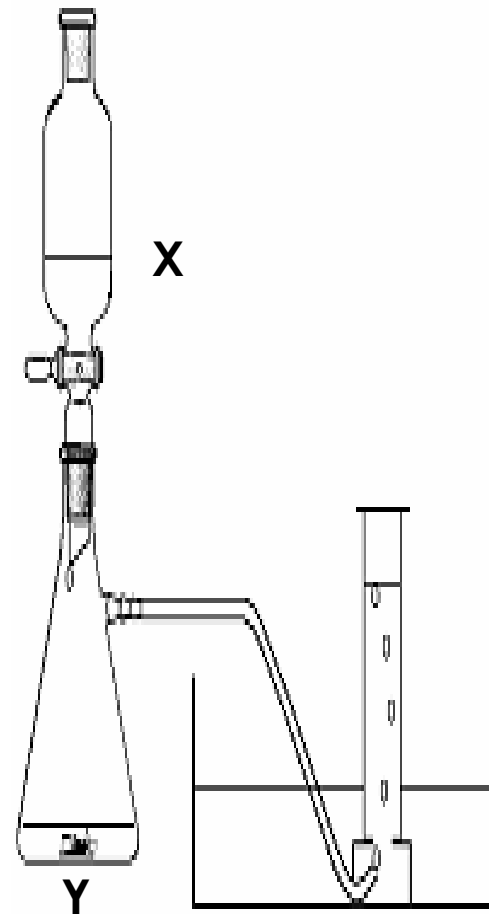
- In **Experiment A** the air was pushed repeatedly over the heated copper powder and only 79 cm³ of gas remained at the end of the experiment.
- Why is it necessary to let the apparatus cool down before measuring the volume of the remaining gas?
- Why did the volume of gas decrease and then remain steady?
- What is the remaining gas mainly composed of?
- Experiment **B** is less accurate than Experiment **A**. Give a reason why this is so.

2006 - Ordinary

- The diagram shows a gas jar of **carbon dioxide** gas being poured onto a lighting candle.
- What happens to the **lighting candle** when the carbon dioxide gas is poured over it?
- **What** does this tell us about carbon dioxide gas?
- **Name** the chemical that turns milky white if carbon dioxide is bubbled through it.



- **Oxygen** gas can be prepared in a school laboratory using the apparatus drawn on the right.
- Identify a liquid **X** and a solid **Y** that can be used in this preparation.
- Solid **Y speeds** up the breakdown of liquid **X**.
- What **name** is given to this type of chemical?



- What happens when a “glowing splint” (very hot piece of wood) is placed in a gas jar of oxygen?
- Give **one property** of oxygen that this demonstrates.

