

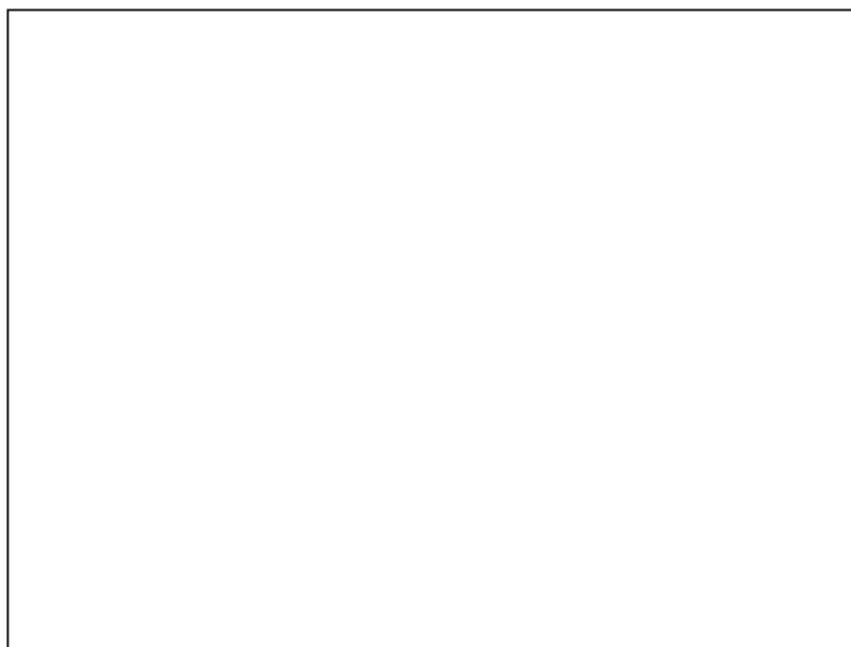


**Science Revised Syllabus  
Junior Certificate  
Higher Level**

**Past Exam Questions on  
C Carbon Dioxide**

**Q5 Part (b) 2013**

- (b)(i) Describe, using a labelled diagram in the box provided, an experiment to show that carbon dioxide gas ( $\text{CO}_2$ ) is more dense than air. (12)



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- (ii) Explain how the conclusion that  $\text{CO}_2$  gas is denser than air can be drawn from your experiment. (6)

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**Q4 Part (c) 2012**

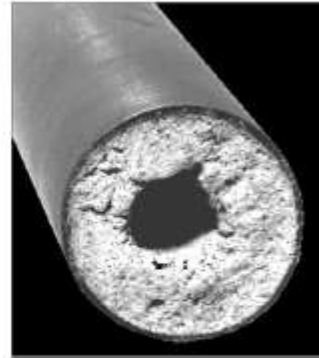
- (c) Water had been flowing through the pipe shown in the photograph for some time. The pipe originally had no internal deposit. Give a possible reason for the formation of the deposit. What do you think the deposit is?

Reason \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Deposit \_\_\_\_\_



**Q5 2012**

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

Formula	% Volume
N <sub>2</sub>	78.08
O <sub>2</sub>	20.95
H <sub>2</sub> O	0 to 4
Ar	0.93
CO <sub>2</sub>	0.036

(i) Which two of these gases/ vapours are produced when a fossil fuel is burned? (6)

1 \_\_\_\_\_ 2 \_\_\_\_\_

(ii) The amount of water vapour present in air is the most variable. Suggest a reason for this. (3)

Reason \_\_\_\_\_

(c) Describe an experiment, using a labelled diagram in the box provided to show the presence of carbon dioxide in air. (9)

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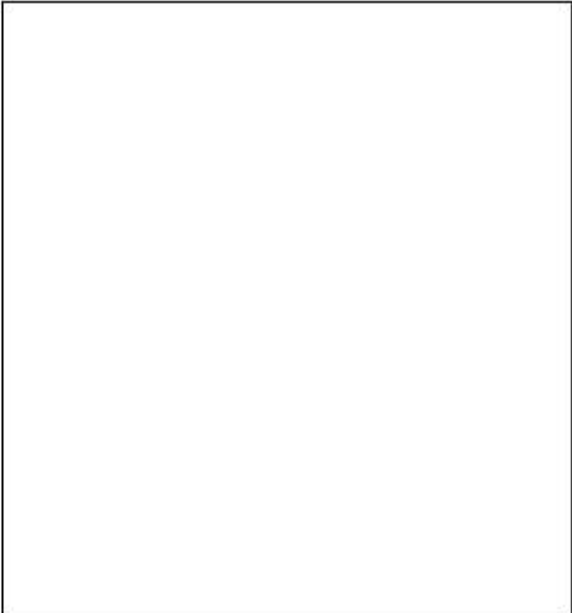
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(d) Give a test to show that the droplets formed on the outside of a glass containing a cold drink are water. (6)

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**Q4 Part (g) 2009**

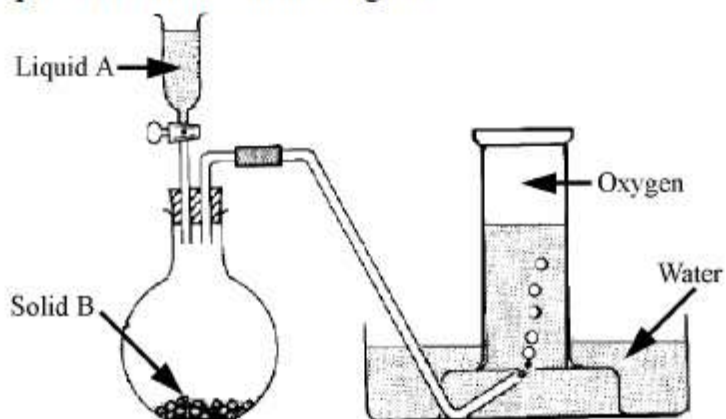
(g) Give *two uses* of carbon dioxide.

Use one \_\_\_\_\_

Use two \_\_\_\_\_

**Q5 Part (a) 2009**

- (a) Oxygen can be prepared by decomposing liquid A using solid B as a catalyst. This preparation is shown in the diagram.



- (i) Name *liquid A*. (3)

Name \_\_\_\_\_

- (ii) Name *solid B*. (3)

Name \_\_\_\_\_

- (iii) What is a *catalyst*? (3)

What? \_\_\_\_\_

Carbon was burned in oxygen and the products tested with pieces of moist red and blue litmus paper.

- (iv) Give the *result of the litmus test* described above and make a *conclusion* based on this result. (6)

Result and conclusion \_\_\_\_\_

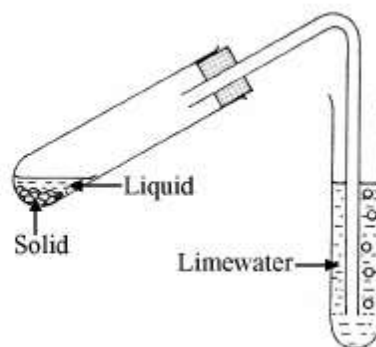
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**Q4 Part (a) 2008**

- (a) 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.

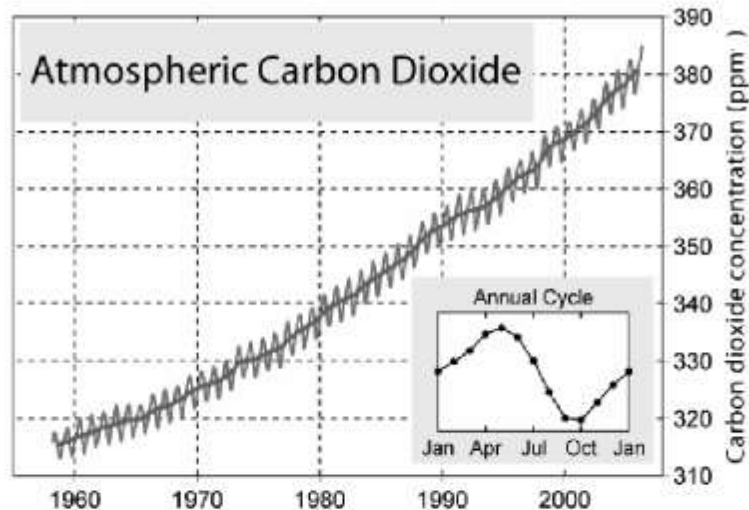
**Liquid** \_\_\_\_\_

**Solid** \_\_\_\_\_



Q3 Part (c) 2007

- (c) The increase in carbon dioxide concentration in the Earth's atmosphere is currently causing concern. The *use of fossil fuels* and *deforestation* have been identified as major contributors to this increase in carbon dioxide concentration. The graph shows a continual increase in the carbon dioxide concentration for the last fifty years. The data was collected at a site in Europe.



- (i) Explain how *either* the use of fossil fuels *or* deforestation could have contributed to the increase in atmospheric carbon dioxide. (3)

Explain \_\_\_\_\_

- (ii) Suggest **one** possible *effect* of continued increase in carbon dioxide concentration in the Earth's atmosphere. (3)

Effect \_\_\_\_\_

Though there is an overall increase in carbon dioxide concentration there is an annual *rise and fall* in carbon dioxide concentration as shown in the box in the diagram.

- (iii) Suggest **one** *reason* why the carbon dioxide concentration decreases between April and October each year. (3)

Reason \_\_\_\_\_

- (iv) How could the reason that you have given in (iii) be used in a *practical way* to slow down and even reverse the overall increase in carbon dioxide levels in the atmosphere? (6)

How? \_\_\_\_\_



**Q6 Part (a) 2007**

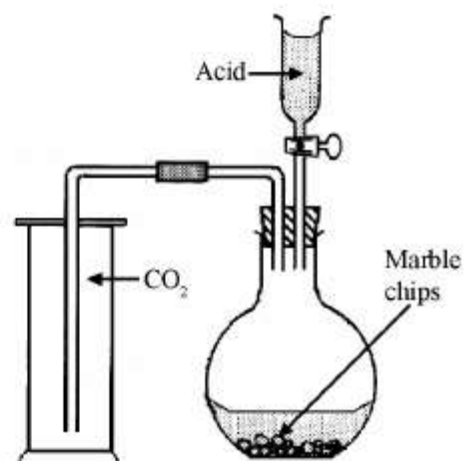
- (a) The diagram shows an apparatus that can be used for the preparation and collection of carbon dioxide.

Give the *formula* of a suitable acid. (3)

Formula \_\_\_\_\_

Give the *chemical name* for marble. (3)

Name \_\_\_\_\_



(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? (3)

Physical property \_\_\_\_\_

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? (3)

Effect \_\_\_\_\_

Give *two uses* of carbon dioxide. (6)

Use 1 \_\_\_\_\_

Use 2 \_\_\_\_\_