 <p>Y 3 G C I Bassaleg SCHOOL</p>	<p>Chemistry 1 Topic 4 Assessed homework</p> <p><u>Non-metals</u> <u>Anfetelau</u></p>	<p>Name.....</p> <p>Teacher.....</p> <p>Mark / 28.....</p>
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1) "Air is a mixture of gases. It contains approximately 78% nitrogen, 21% oxygen and 1% of Noble gases. These Noble gases are very unreactive and include argon and neon. Hydrogen and oxygen can be obtained from water by a process called electrolysis. The water can be split up using electricity. The volume of hydrogen produced is twice the volume of oxygen produced."

Use this information to complete the following questions

a) A gas that is an element is.....[1]f

b) The most abundant gas found in the air is [1]f

c) A Noble gas found in air is [1]f

d) The name of the process that can be used to split water into hydrogen and oxygen is
..... [1]f

e) If 20cm³ of hydrogen was obtained from water, how much oxygen would be produced ?
..... cm³ [1]f/h

2) Below is a list of useful non-metals, their uses and the reasons why they can be used in this way, although the information has been mixed up. Draw a line to link each material to its correct use and the reason it can be used in this way [4]f

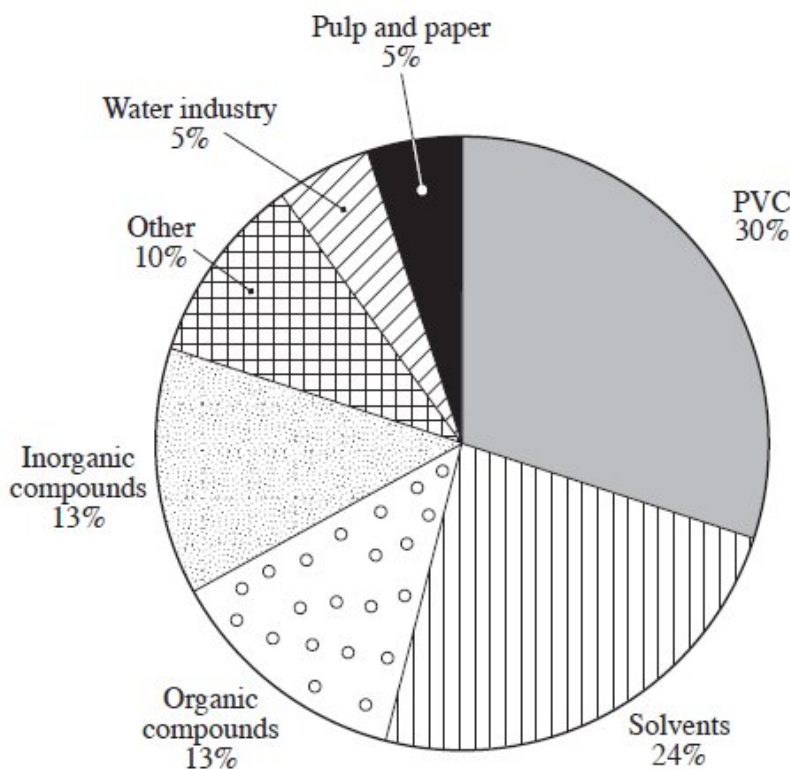
eg neon ----- In advertising signs ----- Emits light when an electric current passes through

<u>Material</u>	<u>Use</u>	<u>Reason for use</u>
helium	To fill a light bulbs	Strengthens tooth enamel
iodine	To fill weather balloons	Very unreactive. Prevents the filament from burning
sodium fluoride	In antiseptic	Toxic, so kills bacteria
argon	In toothpaste	Very low density

3) The pie chart below shows some uses of chlorine. Use the pie chart to complete the following sentences

a) The **biggest** use of chlorine is[1]f

b) The water industry uses % of the total chlorine used. [1]f



c) Chlorine is added to all supplies of drinking water in Britain.

i) Give the **reason** for the chlorination of drinking water. [1]f

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ii) Give the **property** of chlorine which makes it suitable for this use. [1]f

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4) The following observations can be used to identify various gases.

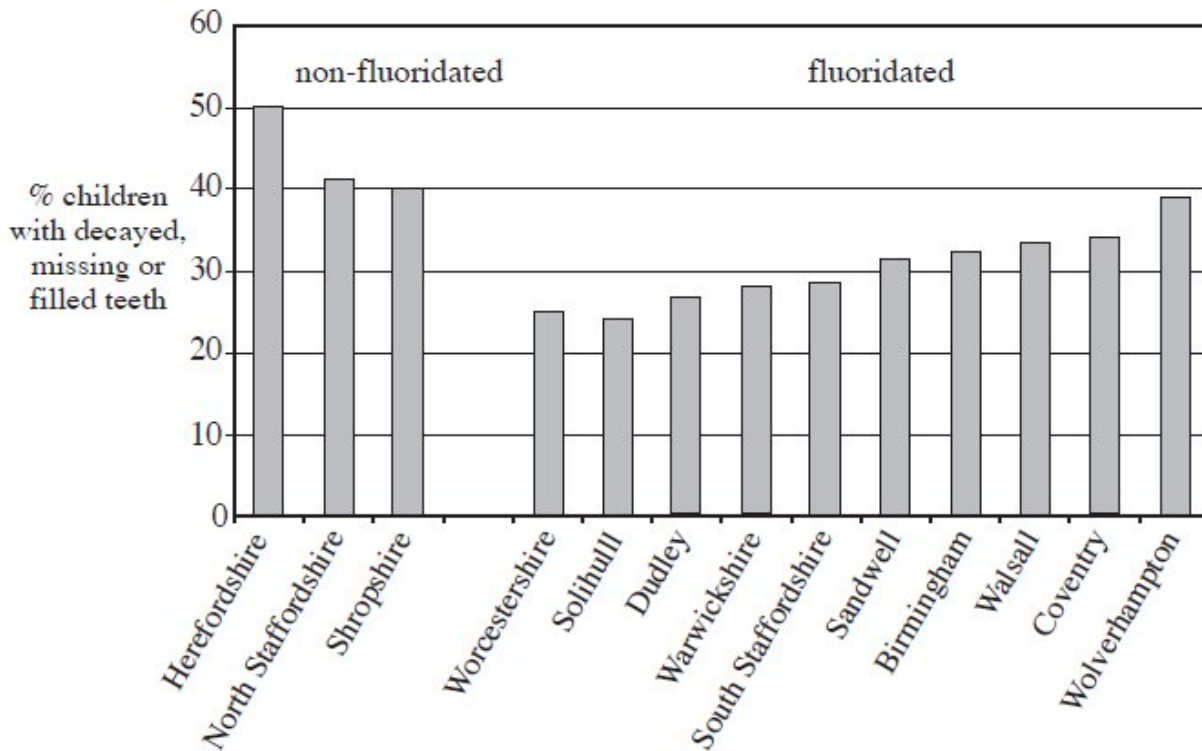
limewater turns milky	pops with a lighted splint
relights a glowing splint	turns damp litmus blue

Choose the observation, from the box above that you would expect when testing for

a) oxygen gas[1]f

b) hydrogen gas[1]f

5) Fluoride is often added to drinking water to reduce dental decay. The following graph shows the percentages of children with decayed, missing or filled teeth in areas of England. It also shows whether or not the water is fluoridated.



a) Choose, from the words below, the way in which this data would have been collected. [1]f

Experiment internet search survey

b) Give the area in which there is
i) most dental decay..... [1]f

ii) least dental decay..... [1]f

c) Explain how the information in the graph can be used to show that fluoridation reduces tooth decay. [1]f

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d) Suggest why some people may say that there is not enough evidence in the graph to prove that fluoridation reduces tooth decay. [1]f

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e) Give one reason for some people opposing the fluoridation of drinking water [1]h

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.....

6) a) When hydrogen burns in air a large amount of usable energy is released, making hydrogen a very good fuel. Write a **word** equation for the reaction of hydrogen burning. [2]h

..... + →

b) Hydrogen can be obtained by splitting water molecules using electricity. Why does this produce twice the amount of hydrogen as it does oxygen? [1]h

.....
.....

c) Describe how you would prove that a gas was indeed hydrogen [1]h

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.....

d) State the main advantage to the environment of using hydrogen as a fuel in preference to petrol or alcohol [2]h

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e) State one disadvantage of using hydrogen as a fuel [1]h

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