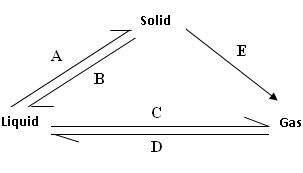
LIGHT ACADEMY SECONDARY SCHOOL

SENIOR TWO TERM 3

HOLIDAY WORK

Answer **all** questions.

1. The diagram in figure 1 shows how states of matter can change under different conditions.



1. Name the change of state of matter represented by:

(i) A ……………………………………………………………

(ii) B ……………………………………………………………

(iii) C ……………………………………………………………

(iv) D ……………………………………………………………

(v) E ……………………………………………………………

*(2½ marks)*

(b) Name two substances which can undergo the change of state represented by **E**.

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*(02 marks)*

(c) State one condition other than temperature that can bring about the change of state represented by **D**.

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*(½ mark)*

2 (a) Duralumin is an alloy containing copper and other metals.

1. Name two other metals that are present in duralumin (*1 mark*)

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1. Arrange the metals present in Duralumin in their order of reactivity, starting with most reactive. (*1 mark*)

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1. State **one** use of Duralumin. ( *½ mark*)

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(b) Name

1. One other alloy that contains copper. (1 mark)

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1. The other metal(s) present in the alloy you have named in (b)(i) (1 mark)

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(c) State one use of the alloy you have named in (b) (i). (½ mark)

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3. (a) Oxygen can be prepared using sodium peroxide and water.

(i) Write an equation for the reaction between sodium peroxide and water.

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*(1½ marks)*

(ii) Name one other substance from which oxygen can be prepared in the laboratory.

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*(01 mark)*

1. (i) State the condition(s) under which oxygen can react with iron

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*(01 mark)*

1. Write an equation for the reaction that takes place when iron is treated with oxygen under the condition(s) you have stated in b (i).

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*(1½ marks)*

4. The atomic numbers of elements X and Y are 7 and 20 respectively.

(a) Write the electronic configurations of the elements. (2 marks)

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(b) State the periods in the Periodic Table to which X and Y belong.

1. X (1 mark)

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1. Y

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(c) Write the formula of the compound formed X and Y. (1 mark)

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(d) State the type of bond in the compound formed in (c). (1 mark)

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5. (a) Write equation for the reaction between magnesium ribbon and dilute sulphuric acid. (1 ½ marks)

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(b) State **three** ways by which the reaction in (a) could be made to proceed at a faster rate than normal. (3 marks)

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(c) Name **one** metal that would react with sulphuric acid in a similar way like magnesium. (½ mark)

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1. (a) Carbon dioxide can be prepared in the laboratory by reacting calcium carbonate and dilute hydrochloric acid.
2. Write an equation for the reaction (11/2 mark)

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1. Give a reason why sulphuric acid cannot be reacted with calcium carbonate to prepare carbon dioxide (1mark)

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1. A piece of burning magnesium ribbon was lowered into a gas jar of carbon dioxide
2. State what was observed (1 mark)

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1. Write an equation for the reaction (11/2 mark)

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