



Centre Number

71

Candidate Number

General Certificate of Secondary Education  
2011–2012

## Science: Double Award (Modular)

Using Materials and Understanding Reactions  
End of Module Test

Foundation Tier

# B

[GDB01]



THURSDAY 19 MAY 2011, MORNING

### TIME

45 minutes.

### INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.  
Write your answers in the spaces provided in this question paper.  
Answer **all thirteen** questions.

### INFORMATION FOR CANDIDATES

The total mark for this paper is 50.  
Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.  
A Data Leaflet, which includes a Periodic Table of the elements, is provided for your use.

For Examiner's  
use only

Question Number	Marks
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	

Total  
Marks



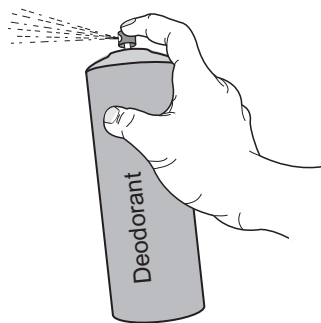








- 5 Some deodorants are sold in an aerosol spray, similar to the one shown in the diagram below. Aerosols contain a **compressed** gas. When the button is pressed the gas is released carrying the deodorant with it.



- (a) Explain, in terms of particles, why gases can be compressed.

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[1]

- (b) The following warning is printed on aerosol cans.

Do not expose to temperatures above 50°C

What happens to the volume of the gas in the aerosol can when the temperature is increased?

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[1]

- (c) When the aerosol can is “empty”, a small number of gas particles remain. Shade in the aerosol can below to show the position of the remaining gas particles in the container.



[1]

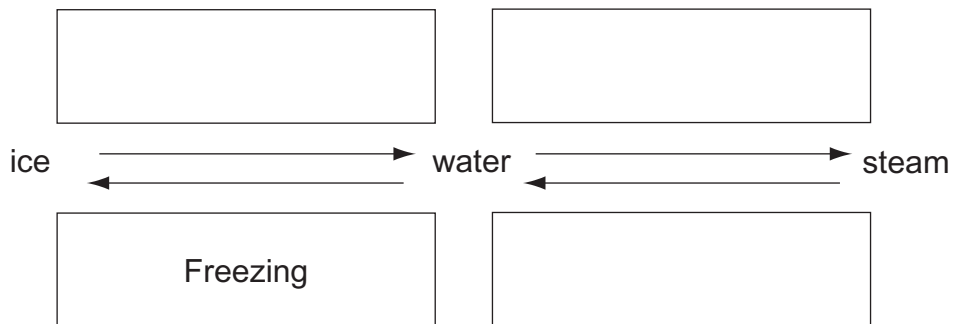
Examiner Only

Marks Remark



7 Water changes to steam when it is heated. When water is cooled it eventually turns to ice.

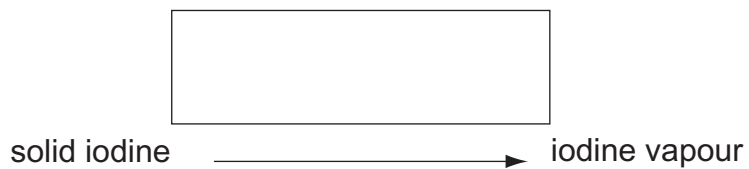
(a) Complete the diagram below to name these changes of state.



[3]

Iodine changes from the solid state to a gas without becoming a liquid.

(b) Complete the diagram below to name this change of state.



[1]

Examiner Only	
Marks	Remark





9 This question is about chemical formulae.

You may find your Data Leaflet helpful.

(a) How many different **elements** are there in the compound  $\text{Na}_2\text{CO}_3$ ?

\_\_\_\_\_ [1]

(b) Name the **compound**  $\text{KHCO}_3$ .

\_\_\_\_\_ [1]

(c) How many **atoms** are there in a  $\text{Cu}(\text{OH})_2$  molecule?

\_\_\_\_\_ [1]

(d) What is the correct formula for magnesium nitrate?

\_\_\_\_\_ [1]

Examiner Only

Marks

Remark

10 The table below has a list of oxides. Some of these react with acids to form salts.

(a) Complete the table by putting YES or NO in the appropriate boxes. The first one has been done for you.

name of oxide	reacts with acids to form salts YES or NO
zinc oxide	YES
nitrogen dioxide	
sodium oxide	
carbon dioxide	
calcium oxide	

[2]

(b) (i) What other compound, apart from a salt, is formed when an acid reacts with an oxide?

\_\_\_\_\_ [1]

(ii) What name is given to this **type** of chemical reaction?

\_\_\_\_\_ [1]

Examiner Only

Marks Remark

11 The table below gives information about the atomic structure of five elements.

Use this information and your Data Leaflet to answer the questions which follow.

element	number of electrons		
	1st shell	2nd shell	3rd shell
A	2	1	
B	2	6	
C	2	4	
D	2	8	1
E	2	8	8

(a) Which element A, B, C, D or E has an atomic number of 6?

\_\_\_\_\_ [1]

(b) Which element A, B, C, D or E has a noble gas structure?

\_\_\_\_\_ [1]

(c) Which two of the elements A, B, C, D or E are **very** reactive?

\_\_\_\_\_ and \_\_\_\_\_ [1]

(d) Give the **name** of element D.

\_\_\_\_\_ [1]

Examiner Only

Marks Remark







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