

Noble gases

Question Paper 1

Level	IGCSE
Subject	Chemistry (0620/0971)
Exam Board	Cambridge International Examinations (CIE)
Topic	The Periodic Table
Sub-Topic	Noble gases
Booklet	Question Paper 1

Time Allowed: 23 minutes

Score: /19

Percentage: /100

Grade Boundaries:

9	8	7	6	5	4	3	2	1
>85%	75%	68%	60%	53%	48%	40%	33%	<25%

1. Elements in Group 0 of the Periodic Table have uses.

These noble gases are1..... and this explains why argon2..... be used in lamps.

Which words correctly complete gaps 1 and 2?

	1	2
A	reactive	can
B	reactive	cannot
C	unreactive	can
D	unreactive	cannot

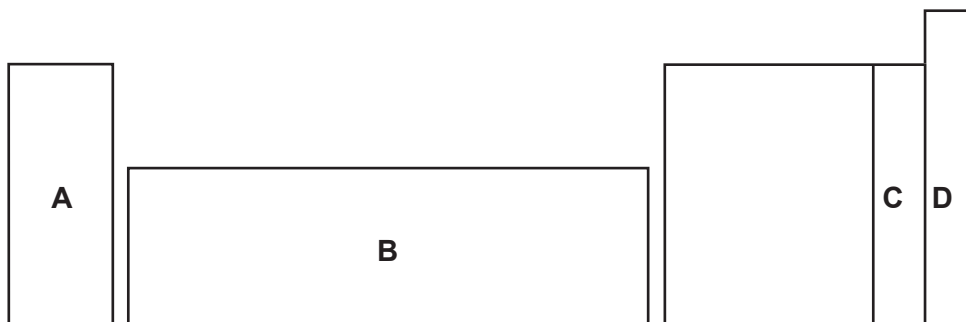
2. An inert atmosphere is needed in a lamp to lengthen the useful life of the metal filament.

Why is argon, rather than helium, used for this purpose?

	argon is more abundant in the air	argon is less dense than helium
A	✓	✓
B	✓	x
C	x	✓
D	x	x

3. An element does not conduct electricity and exists as diatomic molecules.

In which area of the Periodic Table is the element to be found?



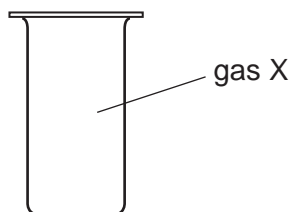
4. Statement 1: Helium is a reactive gas.

Statement 2: Helium can be used to fill balloons.

Which is correct?

- A Both statements are correct and statement 2 explains statement 1.
- B Both statements are correct but statement 2 does not explain statement 1.
- C Statement 1 is correct but statement 2 is incorrect.
- D Statement 2 is correct but statement 1 is incorrect.

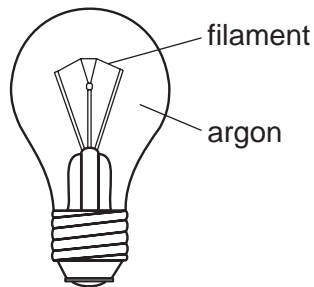
5. X is a monatomic gas.



Which statement about X is correct?

- A X burns in air.
 - B X is coloured.
 - C X is unreactive.
 - D X will displace iodine from potassium iodide.
6. Why are weather balloons filled with helium rather than hydrogen?
- A Helium is found in air.
 - B Helium is less dense than hydrogen.
 - C Helium is more dense than hydrogen.
 - D Helium is unreactive.

7. The diagram shows a light bulb.



Why is argon used instead of air in the light bulb?

- A** Argon is a good conductor of electricity.
- B** Argon is more reactive than air.
- C** The filament glows more brightly.
- D** The filament does not react with the argon.

8. An inert gas X is used to fill weather balloons.

Which descriptions of X are correct?

	number of outer electrons in atoms of X	structure of gas X
A	2	single atoms
B	2	diatomic molecules
C	8	single atoms
D	8	diatomic molecules

9. Why is argon gas used to fill electric lamps?

- A** It conducts electricity.
- B** It glows when heated.
- C** It is less dense than air.
- D** It is not reactive.

10. The Group 0 elements are unreactive.

The gas used to fill balloons is X..... .

This gas is unreactive because it has Y..... electrons in its outermost shell.

Which words correctly complete gaps X and Y?

	X	Y
A	argon	eight
B	argon	two
C	helium	eight
D	helium	two

11. Hydrogen and helium have both been used to fill balloons.

Which property of helium makes it the preferred choice to hydrogen?

- A** easily compressed into a gas cylinder
- B** forms monatomic molecules
- C** lower density
- D** unreactive

12. The following statements are about elements in the Periodic Table.

- 1 Their atoms have a full outer shell of electrons.
- 2 They form basic oxides.
- 3 They are found in Group 0.
- 4 They are present in small quantities in the air.

Which statements are correct for the noble gases?

- A 1, 2 and 3 B 1, 2 and 4 C 1, 3 and 4 D 2, 3 and 4

13. The noble gases, which are in Group 0 of the Periodic Table, are all very 1..... .
 2....., one of these gases, is used to provide an inert atmosphere in lamps.
 Another, 3....., is used for filling balloons because it is less dense than air.

Which words complete the sentences about noble gases?

	1	2	3
A	reactive	argon	helium
B	reactive	helium	argon
C	unreactive	argon	helium
D	unreactive	helium	argon

14. The diagram shows a section of the Periodic Table.

Which element is described below?

'A colourless, unreactive gas that is denser than air.'

																				A	
																				B	
																				C	
																					D

15. Two statements about argon are given.

- 1 Argon has a full outer shell of electrons.
- 2 Argon is very reactive and is used in lamps.

Which is correct?

- A** Both statements are correct and statement 2 explains statement 1.
- B** Both statements are correct but statement 2 does not explain statement 1.
- C** Statement 1 is correct but statement 2 is incorrect.
- D** Statement 2 is correct but statement 1 is incorrect.

16. Part of the Periodic Table is shown.

Which element is a gas that does **not** form a compound with potassium?

													A		B
	C													D	

17. Two statements about noble gases are given.

- 1 Noble gases are reactive, monatomic gases.
- 2 Noble gases all have full outer shells of electrons.

Which is correct?

- A** Both statements are correct and statement 2 explains statement 1.
- B** Both statements are correct but statement 2 does not explain statement 1.
- C** Statement 1 is correct but statement 2 is incorrect.
- D** Statement 2 is correct but statement 1 is incorrect.

18 Why are weather balloons sometimes filled with helium rather than hydrogen?

- A Helium is found in air.
- B Helium is less dense than hydrogen.
- C Helium is more dense than hydrogen.
- D Helium is unreactive.

19 The noble gases are in Group VIII of the Periodic Table.

Which statement explains why noble gases are unreactive?

- A They all have eight electrons in their outer shells.
- B They all have full outer shells.
- C They are all gases.
- D They are all monoatomic.