

O Level Pure Chemistry MCQs

Periodic Table Test 3.0

Q1

The following report appeared in a newspaper.

Drums of bromine broke open after a vehicle crash on the motorway. Traffic was diverted as purple gaseous bromine drifted over the road (it is denser than air), causing irritation to drivers' eyes. Firemen sprayed water over the scene of the accident, dissolving the bromine and washing it away.

What is wrong with the report?

- A Bromine does not dissolve in water.
- B Bromine does not vaporise easily.
- C Bromine is less dense than air.
- D Bromine is not purple in colour.

Q2

The exhaust systems of most cars are fitted with catalytic converters that contain transition metals as catalysts to decrease the emission of atmospheric pollutants. Platinum and palladium are the two most common elements used. They are found below nickel in the Periodic Table.

Which properties are nickel, palladium and platinum likely to have in common?

- 1 variable oxidation states
- 2 high melting points
- 3 high density

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

Q3

Which statement correctly describes the elements in Group 0 of the Periodic Table?

- A All of their atoms have eight electrons in the outer shell.
- B They are colourful gases.
- C They are inert and unreactive.
- D They exist as diatomic molecules.

Q4

Chlorine and iodine are both in Group VII of the Periodic Table. Which statement about these elements is correct?

- A Chlorine is less reactive than iodine.
- B Chlorine has a lower melting point than iodine.
- C Chlorine and iodine are diatomic gases at room temperature.
- D Iodine will react with a solution of sodium chloride.

Q5

Rubidium, Rb, is an element in the same group of the Periodic Table as lithium, sodium and potassium.

Which statement about rubidium is likely to be correct?

- A It forms a dichromate(VI) $\text{Rb}_2\text{Cr}_2\text{O}_7$.
- B It forms an insoluble hydroxide.
- C It is produced during the electrolysis of aqueous rubidium chloride.
- D It reacts slowly with cold water.

Q6

The table shows the results of halogen displacement experiments.

Halogen added	Halide solution		
	X	Y	Z
X_2	-	Y_2 displaced	Z_2 displaced
Y_2	No reaction	-	No reaction
Z_2	No reaction	Y_2 displaced	-

What are halogens X, Y and Z?

	X	Y	Z
A	Br	Cl	I
B	Br	I	Cl
C	Cl	Br	I
D	Cl	I	Br

Q7

Which of the following trends down the elements in Group 1 is generally false?

- A The density decreases.
- B The reactivity increases.
- C The hardness decreases.
- D The melting point decreases.

Q8

Caesium is in Group 1 of the Periodic Table. Which one of the following sets of properties is it likely to have?

- | | | | |
|---|----------------------------------------|---|---------------------------------------|
| A | hard, high density, high melting point | B | hard, high density, low melting point |
| C | soft, low density, high melting point | D | soft, low density, low melting point |

Q9

Which one of the following statements is true regarding the Periodic Table?

- A Elements become more metallic on going down a group.
- B Elements are arranged according to their mass numbers.
- C Elements become more reactive on going down a group.
- D Elements become less dense when moving across the Periodic Table.

Q10

W is an element.

W forms an ion, W^+ , which has an electronic configuration of 2.8.8.

Which statements about W are correct?

1. W has low melting point.
2. W is in Period 4 of the Periodic Table.
3. W reacts with sulfur to form an ionic compound.

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

Answers

Periodic Table Test 3.0

Q1 D

Q2 D

Q3 C

Q4 B

Q5 A

Q6 D

Q7 A

Q8 D

Q9 A

Q10 D

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