

# Periodic Table

## Question Paper

Level	GCSE
Subject	Chemistry
Exam Board	Edexcel IGCSE
Module	Single Award (Paper 2C)
Topic	Chemistry of the Elements
Sub-Topic	Periodic Table
Booklet	Question Paper

**Time Allowed:** 36 minutes

**Score:** /30

**Percentage:** /100

**Grade Boundaries:**

A*	A	B	C	D	E	U
>85%	75%	70%	60%	55%	50%	<50%



(b) Complete these sentences by placing a cross (☒) in **one** box next to the correct answer.

(i) The elements in the Periodic Table are arranged in order of increasing

(1)

- number of neutrons
- atomic number
- relative atomic mass
- mass number

(ii) Elements in the same group in the Periodic Table have the same number of

(1)

- electrons in the outer shell
- protons in the nucleus
- neutrons in the nucleus
- atoms

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**(Total for Question 1 = 6 marks)**

**2** Use the Periodic Table on page 2 to help you answer this question.

Give the name or symbol of

(a) the element in group 3 and period 4.

(1)

.....  
(b) an element in period 3 that is a good conductor of electricity.

(1)

.....  
(c) the element in group 7 that is the most reactive.

(1)

.....  
(d) the element in group 5 that is present in a molecule of ammonia.

(1)

.....  
(e) an element with an atom containing 8 electrons in its outer shell.

(1)

.....  
**(Total for Question 2 = 5 marks)**

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3 The diagram shows a section of the Periodic Table and the symbols for the first 20 elements.

		H																He
Li	Be											B	C	N	O	F	Ne	
Na	Mg											Al	Si	P	S	Cl	Ar	
K	Ca																	

(a) (i) What name is given to a horizontal row of elements such as Na to Ar? (1)

.....

(ii) Name two metals in the row Na to Ar. (1)

..... and .....

(iii) Which is the least reactive element in the row Na to Ar?  
Explain your answer. (2)

least reactive element.....

explanation.....

.....

.....

(b) State, in terms of electronic configurations, why the elements in the column Li to K have similar chemical properties. (1)

.....

.....

(c) (i) Which element has atomic number 6? (1)

.....

(ii) Which element has atoms with an electronic configuration of 2.8.6? (1)

.....

(d) An atom has atomic number 8 and mass number 18.

How many protons, neutrons and electrons does this atom contain?

(2)

protons .....

neutrons.....

electrons .....

**(Total for Question 3 = 9 marks)**

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4 Neon is an element with atomic number 10.

(a) Which sub-atomic particles are present in the nucleus of a neon atom?

(1)

- A electrons and neutrons
- B electrons and protons
- C electrons and neutrons and protons
- D neutrons and protons

(b) Use words from the box to complete the sentences about the particles in a neon atom.

Each word may be used once, more than once or not at all.

(3)

electrons	neutrons	nuclei	protons
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The particles with the smallest mass are .....

An atom of neon has no overall charge because it contains equal numbers

of ..... and .....

The chemical properties of neon depend on the number of

..... in the outer shell.

(c) What is the electronic configuration of a neon atom?

(1)

- A 2.8
- B 2.2.6
- C 2.8.8
- D 2.8.8.2

(d) Neon has two main isotopes that can be represented as  $^{20}\text{Ne}$  and  $^{22}\text{Ne}$ .

(i) Explain, with reference to sub-atomic particles, what is meant by the term **isotopes**.  
(2)

.....

.....

.....

.....

(ii) The relative atomic mass of neon is 20.2

How does this information support the fact that a sample of neon contains more  $^{20}\text{Ne}$  than  $^{22}\text{Ne}$ ?

(1)

.....

.....

(e) Neon belongs to the family of noble gases and is inert.

(i) What is meant by the term **inert**?

(1)

.....

.....

(ii) Why are noble gases inert?

(1)

.....

.....

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**(Total for Question 4 = 10 marks)**