

Revision Sheet

IGCSE Chemistry · Unit 8 The Periodic Table

7 vocabulary items · 24 marks of exam questions (6 questions)

Part 1 · Vocabulary review (7 items). The terms this unit is examined on most. Mark it yourself from the answer key.

Section A · Chinese to English

Write the English word.

1.

[1]
2.

[1]
3.

[1]
4.

[1]
5.

[1]
6.

[1]
7.

[1]

Part 2 · Exam questions (24 marks, 6 questions) begins on the next page. They are ordered easy to difficult and none of them has been set before.

8 Which statements about transition elements are correct?

- 1 They have a low density.
- 2 They form ions with variable oxidation numbers.
- 3 They have a high melting point.
- 4 They form only colourless compounds.

A 1 and 2

B 1 and 4

C 2 and 3

D 3 and 4

9 Q and R are elements in the same period of the Periodic Table.

Q has 7 electrons in its outer shell and R has 2 electrons in its outer shell.

Which statement about Q and R is correct?

- A Q is a metal and R is a non-metal.
- B Q and R have different numbers of electron shells.
- C R is found to the right of Q in the Periodic Table.
- D The proton number of R is less than the proton number of Q.

10 Which statement about alkali metals is correct?

- A Lithium is more dense than sodium.
- B Sodium is more reactive than potassium.
- C Sodium has a higher melting point than potassium.
- D They are in Group II of the Periodic Table.

11 Which row describes the properties of a transition element?

	melting point	density	forms coloured compounds
A	high	low	no
B	high	high	yes
C	low	low	no
D	low	low	yes

12 Table 1.1 gives the electronic configurations of some atoms and ions, **A** to **G**.

Table 1.1

	electronic configuration
A	2,5
B	2,8
C	2,8,2
D	2,8,4
E	2,8,5
F	2,8,6
G	2,8,18,7

Answer the following questions about **A** to **G**.

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

State which of the atoms or ions, **A** to **G**, could be:

(a) a noble gas atom

..... [1]

(b) an atom of an element in Group VI

..... [1]

(c) an atom with an atomic number of 14

..... [1]

(d) atoms from the same group

..... and [1]

(e) a halogen atom

..... [1]

(f) an atom of an element which is a good conductor of electricity

..... [1]

(g) a stable ion of a Group V element

..... [1]

(h) an atom that forms an ion with a 2– charge.

..... [1]

[Total: 8]

3 Order of reactivity can be determined by displacement reactions.

(a) A student investigates the reactivities of four metals by carrying out a series of experiments.

Each of the metals lead, manganese, silver and zinc are added separately to aqueous metal nitrates of the other metals.

(i) Table 3.1 shows some of the results.

Table 3.1

aqueous solution	lead Pb	manganese Mn	silver Ag	zinc Zn
lead(II) nitrate		✓		
manganese(II) nitrate				
silver nitrate	✓	✓		✓
zinc nitrate	x	x		

key

✓ = displacement reaction occurs

x = displacement reaction does not occur

Complete Table 3.1 and place the four metals in their order of reactivity with the most reactive first.

1 most reactive

2

3

4

[3]

(ii) Suggest why the metal nitrates and not the metal sulfates of these four metals are used as the aqueous solutions.

..... [1]

(iii) Write the symbol equation for the reaction between zinc and silver nitrate.

..... [2]

(b) The reactivity of Group VII elements can be investigated experimentally.

A student bubbles chlorine gas into a test-tube containing aqueous potassium bromide.

(i) Describe the colour change seen in the test-tube.

from to [2]

(ii) Complete the ionic equation for this reaction.

Include state symbols.

..... +Br⁻(aq) → + [3]

(iii) The reactivity trend seen in Cl, Br and I applies to all the elements in Group VII.

Use the Periodic Table to identify the Group VII element which **cannot** displace any other Group VII elements.

..... [1]

[Total: 12]