



Rosary School – Marj Elhamam

Worksheet (3)

Name: _____

Date: / 11 / 2025

Grade: 8 (A, B,C,D)

Subject: Chemistry

Achievement past papers

Question one:

1)

Reduction is a type of chemical reaction.

What happens during reduction?

- ☐ A a substance gains oxygen
- ☒ B a substance loses oxygen
- ☐ C a substance gains mass
- ☐ D a substance loses energy

2)

Many metals can be extracted from their ores by heating the metal oxide with carbon.

Which of these metals can't be extracted using carbon?

- A. Zinc
- B. Copper
- ☒ C. Aluminium
- D. Iron

3)

Iron is extracted from hematite, Fe_2O_3 , in a blast furnace. Limestone is also added to the furnace.

What is the purpose of the limestone?

- ☒ A. To remove impurities from the iron ore
- ☐ B. To heat up the blast furnace
- ☐ C. To reduce the hematite
- ☐ D. To neutralise acidic gases

4)

Which of the following metals can **not** be extracted from its ore by reduction?

- ☐ A. Iron
- ☐ B. Zinc
- ☐ C. Copper
- ☒ D. Lithium

5)

Which statement about the extraction of iron from its ore is **not** correct?

- ☐ A. Iron can be extracted by reduction with carbon
- ☐ B. Iron is easier to extract than zinc
- ☒ C. Iron is easier to extract than copper
- ☐ D. Iron is extracted from the ore, hematite

6)

Magnesium reacts with iron(III) oxide in the following reaction.



Which statement about this reaction is correct?

- ☐ A. Magnesium oxide is reduced
- ☐ B. Iron is oxidised
- ☒ C. Magnesium is oxidised
- ☐ D. Iron(III) oxide is oxidised

7)

What change occurs to an atom when it forms a negative ion?

- A. It loses electrons.
- B. It gains protons.
- ☒ C. It gains electrons.
- D. It loses protons.

8)

Which row correctly describes an oxidising agent and a reducing agent?

- ☒ A. oxidising agent - adds oxygen to a substance
reducing agent - removes oxygen from a substance
- B. oxidising agent - adds oxygen to a substance
reducing agent - increases the oxidation number of a substance
- C. oxidising agent - removes oxygen from a substance
reducing agent - adds oxygen to a substance
- D. oxidising agent - decreases the oxidation number of a substance
reducing agent - increases the oxidation number of a substance

9)

Magnesium is a Group II element and chlorine is a Group VII element.

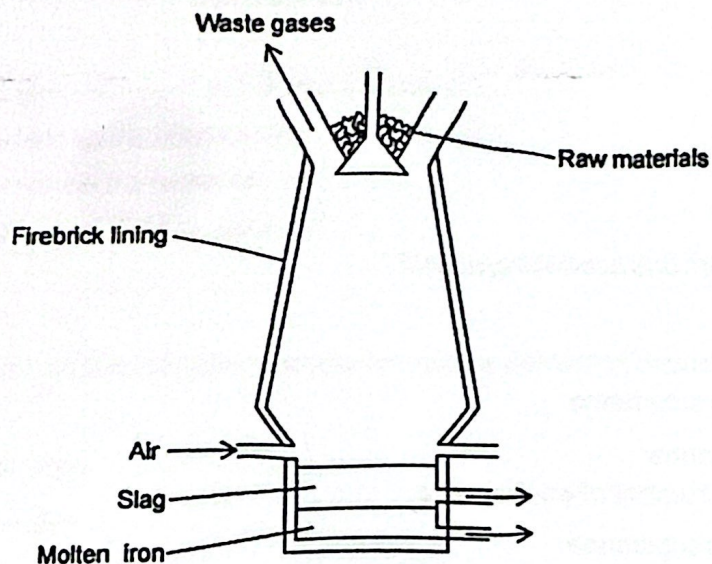
These elements react together to form an ionic compound.

Which row is correct?

	Mg electron change	Mg ion formed	Formula of compound
A	gain	Mg^{2+}	Mg_2Cl
B	gain	Mg^+	MgCl_2
☒ C	lost	Mg^{2+}	MgCl_2
D	lost	Mg^+	Mg_2Cl_2

Question two:

The blast furnace is used to extract iron from haematite.



The haematite contains silica as an impurity

What is used to react with the impurity and remove it?

A. Carbon

☒ B. Calcium oxide *limestone.*

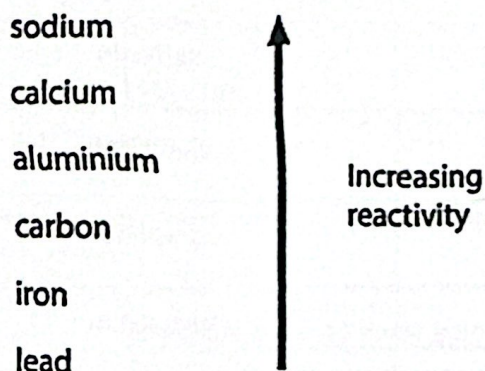
C. Carbon dioxide

D. Oxygen

Limestone thermally decompose
 $\text{calcium carbonate} \rightarrow \text{calcium oxide} + \text{Carbon dioxide}$

Question three:

This shows the position of carbon within the reactivity series.



(a) When carbon is heated with iron oxide the reaction produces iron.

What type of chemical reaction is the removal of oxygen from iron oxide?

(1)

Reduction.

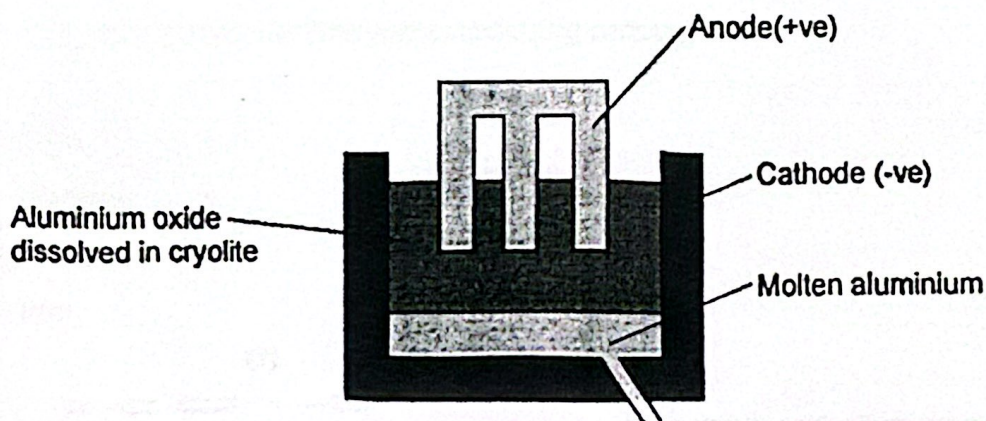
(b) Explain why aluminium is extracted from its ore using electricity rather than by a chemical reaction with carbon.

(2)

Aluminium is more reactive than carbon, and so carbon can't displace it from its oxide.

Question four:

The diagram shows how aluminium is manufactured by electrolysis.



What are the negative (cathode) and positive (anode) made of?

	anode <i>positive</i>	cathode <i>negative</i>
A	aluminium	aluminium
B	aluminium	graphite
C	graphite	aluminium
<u>D</u>	graphite	graphite

A. Option A

B. Option B

Option C

D. Option D

Question five:

Iron is extracted from iron ore in a blast furnace using carbon.

(a) Iron ore contains iron oxide. Complete the word equation for the reaction that happens in a blast furnace to make iron.

iron oxide + carbon $\rightarrow$ iron + Carbon dioxide. (1)

(b) Which type of reaction occurs in the blast furnace? Tick one box.

☐ A combustion

☐ B displacement

☒ C redox

☐ D thermal decomposition

(1)

(c) Give one reason why carbon reacts like this with iron oxide.

a good reducing Agent, it can displace iron. (1)

(d) Aluminium cannot be extracted from its ore by heating with carbon. State how aluminium is usually extracted from its ore.

by electrolysis. (1)