

GCSE Chemistry A (Gateway Science)

J248/02 C4-C6 and C7 Foundation (Foundation Tier)

Question Set 25

1 This question is about the extraction of metals.

(a) When iron oxide is heated with carbon, iron is made.

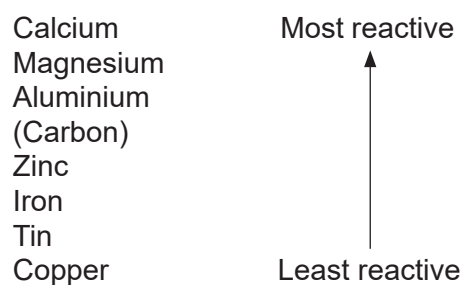
(i) Complete the **word equation** for this reaction.

iron oxide + carbon \rightarrow + [1]

(ii) Iron oxide is **reduced** during this reaction.

Explain how you can tell that iron oxide is reduced. [1]

(b) Look at the reactivity series of some metals. Carbon is also included.



(i) Zinc is usually extracted from zinc oxide by **heating zinc oxide with carbon**.

Explain why. Use the reactivity series to help you. [1]

(ii) Aluminium is extracted from aluminium oxide by **electrolysis**.

Explain why. Use the reactivity series to help you. [1]

(c) The table shows some information about aluminium and zinc.

Metal	Cost of 1 kg (£)	Amount in Earth's crust (%)
Aluminium	1.31	8.1
Zinc	2.51	0.0078

Suggest **two** reasons why it could be more important to recycle zinc than aluminium.

Use information from the table to help you.

1

2

[2]

(d) Aluminium alloys are often used to build aircraft.

A sample of an aluminium alloy contains 1.28 g of magnesium and 43.70 g of aluminium only.

Calculate the **percentage of magnesium** in this alloy.

Give your answer to **3** significant figures.

Percentage of magnesium = % [4]

Total Marks for Question Set 25: 10

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