MID-TERM TEST – SPRING TERM 2024/2025

SUBJECT: CHEMISTRY PRACTICAL **CLASS: YEAR 7**

NAME: ----------

DATE: ---------- **TIME: 1 HR**

Attempt all questions

1.

Complete the symbol equation for the reaction of sodium with water.

$$2Na + ...H_2O \rightarrow 2NaOH + ...$$ [2]

b.

This question is about nitrogen and compounds of nitrogen.

Nitrogen is a non-metal. Nitrogen is a poor electrical conductor.

Describe two **other** physical properties which are typical of non-metals.

1 .....

2 .....

[2]

1c

This question is about metals and metal compounds.

Table 5.2 gives some observations about the reactivity of four metals with dilute hydrochloric acid.

Table 5.2

metal	observations
iron	bubbles form slowly
magnesium	bubbles form very quickly
mercury	no bubbles form
tin	bubbles form very slowly

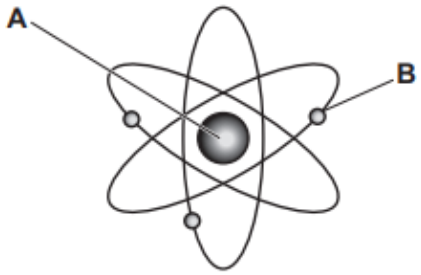
Put the four metals in order of their reactivity.
Put the least reactive metal first.

least reactive → most reactive

[2]

2.

Look at the diagram of Rutherford's model of the structure of the atom.



(a) Write down the names of part **A** and particle **B**.

A .....

B .....

[2]

(b) Which **two** types of particle are present in part **A**?

..... [1]

3

Atoms are made of protons, neutrons and electrons.

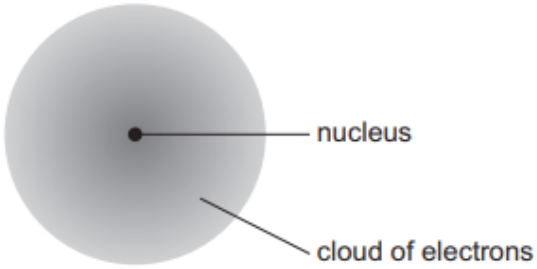
(a) Write down the charge on a proton.

..... [1]

(b) Write down the charge on an electron.

..... [1]

(c) Atoms consist of a nucleus surrounded by a cloud of electrons.



Explain what holds the particles in an atom together.

4

Lily investigates the reactivity of some metals with dilute hydrochloric acid.

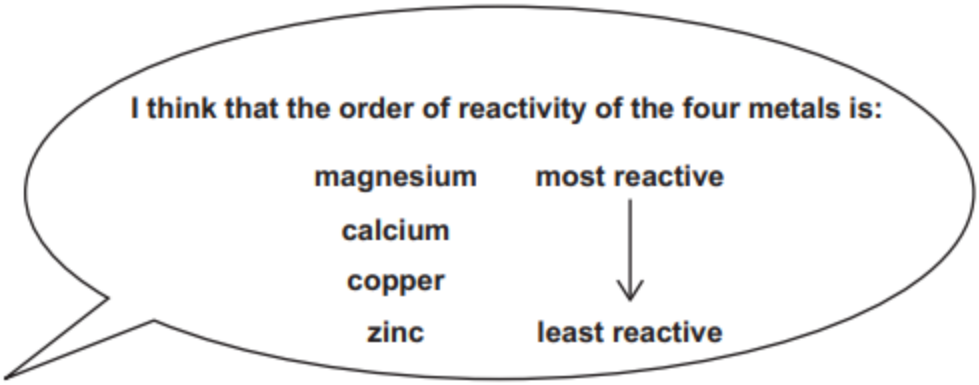
She investigates zinc, copper, magnesium and calcium.

In her first experiment, Lily:

- puts 25 cm^3 of dilute hydrochloric acid into a beaker
- adds 0.5 g of zinc to the beaker
- records the time it takes for the reaction to finish.

She repeats the experiment three more times, each time using a different metal.

Lily writes this hypothesis.



Look at her results.

metal	time for reaction to finish in seconds
zinc	125
copper	does **not** react
magnesium	42
calcium	25

Do the results support her hypothesis?

Tick (✓) the correct answer.

yes ☐ no ☐

Explain your answer.

Use information from the table.

.....

.....

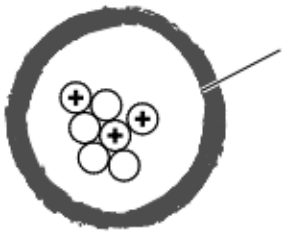
.....

.....

[3]

5

Aiko draws a diagram of an atom of lithium.



NOT TO SCALE

(a) The electrons in the charge cloud are held in position.

They do **not** escape from the atom.

Explain why the electrons in the charge cloud cannot escape from the atom.

Use ideas about the charges on the particles in the atom.

.....

.....

..... [2]

(b) Aiko wants to draw a diagram of an atom of **sodium**.

Describe two ways an atom of sodium is **different** from an atom of lithium.

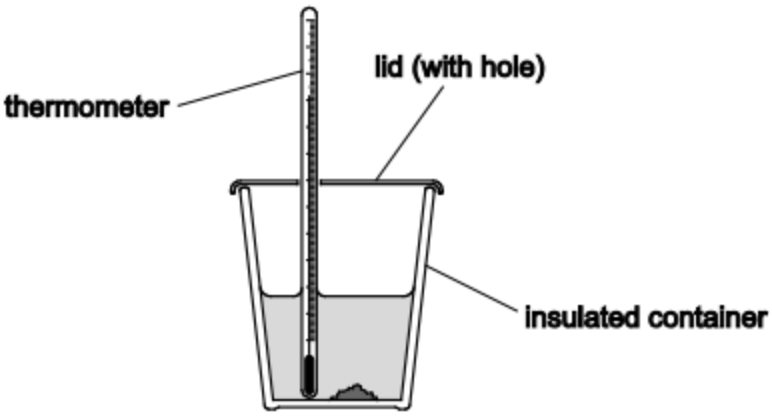
1 .....

2 .....

[2]

6

Ahmed investigates the energy changes when some chemicals are mixed.



He measures the temperature at the start and at the end of each reaction.

Look at his results.

mixture	temperature at start in °C	temperature at end in °C	type of reaction
A	18	26	exothermic
B	18	18	
C	18	10	

(a) The reaction in mixture **A** is **exothermic**.

Explain how you can tell.

..... [1]

(b) What **type** of reaction is reaction **C**?

..... [1]

(c) Mixture **B** involves substances that are **unreactive**.

What word describes substances that are unreactive?

Circle the correct answer.

metals **non-metals** **inert** **explosive**

[1]