



Rosary School - Marj Elhamam  
Worksheet (4)

Name: \_\_\_\_\_  
Grade: 7<sup>th</sup> (A, B, C, D, E)

Date: /11/2025  
Subject: Chemistry

Question one:

- 1 Circle the symbol that matches the following statements.

Statement	Symbol		
a This is the symbol for magnesium metal.	M	Ma	<u>Mg</u>
b This element is a halogen.	<u>Cl</u>	He	Na
c This element is a noble gas.	<u>Ar</u>	H	No
d This element is an alkali metal.	Al	F	<u>K</u>

- 2 Draw a line to match up the correct ends of each sentence.

Elements in the same group ...	... the noble gases.
Fluorine gas has similar chemical properties to ...	... an alkali metal.
Lithium metal is ...	... have similar chemical properties.
The group of elements that are very unreactive is ...	... bromine liquid.

- 3 Look at the outline of the periodic table shown below.

The periodic table is shown with the following blocks highlighted:

- Block A: Noble gases (Group 18)
- Block B: Halogens (Group 17)

- a Which block, A or B, will contain elements with the most similar chemical properties? Explain your reasoning.

block A, as elements in the same (group) have similar chemical <sup>properties</sup>

- b Name one property that is similar to the elements in this group. insulator / brittle if solid  
[a property of a non-metal]



**Question two:**

[illegible]

- 1 Which of the elements i to viii fit the following descriptions?**

**a** An unreactive element.

**b** An alkali metal.

**c** Has the symbol P.

viii

iv

**d Two similar elements.**

**e** A halogen.

**f** A noble gas.

v and vi

vii

viii

- 2 Complete these sentences about some groups of elements in the periodic table.**

a Elements can be represented by international symbols like C for carbon, Ca for calcium, Co for cobalt and Cu for copper.

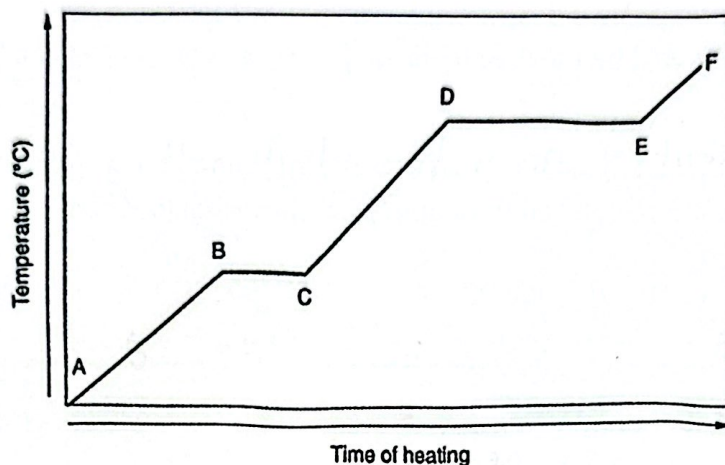
b The group 7 elements are called the halogens and include chlorine, fluorine and bromine.

- 3** For each of the following descriptions of elements, tick (✓) the correct column to show which group it belongs to.

Description	Noble gas	Halogen	Alkali metal
An unreactive element that does not form compounds easily	✓		
An element that reacts quickly with water, forming hydrogen gas			✓

### Question three:


1 Look at the graph shown below, and then answer the questions which follow.

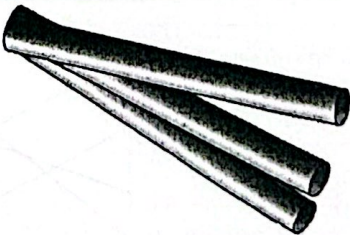


- What is happening to the temperature in section E to F? temperature is increasing
- What is the state of the substance in section A to B? solid state
- What change of state is occurring in section D to E? From liquid to gas
- Explain why the temperature doesn't rise in section B to C although heating continues.  
extra energy is being used by the particles to break them apart.

2

Information about two elements X and Y is given in the tables below.

Element X	
Appearance	dull yellow solid
Melting point (°C)	113
Boiling point (°C)	445
Conduction of heat	poor
Conduction of electricity	does not conduct
	

Element Y	
Appearance	shiny brown solid
Melting point (°C)	1083
Boiling point (°C)	2567
Conduction of heat	good
Conduction of electricity	very good
	

- a Is element X a metal or a non-metal? Explain your answer.

non-metal, as it does not conduct electricity.

- b Is element Y a metal or a non-metal? Explain your answer.

metal, as it has a high melting and boiling points and it conducts electricity

- c Which element is most likely to be flexible and bend without breaking?

element y



- d Which element would be most suitable for the bottoms of cooking pots? Explain your choice.

element y, as it has a high melting point.

- e Give the state, solid (s), liquid (l) or gas (g) of the elements X and Y at the temperatures below.

i 100 °C

X = s

Y = s

ii 300 °C

X = L

Y = s

iii 500 °C

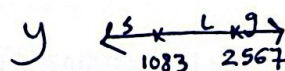
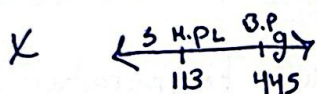
X = g

Y = s

iv 3000 °C

X = g

Y = g



#### Question four:

- 1 Complete the following word equations using the words in the box below.

carbon	hydrogen	lithium	oxygen	sodium	sodium oxide	water
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a lithium + oxygen → lithium oxide

b sodium + oxygen → sodium oxide

c carbon + oxygen → carbon dioxide

d sodium + water → sodium hydroxide + hydrogen

- 2 Draw lines to match up the correct starts and ends of these sentences about elements reacting with oxygen.

The reaction of zinc with oxygen ...	... is sulfur dioxide.
When elements react with oxygen ...	... it is reacting with oxygen.
When an element burns in air ...	... produces zinc oxide.
The product of sulfur and oxygen ...	... compounds called oxides form.

- 3 Some phrases that can be used to describe different chemical and physical properties of compounds are listed below.

acidic solutions	alkaline solutions	all solids
can be gases	high melting point	low melting point

Choose three phrases from the box that best describe **metal oxides** and three phrases that best describe **non-metal oxides**.

metal oxides → alkaline solutions, high melting point, all solids.

non-metal oxides → acidic solutions, low melting point, can be gases.