

Second Month Assessment | Lower Secondary Stage (6-8)

Name:
Date: / /

Subject: Science
Class: Grade 8
Time: 60 minutes

For Teacher's Use

QUESTION NUMBER	MARK SCHEME
1	/4
2	/5
3	/4
4	/7
Total	/ 20

READ THESE INSTRUCTIONS FIRST

- Answer all the questions in the spaces provided on the question paper.
- Write in Blue pen only. You may use a pencil for the drawings and the graphs.
- You should pay attention to *what is required* in each question.
- Number of pages: 4
- Number of questions: 4
- The number of marks is given in brackets [] at the end of each question or part question.

Question one: For each list of elements, circle the correct one and explain your answer.

4 marks

List of elements	Circle the one that has	Explain your answer (don't write more than one line)
Na, Si, Ar	The greatest atomic radius	Moving across the period, elements have greater proton pulling power
Mg, K, Ca	The greatest reactivity	G1 elements are more reactive than G2 elements
Li, Cu, Fe	The least melting point	G1 elements have low mp comparing to transition metals
Zn, Ca, Na	The least density	G1 elements are less dense than other metals

Question two: answer the following questions

5 marks

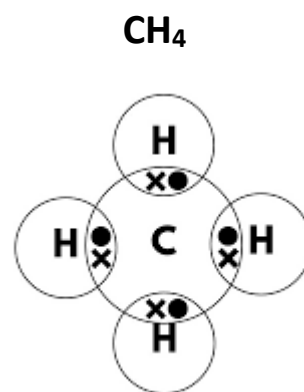
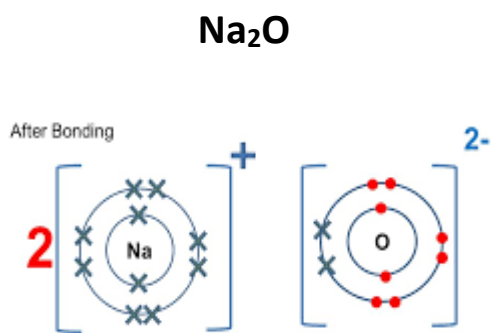
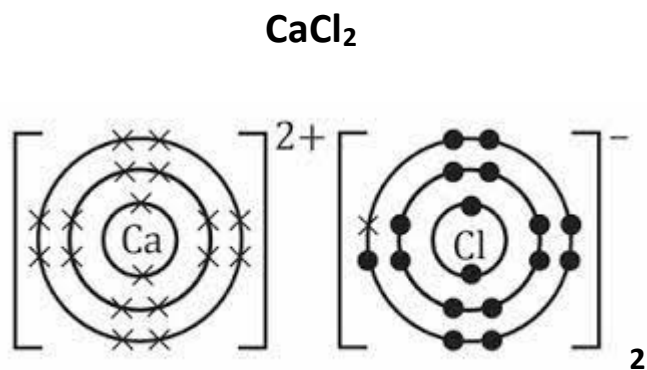
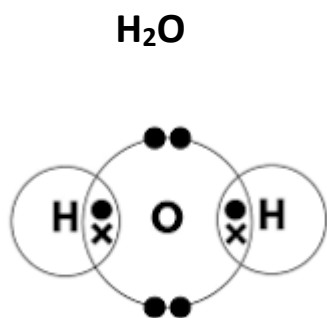
- In ionic compounds, electrons are transferred... between the ions where in covalent compounds, electrons are ...shared..... between the ions.
- Sodium chloride is made up of 1 sodium ion and 1 chloride ion. Magnesium nitride is made up of ...3.. magnesium ions and ...2. nitride ions.
- The diagram shows part of the periodic table showing the atomic radius of some elements.

● H							● He
● Li	● Be	● B	● C	● N	● O	● F	● Ne

- How do you explain that lithium has a greater atomic radius than neon?
.....Li and Ne are elements of the same period. As you move across the period elements will have more proton pulling power, so the atom will shrink...
- Sodium is below lithium in the periodic table, how do you predict its atomic radius will be.
.....It will be bigger.....

Question three: Draw the diagram of

4 marks



Question four: Some properties of group 1 elements are shown in the table:

7 marks

Element	Melting point/°C	Boiling point/°C	Reaction with water
Lithium	180	1330	Fairly reactive
Sodium	98		Reactive
Potassium	64	760	Very reactive
Rubidium		690	Vigorous reaction

1. Suggest a value for the boiling point of sodium Any value between 1330°C and 760°C..
2. Write a prediction for the reactivity of rubidium.
3. Explain why the rate of reactivity changes as you do down the group.
.....The atomic radius increases as you go down the group, so there will be less attraction forces between valence electrons and the nucleuse and the electrons will be lost easily.....
4. Write a word equation for the reactions of metals with water
.....metal + water → metal hydroxide + hydrogen.....
5. Give two observations that you can make when sodium reacts with water.
.....skating on the surface of water, production of gas, heat is given out, change in the color of indicator if used.....
6. Draw a bar chart to show the melting point of Li, Na and K.
label the x axis and the y axis.

