

WorksheetCloud: MEMORANDUM

Grade 9

Subject: Natural Sciences

Topic: General Reactions of metals with oxygen

ACTIVITY 1

1. Define combustion. (3)

The rapid chemical combination of a substance with oxygen, involving the production of heat and light

2. What important points do you need to remember about combustion. (5)

- ★ **Combustion is a chemical reaction.**
- ★ **It takes place in the presence of oxygen.**
- ★ **There is a release of energy as heat and light**
- ★ **The reactants always include oxygen**
- ★ **The products always contain an oxide.**

3. Give some (four) 4 daily uses of combustion. (4)

Burning candle

Light a match

Burn wood

Burning coal

Burning petrol (drive a car)

Jet or rocket fuel

Use of sparklers (celebrations / birthday)

Soldering iron

Forest fire

House/building on fire

4. What is the general reaction for metal and oxygen? (1)

metal + oxygen → metal oxide

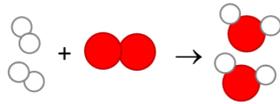
5. How would you define a chemical reaction?

Hint: reactants, products, bonds, rearranged, atoms, molecules, new compounds

A chemical reaction is a rearrangement of atoms in which one or more compounds are changed into new compounds. The bonds between the atoms in the reactants break and the atoms become rearranged. New compounds are formed and these are referred to as the products

6. What is the difference between a picture equation, word equation and chemical equation?

PICTURE:



WORD

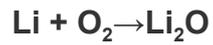
Hydrogen + oxygen → water

CHEMICAL

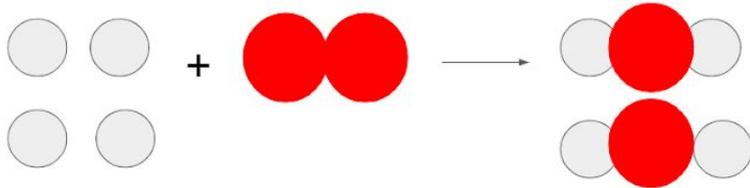


ACTIVITY 2

Study the picture equation below. It shows how lithium combines chemically with oxygen. Can you write



a) Draw a picture diagram of the equation.



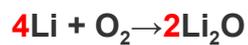
b) What is the name of the product in the reaction

Lithium oxide

c) Write the word equation.

lithium + oxygen → **lithium oxide**

d) Balance the chemical reaction equation.

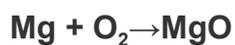


e) What group on the periodic table does lithium come from?

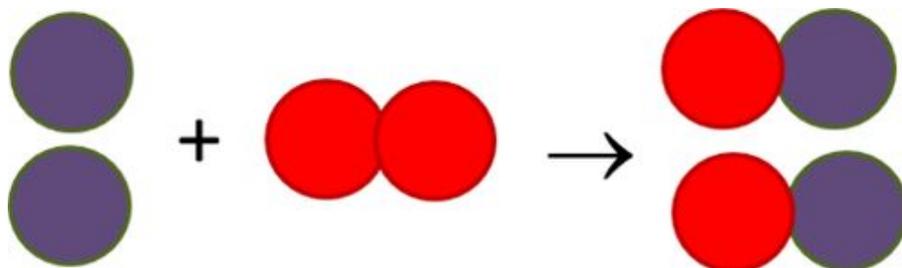
Group 1 Alkali Metals

ACTIVITY 3

Study the picture equation below. It shows how magnesium combines chemically with oxygen.



a) Draw a picture diagram of the equation.

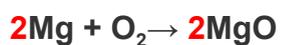


b) What is the name of the product in the reaction
magnesium oxide

c) Write the word equation.

Magnesium + oxygen → magnesium oxide

d) Balance the chemical reaction equation.

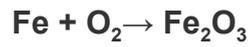


e) What group on the periodic table does magnesium come from?

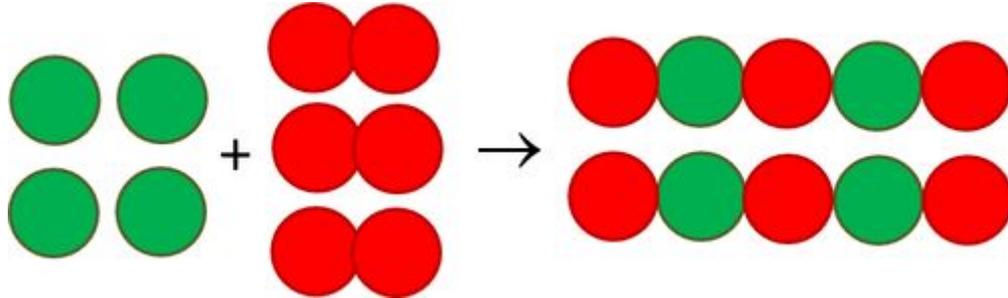
Group 2 Alkali-earth metals

ACTIVITY 4

Study the picture equation below. It shows how iron combines chemically with oxygen. Can you write



a) Draw a picture diagram of the equation.



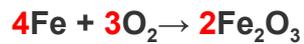
b) What is the name of the product in the reaction

Iron oxide

c) Write the word equation.

Iron + oxygen → iron oxide

d) Balance the chemical reaction equation.



e) What group on the periodic table does iron come from?

Transition metals