Name: _____
Date: _____

1.

This diagram represents a chemical equation. Label the diagram using the words below.

compound **element** **molecule**

product **reactants**

[2]

[3]

2. Choose suitable words to complete the sentences:

The formula of the hydrogen molecule is _____.

The formula of the oxygen molecule is _____. The formula of the water molecule is _____. Both the reactants are _____ that contain one type of atom only. The product is a _____, which is a substance made up of two (or more) different atoms bonded together.

3. Ammonium nitrate NH_4NO_3 is used by farmers as a fertilizer.

- How many elements are there in NH_4NO_3?
- How many atoms are there in NH_4NO_3?

……[1]

4. **Complete sentences using the words in the box.**

(energy, heat, chemicals ,transferred ,reactions, decrease, surroundings, temperature, increase)

Exothermic reactions transfer ..... from the reacting ..... into the surroundings. We can measure the energy transferred by measuring the ..... increase in the reaction. During endothermic ..... there is a ..... in temperature. This is because energy is ..... from the ..... into the reacting chemicals. [3]

5.

Complete the equation for combustion.

fuel + oxygen ⟶ _____ + _____ + energy

Decomposition

Draw a ring around the reactions that show decomposition:

iron + oxygen ⟶ iron oxide

calcium carbonate ⟶ calcium oxide + carbon dioxide

sodium + iodine ⟶ sodium iodide

hydrogen peroxide ⟶ water + oxygen

6.

What does the formula H_2O mean in terms of the number and type of atoms? Complete the sentences.

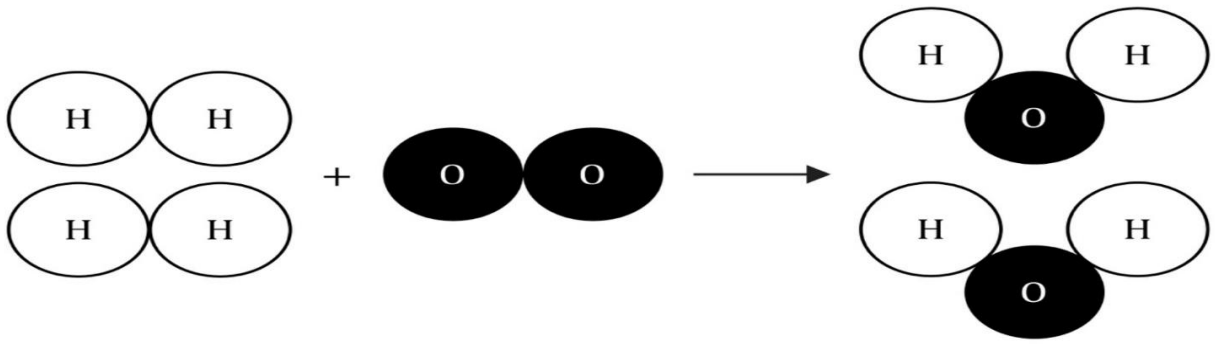
There are _____ atoms of _____

and _____ atom of _____ in one

molecule of water.

7.

Write a word equation for the chemical reaction shown in the diagram.



_____ + _____ → _____

[4]

8. What is the general equation of a metal reacting with oxygen?

……[1]

9. Write the word equation for Nitrogen and Hydrogen.

……[1]

10. Balance the above given equation use the state symbols.

……[1]

11. Give one example of combination reaction.

……[1]

12. Give one example of decomposition reaction.

……[1]

13. Give one example of single displacement reaction.

……[1]

14. Give one example of double displacement reaction.

……[1]

15. Balance the equations shown below. Remember that you may only write numbers in front of any of the formulae but you may not change any formulae. Some of the equations may already be balanced. [4]

1 $H_2 + Cl_2 \rightarrow HCl$

2 $Zn + O_2 \rightarrow ZnO$

3 $Cl_2 + Al \rightarrow AlCl_3$

4 $Na + O_2 \rightarrow Na_2O$

5 $Mg + O_2 \rightarrow MgO$

6 $Ca + HCl \rightarrow CaCl_2 + H_2$

7 $Fe_2O_3 + Al \rightarrow Fe + Al_2O_3$