

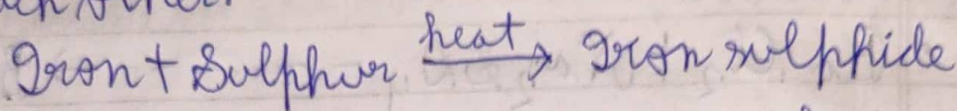
09/11/21

## Assignment

1. Explain heat and light as the condition for the chemical reaction to take place, support your answer with equations.

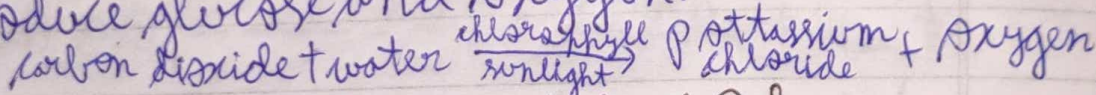
Ans → Heat: Some reactants need to be heated to undergo a chemical change.

For ex - Iron and sulphur when heated together react to produce iron sulphide. Without heating, they don't react even if they are in contact with each other.



Light: Some reactions take place in the presence of light.

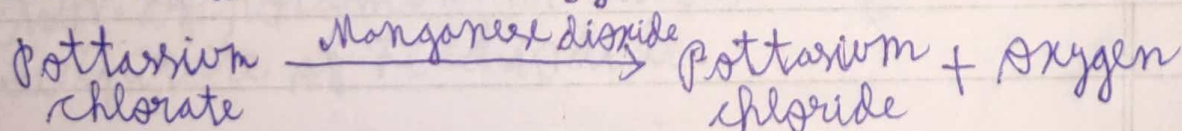
For ex - In photosynthesis, carbon dioxide and water react in presence of chlorophyll and light to produce glucose and oxygen.



2. What do you mean by a catalyst? Give one example.

Ans → A catalyst is a substance which changes the rate of a chemical reaction without itself undergoing any chemical change. Different chemical substances are used as catalysts for different chemical reactions.

For ex - Manganese dioxide acts as a catalyst for the decomposition of potassium chlorate into potassium chloride and oxygen at a lower temperature.



3. Mention the need of balancing a chemical reaction.

A balanced chemical equation represents a lot of information in a concise manner. reaction

Ans → The needs for balancing a chemical equation are:

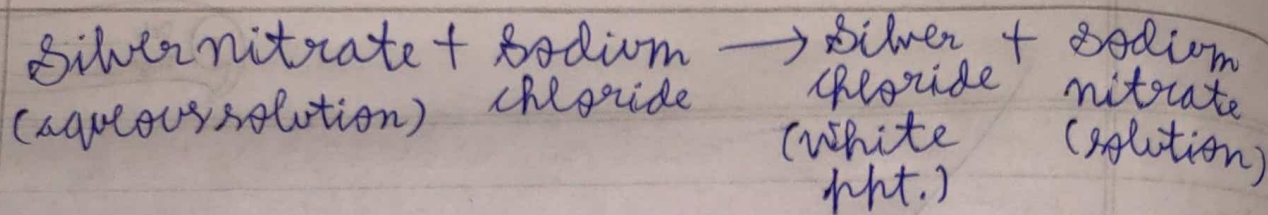
1. It shows which substances are taking part in a chemical reaction and what products are obtained as a result of it (qualitative).

2. It shows both the number of molecules and the number of atoms involved in the reaction (quantitative).

3. It makes the study of chemistry universally standardised.

4. Give an example of a chemical reaction that takes place in solution form.

Ans → When sodium chloride is added to silver nitrate solution, a white precipitate of silver chloride and soluble sodium nitrate are formed.

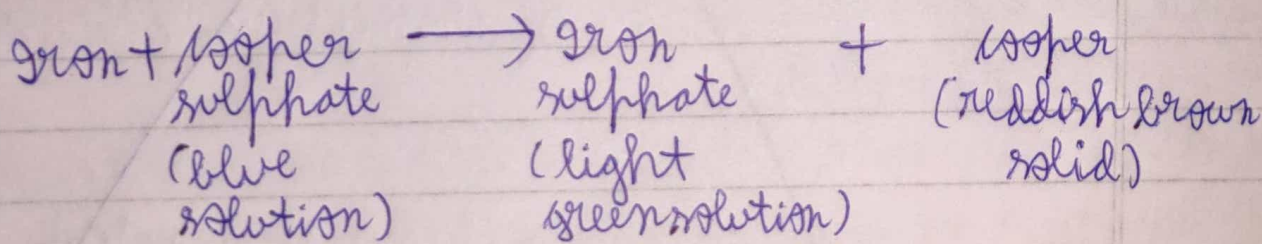


5. Explain any three characteristics of a chemical reaction.

Ans → The characteristics of a chemical reaction are:

1. Change of colour: In some chemical reactions, change of colour takes place when reactants form the products.

rx - When a few pieces of iron are dropped into a blue solution of copper sulphate, its blue colour slowly changes into light green and also a red substance is formed. The reaction can be represented as:



2. Evolution of a gas: In some reactions one of the products is a gas, which can be recognized by the effervescence (bubbles) smell or colour.

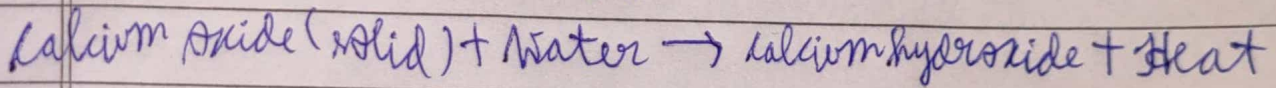
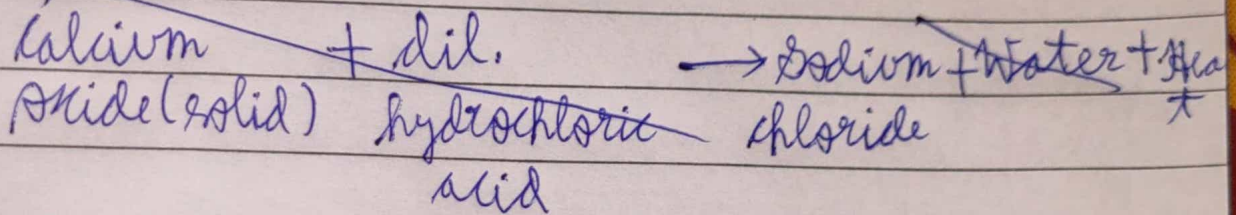
rx - When dilute hydrochloric acid is added to solid sodium carbonate, a strong effervescence is observed indicating the evolution of carbon

dioxide gas.

3. Heat is released or evolved: During many chemical reactions heat is evolved, indicating the formation of products.

ex- When water is added to quick lime a large amount of heat energy is evolved.

~~Calcium~~



ex- When dilute hydrochloric acid reacts with sodium hydroxide, some heat is released.

