

Name: _____ Date: _____

Materials: Metals and Non-Metals

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(a) How will she find the nature of the gas?
(b) Write down word equations of all the reactions taking place in this process.

Ans. _____

- Q2. When an iron knife is kept dipped in blue copper sulphate solution the solution changes to light green. Why?

Ans. _____

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(a) How will she find the nature of the gas?

(b) Write down word equations of all the reactions taking place in this process.

Ans. (a) Add a few drops of water in the test tube containing gas. Now, cover the test tube and shake well. After shaking, test the solution with blue litmus and red litmus. It will turn blue litmus red. Thus, the gas is acidic in nature.

(b) Charcoal reacts with oxygen to form carbon dioxide gas.

C (carbon) + O₂ (oxygen) → CO₂ (Carbon dioxide)

Carbon dioxide reacts with water to form carbonic acid, which turns blue litmus paper red

CO₂ (Carbon dioxide) + H₂O (Water) → H₂CO₃ (Carbonic acid)

Q2. When an iron knife is kept dipped in blue copper sulphate solution the solution changes to light green. Why?

Ans. When iron is placed in copper sulphate solution for some time, then the blue colour of copper sulphate solution fades and a red-brown coating of copper metal is deposited on the piece of iron. This reaction can be written as:

Copper sulphate(CuSO₄)+Iron(Fe) → Iron sulphate(FeSO₄)+ copper(Cu)

Blue solution

Greenish solution

Here, the solution turns greenish due to the formation of iron sulphate.

In this reaction, a more reactive metal 'iron' displaces a less reactive metal 'copper' from its salt solution, copper sulphate solution.