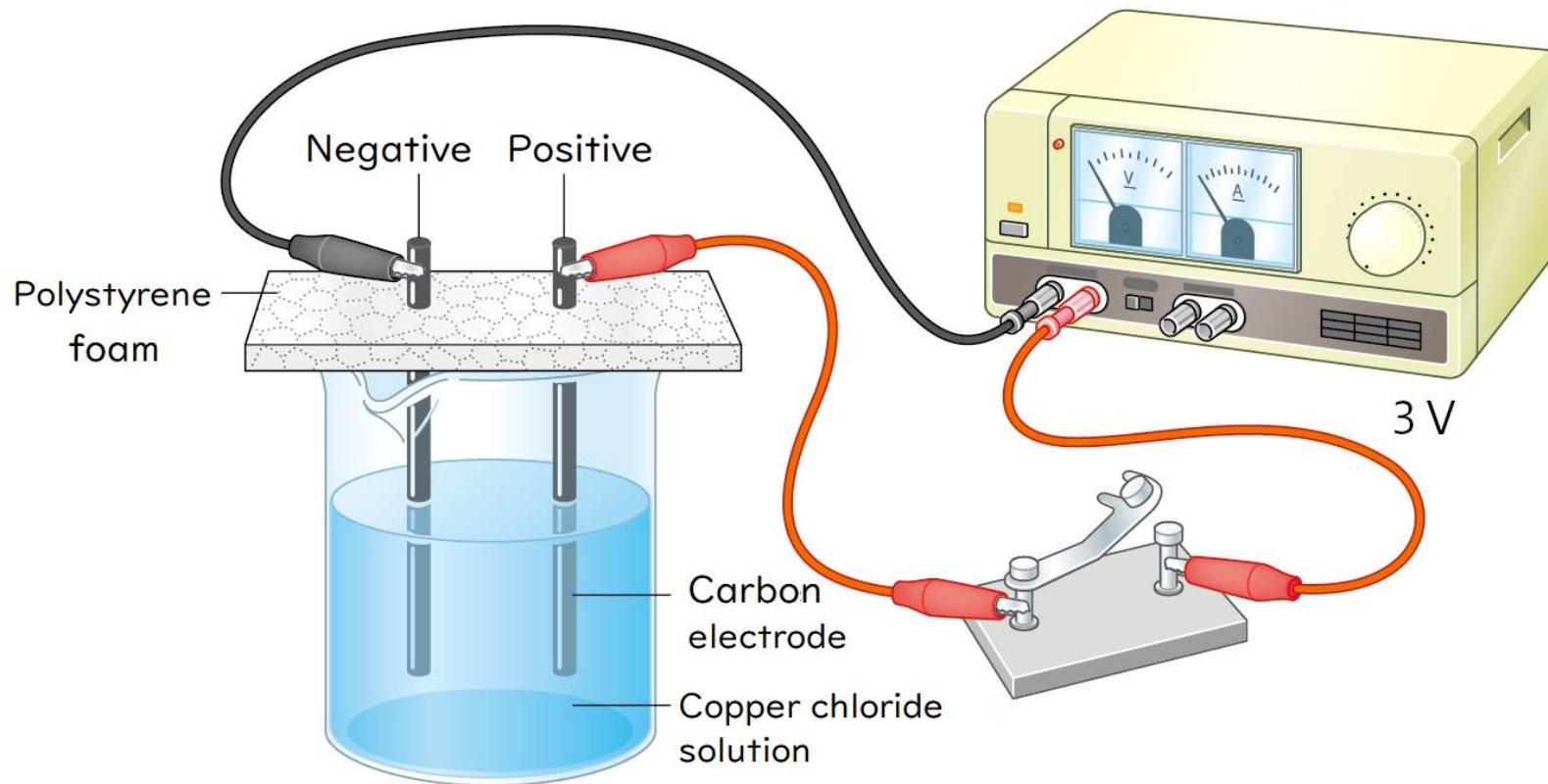
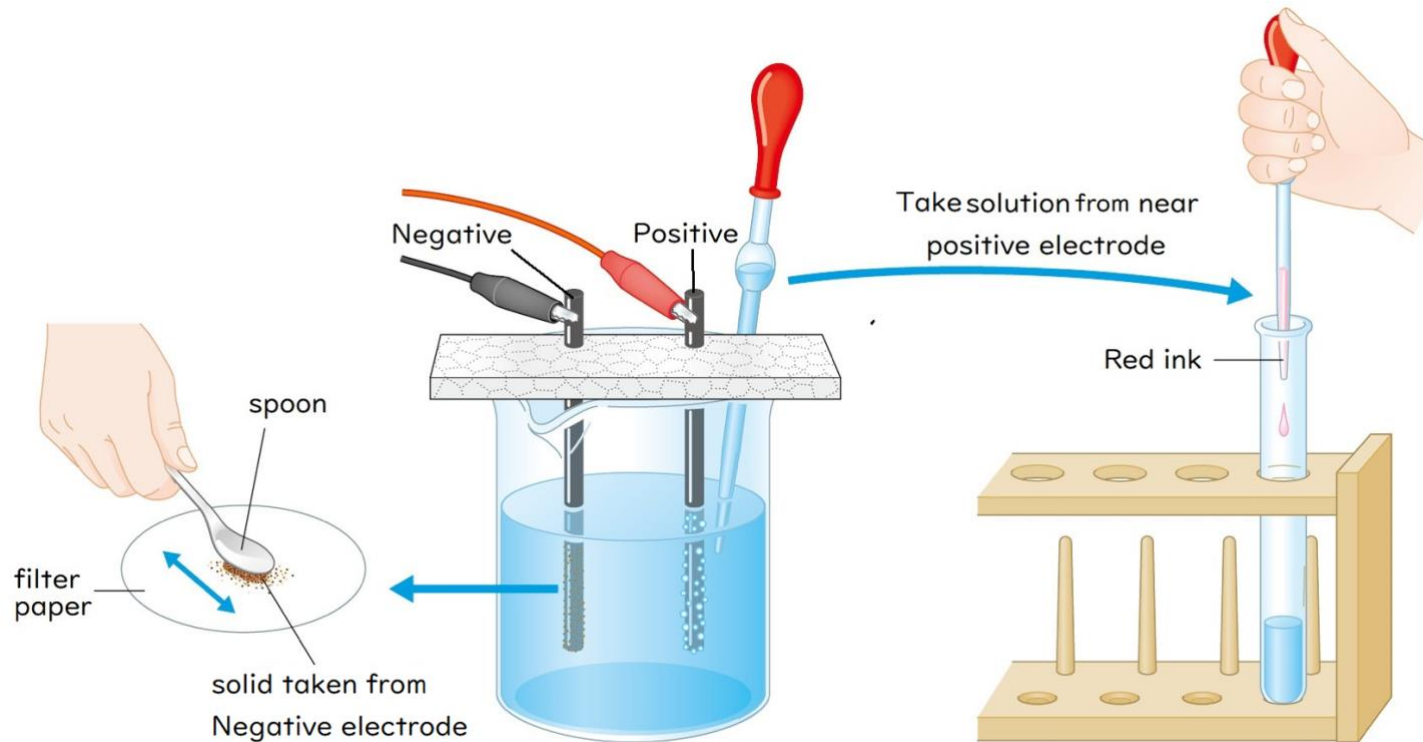


1-2 What happens when current flows through solutions

【 Experiment ② 】



1. Build a circuit as above. The electrodes are made of Carbon.
2. Apply three volts to the circuit. Allow current to flow through the solution for 3-4 minutes.



3. Observe the electrodes while current flows. What happens near electrodes?
4. Smell the gas which appears near the positive electrode. What does it smell like?
5. Take liquid from near the positive electrode and add red ink to it. How does the ink change?
6. Take some of the solid from the negative electrode, put it on a filter paper and rub it with a spoon.

Results

Electrode	What happens?	Properties of the materials
Positive	Bubbles appear	Bleaching red ink
Negative	Red solid appears	Metallic luster

Discussions

1. What material appeared on Positive electrode?

Chlorine gas

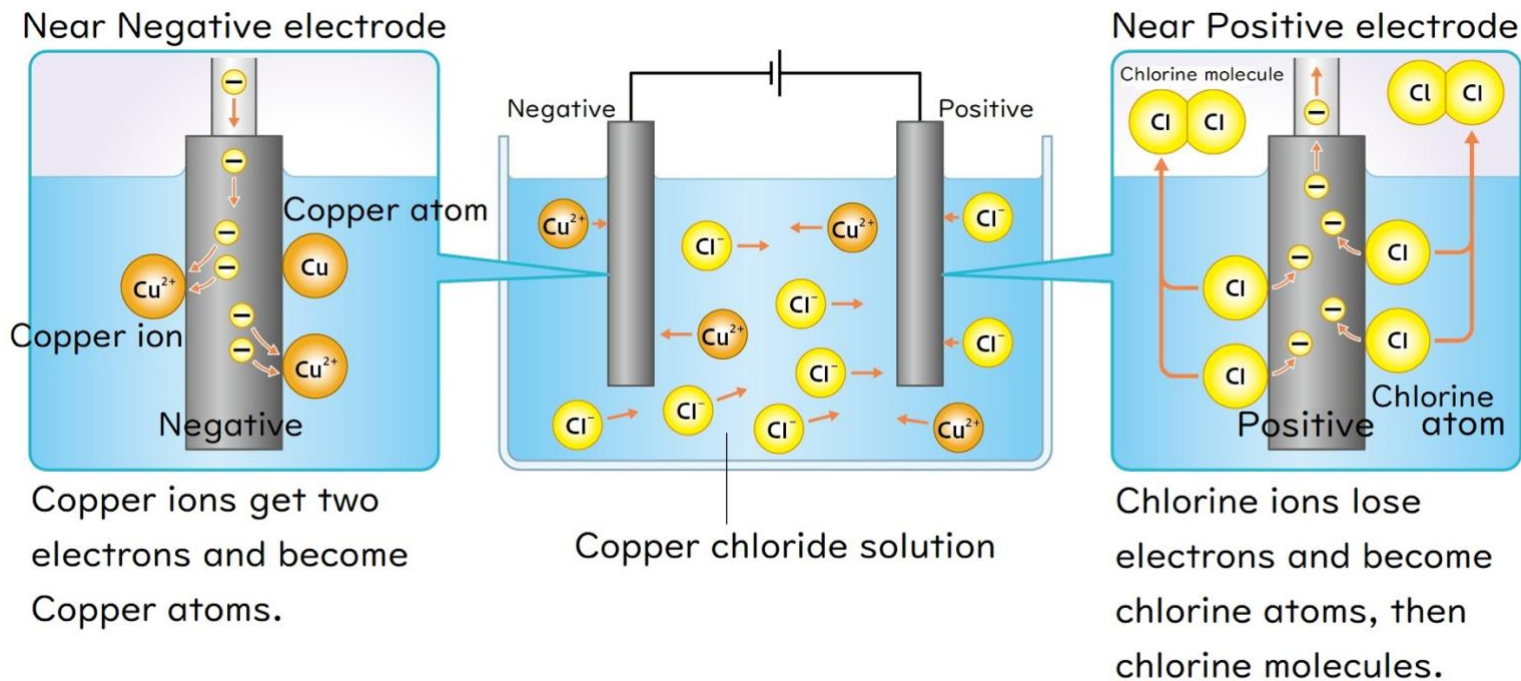
2. What materials appeared on Negative electrode?

Copper metal

Electrolysis

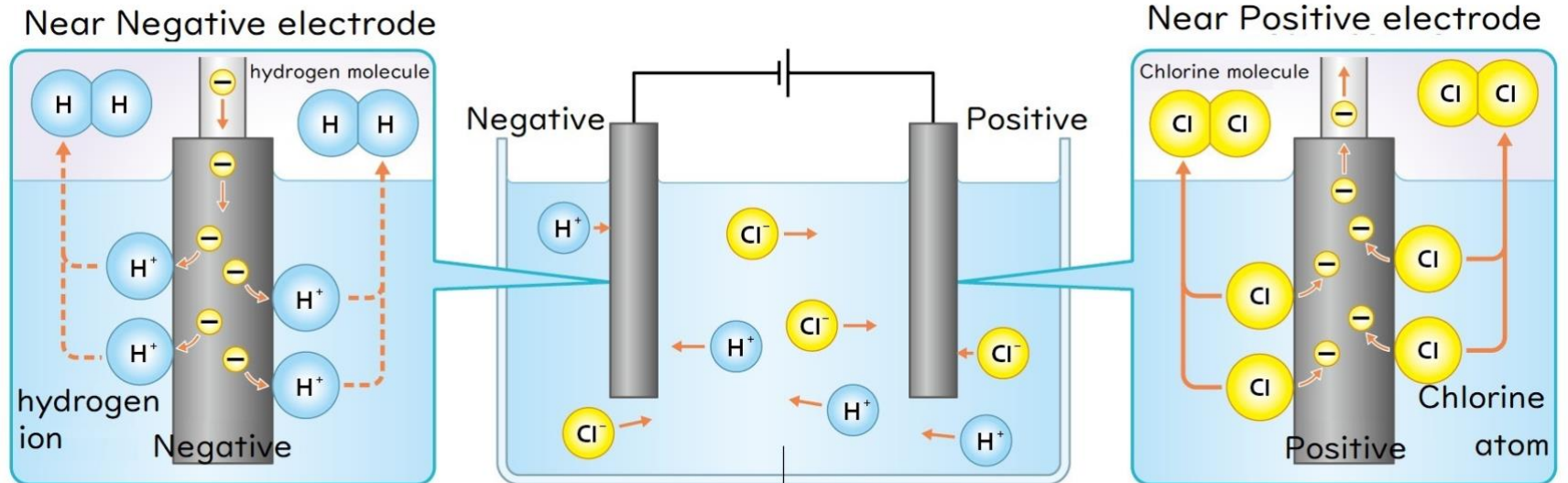
Copper chloride is changed into Chlorine and Copper by current.

Compounds made of ions can be changed into chemical elements by passing an electric current through them.



What happens when you use Hydrochloric acid?

Chlorine gas appears on positive electrode.
Hydrogen gas appears on negative electrode.



Hydrogen ions get an electron and become Hydrogen atoms. Then two Hydrogen atoms become a Hydrogen molecule.

Chlorine ions lose an electron and become Chlorine atoms. Then two Chlorine atoms become Chlorine molecules.