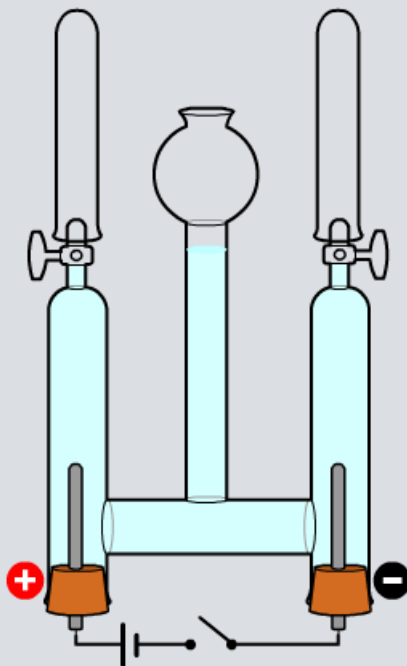


Electrolysis of Dilute Sulfuric Acid



Electrolysis of dilute sulfuric acid

Electrolysis can be used to split **water** (H_2O) into its elements, **hydrogen** and **oxygen**.

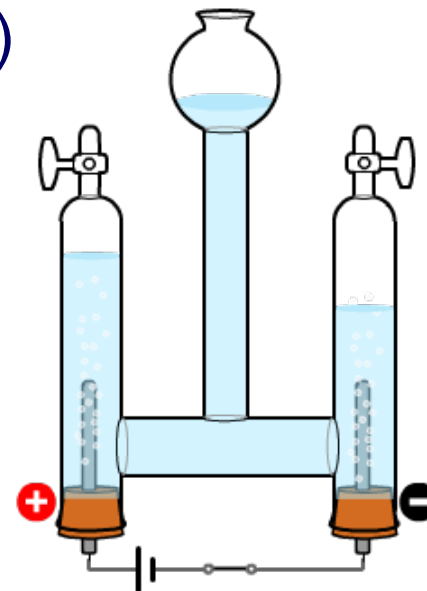
This is how hydrogen for fuel cells can be made and how oxygen can be produced from water on spacecraft.

Water is a covalent compound, and so is a poor conductor of electricity. However, it does contain a few free H^+ and OH^- ions:



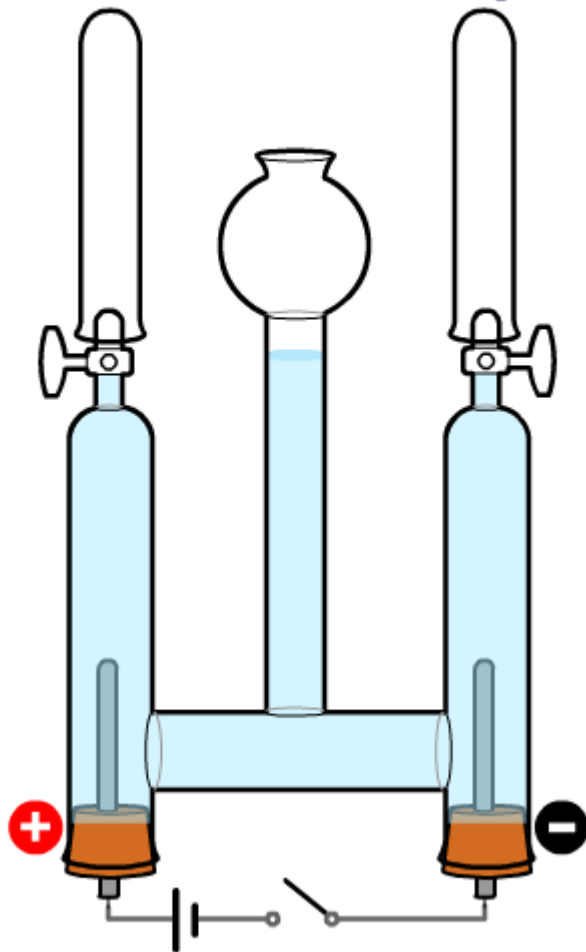
The conductivity of water can be improved by adding **dilute sulfuric acid**. This releases more ions so that more current flows during electrolysis, which creates hydrogen and oxygen.

Which product will form at each electrode?





Electrolysis of dilute sulfuric acid



The electrolysis of dilute sulfuric acid is used to split water into its elements.

Click "**play**" to find out more about the products of the electrolysis of **dilute sulfuric acid**.



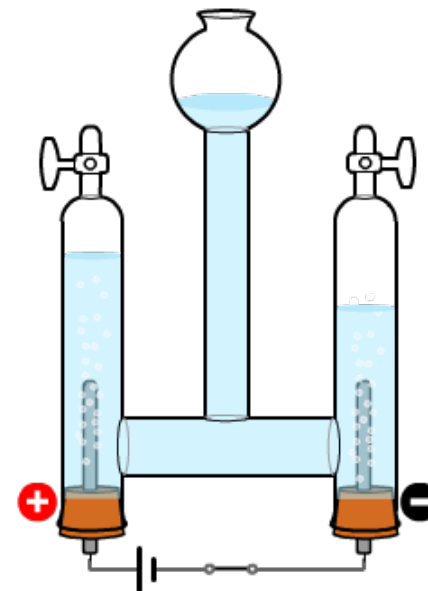
Electrolysis of dilute H_2SO_4 – redox equations

What happens at the electrodes during the electrolysis of dilute sulfuric acid?

At the negative electrode:



At the positive electrode:



What is the overall equation for the electrolysis of dilute sulfuric acid?



Twice as much hydrogen forms as oxygen. Why is this?

In water, there are 2 hydrogen atoms for every oxygen atom, so the ratio by volume of H_2 to O_2 is **2:1**.