

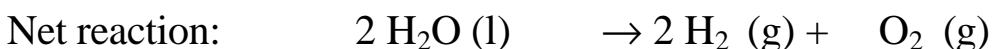
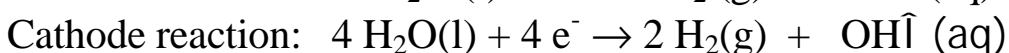
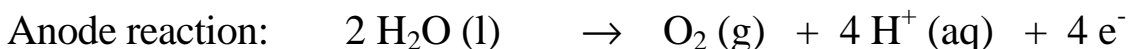
Electrolysis of Water

Materials:

Graphite electrodes [thick pencil leads work well]
9 volt battery
snap on battery clip with wires
alligator clips
small petri dish
water
few grains of salt
phenolphthalein solution

Procedure:

1. Add thin layer of water to the petri dish. Dissolve a few grains of salt in the water to provide an electrolyte.
2. Add one or two drops of phenolphthalein solution.
3. Position petri dish under the microscope and focus at 10 power.
4. Attach the snap-on clip to the 9 volt battery. Connect one lead to each of the graphite electrodes.
5. Put the electrodes in the dish. Be careful that they do not touch each other.
6. Observe hydrogen being generated at the cathode and oxygen at the anode. The phenolphthalein will turn pink around the hydrogen-producing electrode.



Note:

The volume of hydrogen produced will be twice that of the oxygen gas. In addition to the appearance of the pink color signaling the production of hydroxide ion at the hydrogen generating electrode, it is possible to see more vigorous generation of gas at the cathode [hydrogen] than the anode [oxygen].