



GOLD KNIFE

BRING YOUR KNIVES WE
MAKE THEM GOLD!

Purpose :To plate an iron knife with a layer of copper which as shiny as gold.

Materials:

- Concentrated CuSO_4
- Sulfuric acid, H_2SO_4 , solution(1:5)
- Iron knife
- Emery paper
- 250 ml Beaker

Procedure : Pour 200 ml of the concentrated copper sulfate solution into beaker and add 1 ml of sulfuric acid. Clean the knife clearly with emery paper (after it does not touch the surface of metal with your hands). Insert the knife for some time (a couple of seconds) into the solution of copper sulfate, then take out the knife, rinse with water and quickly dry knife. Knife becomes "gold" because it is covered with shining layer of copper.

Reactions :



(oxidation)



(reduction)



(overall reaction)

Iron knife

Gold colored

Copper layer

Conclusion :It is observed that the knife becomes as shiny as gold because of the redox reaction that take place between iron knife and CuSO_4 solution.