

Quiz 17.4 – Electrolytic Cells

Name: _____

Consider a cell designed for electrolytic refinement of impure copper. Two copper electrodes (one pure and one impure) are placed in an acid solution and a voltage is applied

Question 1

If your goal is to dissolve the impure copper electrode and increase the mass of the pure copper, which electrode (pure or impure) should be placed as the anode, and which should be placed as the cathode?

Question 2

If the system runs at a current of 3.5 A , how many g of pure copper will be recovered after 3 hours ?

Consider a cell designed for electroplating silver as a thin layer over cheaper metals. One electrode of pure silver and one electrode of the cheaper metal are placed in an acid solution and a voltage is applied

Question 3

If your goal is to cover the cheap metal electrode in a thin layer of pure silver, which electrode (silver or other) should be placed as the anode, and which should be placed as the cathode?

Question 4

If the system runs at a current of 0.75 A , how long should the apparatus run to plate a total of 0.30 g silver?

Question 5

If you need to plate 0.250 g of silver in 15 minutes , what current should be applied?

A Light Exists in Spring

By Emily Dickinson

A Light exists in Spring
Not present on the Year
At any other period -
When March is scarcely here

A Color stands abroad
On Solitary Fields
That Science cannot overtake
But Human Nature feels.

It waits upon the Lawn,
It shows the furthest Tree
Upon the furthest Slope you know
It almost speaks to you.

Then as Horizons step
Or Noons report away
Without the Formula of sound
It passes and we stay –

A quality of loss
Affecting our Content
As Trade had suddenly encroached
Upon a Sacrament