B6 · Extra practice

Original diploma-style practice | Items 1-2

Extra practice for this lesson. Original questions, not released diploma items. Select one option for multiple choice; other tasks state the required response.

Use the givens and conditions in each prompt. Enter the requested count, coefficient, oxidation number or potential with the stated unit and precision.

B6-D01 · Multiple choice

Given Zn^{2+}/Zn −0.76 V and Ag^{+}/Ag +0.80 V. In a cell with a zinc electrode and a silver electrode, which electrode is the anode?

A. Silver, because it has the higher table value

B. Zinc, because it has the lower table value

C. Whichever is drawn on the left

D. Both are anodes

Response: _____

B6-D02 · Numerical response

Given Cu^{2+}/Cu +0.34 V and Zn^{2+}/Zn −0.76 V. Calculate E°cell for the cell with copper as the cathode and zinc as the anode. Enter to two decimal places in volts.

Response: _____

B6 · Extra practice

Original diploma-style practice | Items 3-4

B6-D03 · Multiple choice

What is the main job of a salt bridge in a voltaic cell?

A. To carry electrons between the beakers
B. To let ions move and balance the charge in each beaker
C. To make the reaction faster by heating it
D. To supply the metal for the electrodes

Response: _____

B6-D04 · Select all that apply

Select every correct statement about a working voltaic cell.

A. Oxidation happens at the anode
B. Electrons travel through the wire from the anode to the cathode
C. Electrons travel through the solutions
D. Anions in the salt bridge move toward the anode beaker

Response: _____

B6 · Extra practice

Original diploma-style practice | Items 5-6

B6-D05 · Matching

Match each term to its meaning in a voltaic cell.

Items to match:

1. Anode
2. Cathode
3. Salt bridge
4. Double line in notation

Targets:

A. Electrode where reduction happens
B. Stands for the salt bridge or porous barrier
C. Electrode where oxidation happens
D. Joins the solutions so ions can move

Response: _____

B6-D06 · Ordering / ranking

Arrange the parts of the notation for a Cu / Ag cell from left to right.

First to last

1. Cu(s)
2. $Cu^{2+}(aq)$
3. $Ag^{+}(aq)$
4. Ag(s)
5. Salt bridge ||

Response: _____

B6 · Extra practice

Original diploma-style practice | Items 7-8

B6-D07 · Numerical response

In the Cu / Ag cell, how many electrons does one copper atom give up? Enter an integer.

Response: _____

B6-D08 · Numerical response

What is the coefficient of Ag^+ in the overall equation Cu + __Ag^+ → Cu^{2+} + 2Ag? Enter an integer.

Response: _____

B6 · Extra practice

Original diploma-style practice | Items 9-10

B6-D09 · Multiple choice

A drawing shows the silver half on the left and the zinc half on the right. Silver has the higher table value. Which statement is correct?

A. The left electrode is the anode because it is on the left
B. Zinc is the anode even though it is drawn on the right
C. Silver is the anode because it is a metal
D. The cell cannot work with that layout

Response: _____

B6-D10 · Multiple choice

A student calculates a negative E°cell for a cell. What should be checked first?

A. Whether the salt bridge is long enough
B. Whether the anode and cathode were swapped
C. Whether the electrodes are too large
D. Whether the solutions are coloured

Response: _____

B6 · Extra practice

Original diploma-style practice | Items 11-12

B6-D11 · Numerical response

In a Zn / Cu cell, 2 mol of electrons pass through the wire. How many moles of Cu^{2+} are reduced at the cathode? Enter an integer.

Response: _____

B6-D12 · Written response

Explain why a voltaic cell with no salt bridge or porous barrier stops working quickly.

Response: _____