

## Chemistry - Chapter 5: Galvanic Cells Cheat Sheet by Autumn (Autumn) via cheatography.com/145676/cs/31392/

## Galvanic Cells

- Devices that spontaneously convert chemical energy into electrical energy via redox reactions
- Galvanic Oxidation at the Anode is Negative
- REDuction occurs at the CATthode (which is positive)
- Discharges & is spontaneous

ve terminal anode

\*ve terminal cathode

- 'S' shape formed on electrochemical series

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Gal	ıvaı IIC	CEI	l Component	8

- Half cells	Purpose Of Salt Bridge
- Anode	- To keep each half cell neutral
- Cathode	- To complete the internal circuit
- Voltmeter with connecting wires	
- Salt bridge	
- Solutions	
- Electrodes	
- Electron movement	

Electrolytes		
Acidic	Alkaline	
- H⁺ ions	- OH⁻ ions	

Primary	Vs Second	lary Cells
I I III I I GII y	V 3 CCCCCITC	idi y Ociio

Primary Cells	Secondary Cells
- Can't be recharged	- Can be
	recharged

- Products slowly move away from electrodes or are consumed by side reactions, preventing rechargability

## **Electrolytic Cells**

- The 'reverse' of galvanic cells
- Non-spontaneous, recharges via an electrical current that is slightly higher in voltage than the cell

\*ve terminal anode (still undergoes oxidation)

ve terminal cathode (still undergoes reduction)

Electrical → chemical energy via electrolysis

'Z' shape on electrochemical series

## **Battery Life Shortage Causes**

- Detached products from electrode within cell
- Unwanted side reactions due to other formed chemicals
- Cell material (including electrodes) impurities
- Failure of internal components



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