

# Assignment Sheet 7 – Thermodynamics and Redox Chemistry

## AP Chemistry

### Chapter 16: Spontaneity, Entropy, and Free Energy

P783 # 8, 13, 17, 19, 23, 27, 31, 33, 37a, 43, 45a, 51, 57, 63, 65

AP Questions:

1978, 1980, 1983, 1984, 1990, 1992, 1994

QUIZ – Thermodynamics

### Chapter 17 – Electrochemistry



Review of oxidation numbers, oxidation, reduction, balancing redox equations

P831 #25, 27, 31(#25), 41, 45, 51, 57, 65(#25), 69, 73

AP Questions:

1974, 1976, 1980, 1981, 1982, 1985, 1986

QUIZ – Electrochemistry

TEST- Chapters 16 and 17



## CRYPTOGRAM

### Metallic Elements

MQJU

XJTSHF

UMXEDH

XJBBDQ

PMUX

SHKNMUKN

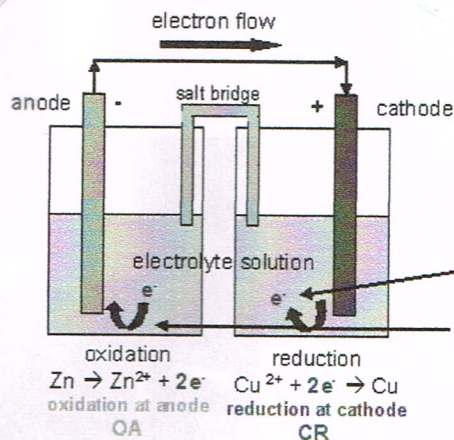
NJHGTYDUKN

LMHADQ

FKUILFDU

MQMYMKN

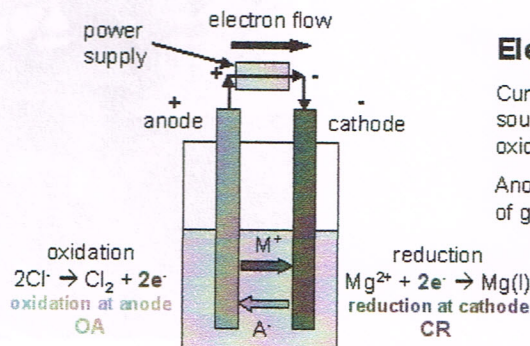
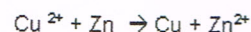
### ELECTROCHEMICAL CELLS



#### Galvanic Cell

Spontaneous rx. draw  $e^-$  into cell from cathode where reduction occurs and release them at anode where oxidation occurs

Example:

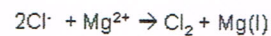


#### Electrolytic Cell

Current supplied by external source drive nonspontaneous oxidation/reduction reaction.

Anode + and cathode -, opposite of galvanic cell

Example:



Cations ( $M^+$ ) move to cathode, Anion ( $A^-$ ) move to anode

After Atkins, General Chemistry, 2<sup>nd</sup> edition