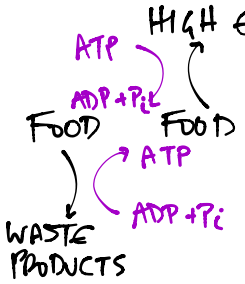
KAREN ~ CAPTURE BIOLOGICAL ENERGY:

THIS WEEK:
- PROBLEMS #1 & #2
- CARL HANDING OUT.

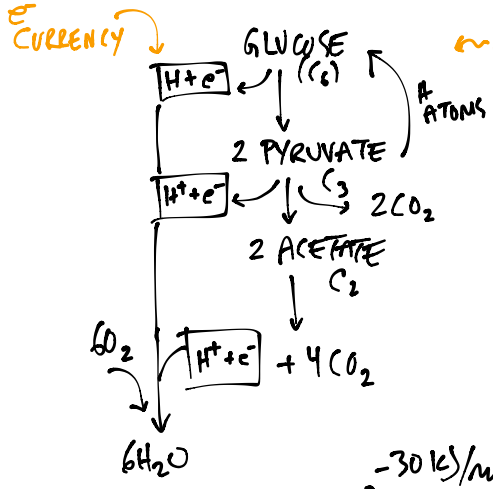


SUMMARIZE PREVIOUS METABOLISM:

WHY NEED FOOD?
- ENERGY
- BUILD STUFF

WANTED TO GET TO ATP.

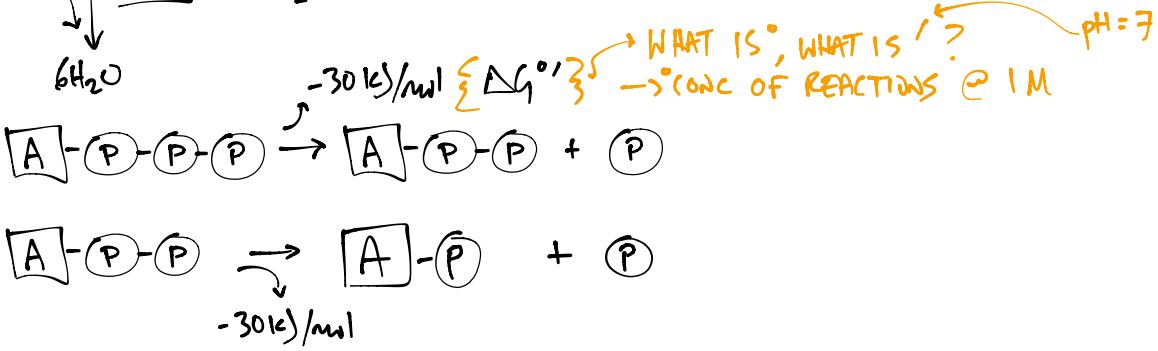
KEY
ON SLIDE
KAREN
STUDENTS
WRITTEN UP
MY THOUGHTS



~ENERGETICALLY EQUIV TO AMINO ACIDS ETC.

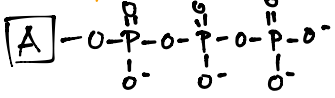
WHAT DOES A HIGH ENERGY e^- ACTUALLY MEAN?

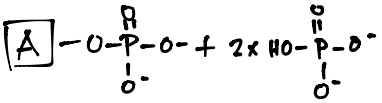
TIES BACK TO IONIZATION ENERGY.
CARBON & OXYGEN ENERGY ON SLIDE.



WHAT IS °, WHAT IS '? → °CONC OF REACTIONS @ 1M
pH = 7

WHY IS IT FAVORABLE TO BREAK BOND?
(COMING BACK TO IT)

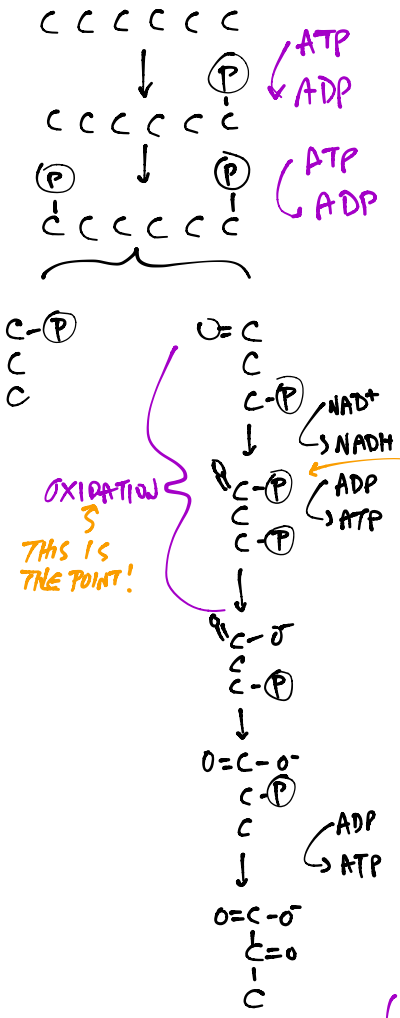




- FAVORABLE TO SEPARATE NEGATIVE CHARGES
- WHAT ABOUT ARRANGING e^-?
  - RESONANCE

ENTROPICALLY FAVORED BY MULTIPLE RESONANCES

GLYCOLYSIS HIGHLIGHTS:



TOLD THEM TO MEMORIZE:

ISOMERIZATION → GLUCOSE, FRUCTOSE

HARD TO JUSTIFY MEMORIZING. → GLYCERALDEHYDE, GLYCERATE, PYRUVATE

UNFAVORABLE BECAUSE OF RESONANCE } MADE A "HIGH ENERGY" COMPOUND... LANGUAGE MIGHT BE CONFUSING.

SUPER SCHEMATICIZED $NAD^+ \rightleftharpoons NADH$

$H^+ + 2e^-$

SHE EMPHASIZED "TRAILING" H^+... ~ THINK ABOUT WHY SHE MENTIONED THIS?...

LOTS OF CHEMICAL GROUP NOMENCLATURE... DO I DO THIS? IS IT USEFUL OR JUST CONFUSING?

NADH RECYCLING : PYRUVATE → LACTIC ACID (PARKING e^-)

PYRUVATE → ACETYLALDEHYDE → EtOH

CO_2

FERMENTATION

GLUCOSE CCCCCC → CCC } → LOW ΔG

RESPIRATION CCCCCC → CCC → C } → HIGH ΔG.

GLUCONEOGENESIS

NOTED YOU CAN'T RUN GLYCOLYSIS BACKWARDS.

GLUCOSE: USED/DAY 170 g GLUCOSE ON HAND ~240 g