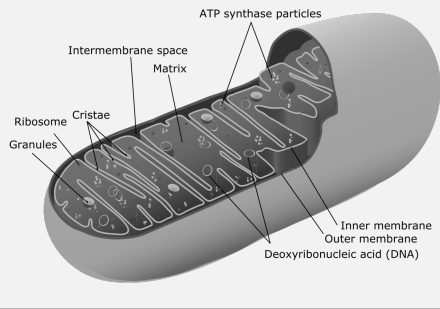
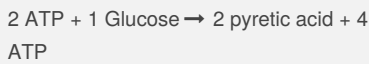


Mitochondria



Glycolysis

Glycolysis



Substrate level phosphorylation \rightarrow ATP

PFK=allosteric enzyme inhibited by ATP

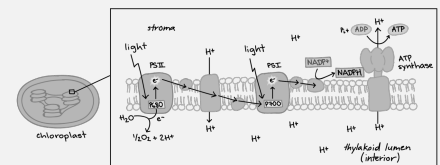
Chloroplasts

Parts: outer/inner membranes, intermembrane space, thylakoid membrane/space, stroma

Chlorophyll a/b=absorb red/blue/violet

Carotenoids=absorb blue/green/violet

Noncyclic Photophosphorylation

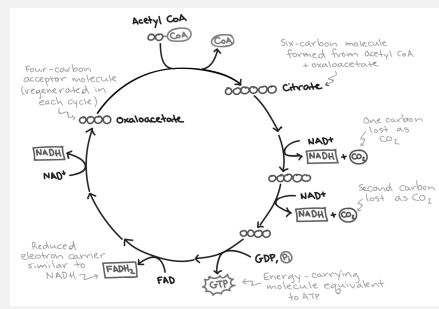


Photosystem II (P680) \rightarrow Photolysis \rightarrow ETC \rightarrow

Chemiosmosis \rightarrow NADP \rightarrow Photosystem I

(P700)

Citric Acid/Krebs Cycle



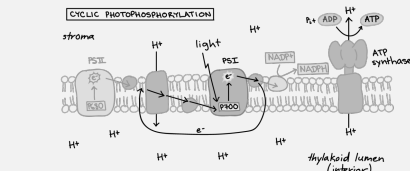
substrate-level phosphorylation \rightarrow

ATP+pyruvate

pyruvate+coenzyme A \rightarrow acetyl CoA

products=3 NADH, 1 ATP, 1 FADH, CO₂

Cyclic Photophosphorylation



Cycles electrons from P680 ETC \rightarrow P700 \rightarrow

primary electron acceptor \rightarrow cytochrome

complex (ETC)

Photorespiration, C-4, & CAM

Photorespiration: rubisco binds with O₂ instead of CO₂;

respiration: produces no ATP or sugar

ion

C-4: use alternate C-fixation (PEP

plants: carboxylase) that ends in a 4C

compound (occurs in mesophyll &

bundle sheath cells)

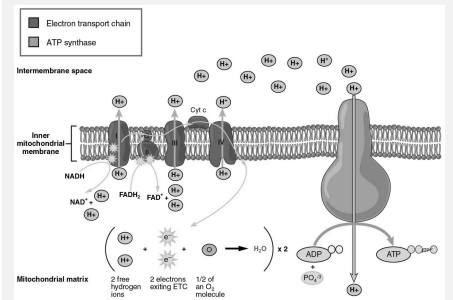
CAM: carbon fixation to organic acids at

plants: night \rightarrow light reactions release CO₂ in

the day

ETC/Oxidative

Phosphorylation/Chemiosmosis



chemiosmosis= energy-coupling mechanism

using potential energy in H⁺ gradient;

phosphorylates ADP \rightarrow ATP

oxygen=final hydrogen acceptor

Fermentation

facultative: tolerate, but do not use, O₂

anaerobes

obligate: cannot live in an environment

anaerobes: w/O₂

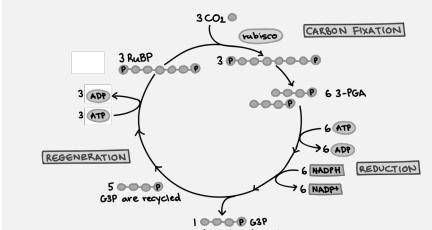
alcohol: converts pyruvate into ethyl

fermentation: alcohol+CO₂ & oxidizes NADH to NAD⁺

lactic acid: reduces pyruvate into lactic acid

fermentation: (lactate) & oxidizes NADH to NAD⁺

Calvin Cycle



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