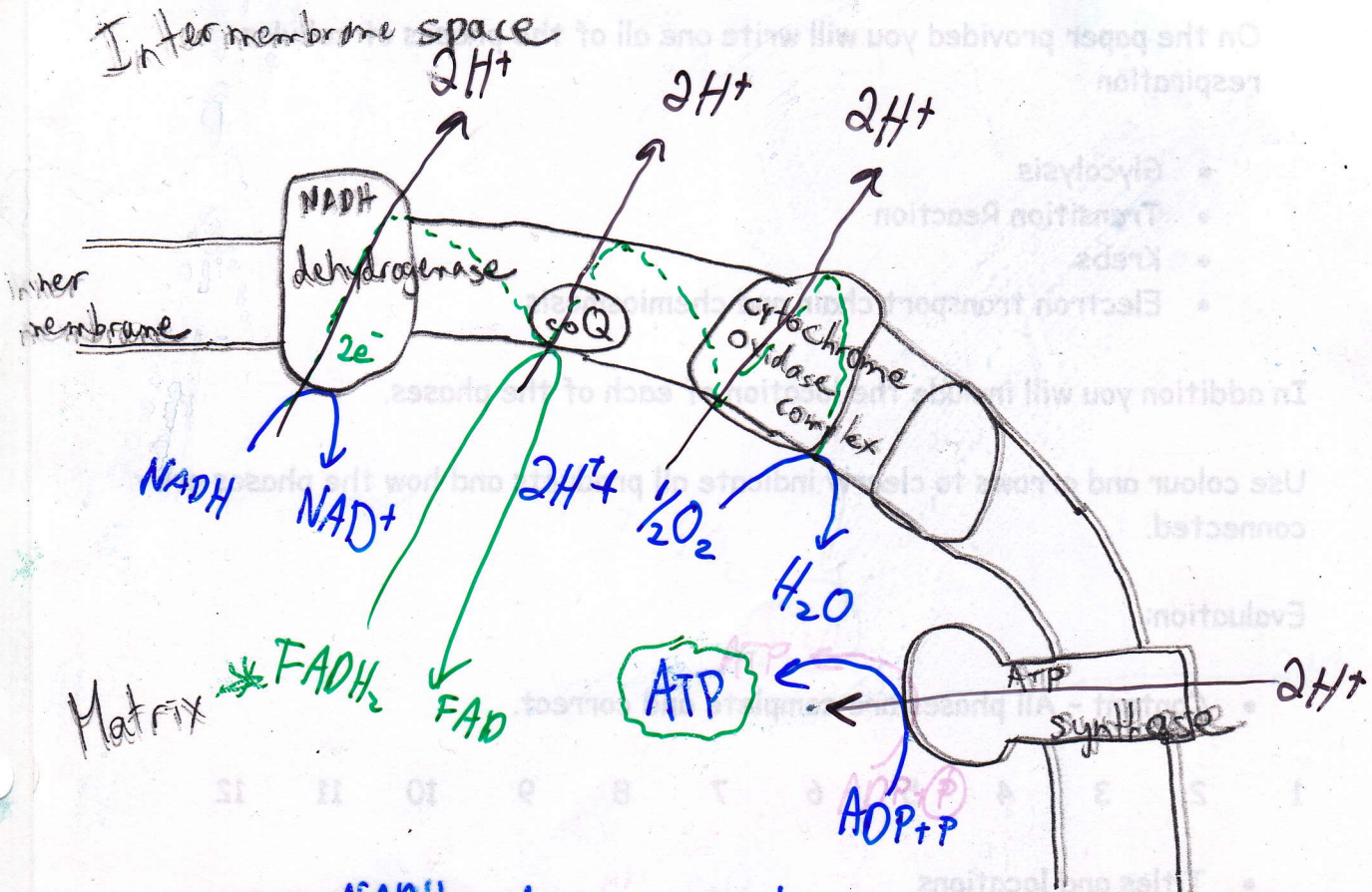


Electron Transport Chain and Chemiosmosis Activity

(In this activity a pair of H⁺ ions will be represented by one rasket candy)



- Each NADH made in matrix off the mitochondrial pumps out 3 protons H⁺
- FADH₂ + NADH from glycolysis drops off their electrons at ubQ and therefore pump out two 2H⁺
- As each pair of H⁺ ions travel through the ATP synthase 1 ATP is produced

Energy Yield from Aerobic Cellular Respiration

Pathway	Substrate-Level Phosphorylation	Oxidative Phosphorylation	Total ATP / glucose
Glycolysis	2 ATP	2 NADH → 4 ATP	6 ATP
Transition Rxn.	<u> </u>	2 NADH → 6 ATP	6 ATP
Krebs	2 ATP	6 NADH → 18 ATP 2 FADH ₂ → 4 ATP	24 ATP
Total	4 ATP	32 ATP	36 ATP