Cheatography

Electron Transport +Oxidative Phosphorylation Cheat Sheet by loboguy via cheatography.com/27609/cs/8144/

Electron Transport + Oxidative Phosphorylation

Produces a lot of ATP

Energy carried by electrons from **reduced coEnzymes** is used to make ATP

CoEnzymes NAD.2H and FAD.2H

Previous stages have been used to make NAD and FAD

Location

Takes place in the Inner mitochondrial membrane

Overall Reaction

NAD.2H + 1/2 O2 + ADP+Pi = NAD + H2O + ATP

ATP Synthase





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Oxidative Phosphorylation

Energy carried by Electrons from reduced CoEnzymes make ATP

Involves Electron Transport Chain and Chemiosmosis

Steps of Oxidative Phosphorylation

Hydrogen Atoms released from Reduced NAD.2H and FAD.2H

Oxidised back to NAD and FAD

H atom splits into Protons and Electrons

Electrons move down the ETC losing energy as they go

Energy is used to pump Protons from **Mitochondrial Matrix** into **Intermembrane Space**

Results in a Concentration of Protons form a Electrochemical Gradient

Protons move down electrochemical gradient via **ATP synthase** back into the Mitochondrial matrix

This drives the synthesis of ATP from ADP and Pi

ATP production driven by the movement of H+ ions across membrane is called **Chemiosmosis**

Summary			
Metabolic Pathway	Located in	Starts With	Ends with
ETC/Oxidative Phosphorylation	Inner Mitochondrian Membrane	10 NAD.2H, 2 FAD.2H, 6O2	30 ATP+ 6H2O