**GLUCOSE TO 38 ATP’S: THE STORY**

glucose proton motive force cytoplasm

NADH NAD+ citrate

final electron acceptor glycolysis phosphofructokinase

FADH FADH2 chemiosmosis

electron transport chain oxygen Q

cytochrome oxidative phosphorylation ATP synthase

net ATP production mitochondrial matrix substrate-level phosphorylation

intermembrane space pyruvate inner mitochondrial membrane

ATP water acetyl coA

Krebs cycle (citric acid cycle) CO2  oxaloacetate

electronegativity redox reactions

**ALTERNATE ENDING: ANAEROBIC RESPIRATION – THE HORROR**

fermentation human muscle cells yogurt

bacteria ethanol pyruvate

acetaldehyde yeast CO2

lactic acid (lactate) NADH NAD+

ATP reduced oxidized