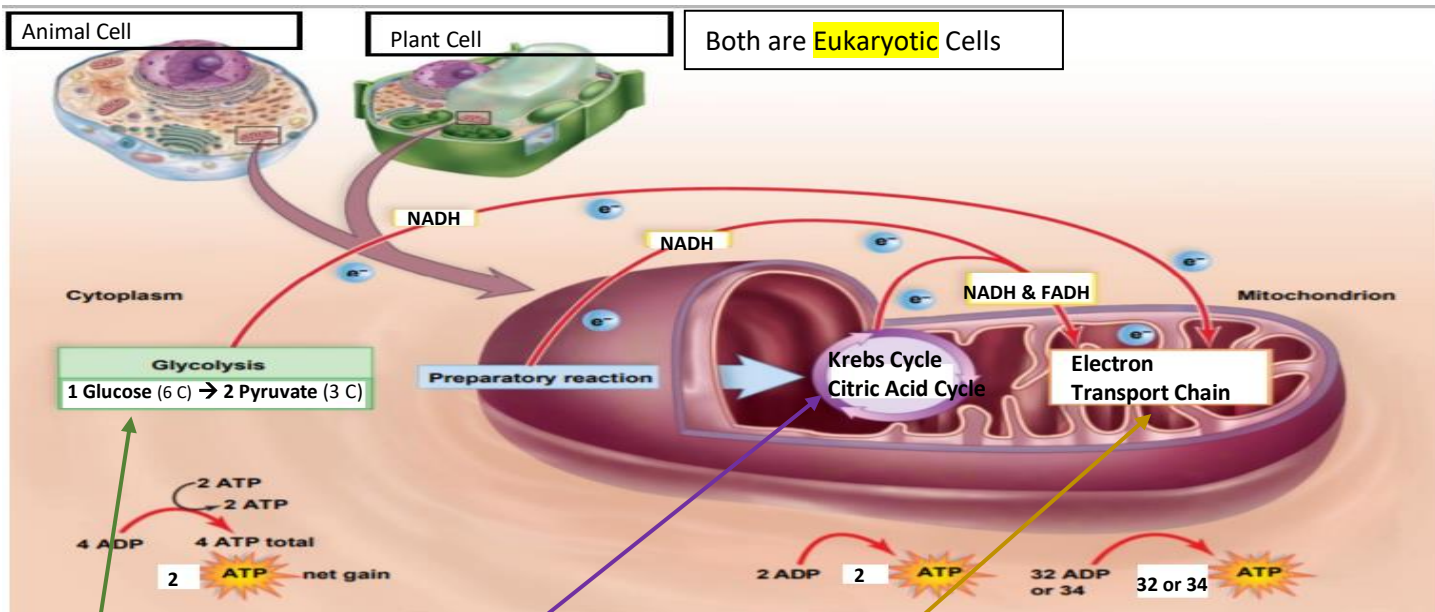


CELLULAR RESPIRATION NOTES



- ✓ Cell respiration is an Aerobic Process.... Meaning that it uses oxygen.
- ✓ Cell Respiration is a redox reaction, the primary cellular function is to use chemical energy in glucose to make ATP
- ✓ ATP is the molecule of ENERGY for ALL living things (organisms)
- ✓ Sugar (glucose) and Oxygen are the products. carbon dioxide and water are the products released from the reaction



GLYCOLYSIS: Start with the sugar "Glucose".

- ⊗ Glucose is too large to enter Krebs Cycle/Citric Acid Cycle. (6 Carbons is too many)
- ⊗ Glycolysis happens/occurs in cytoplasm of cell... (outside of the mitochondria)
- ⊗ It's called a preparatory reaction because it prepares glucose to be used. (breaks it down some)
- ⊗ Breaks glucose (6 carbons) into two pyruvates (3 carbons each)
- ⊗ Glycolysis makes → 2 Pyruvate, 2 ATP & 2 NADH

Krebs Cycle aka Citric Acid Cycle

- ⊙ Occurs in the mitochondrial matrix (inside of the inner membrane)
- ⊙ Turns twice per glucose molecules (1 turn for each pyruvate)
- ⊙ Purpose is to Make electron carriers NADH & FADH

Electron Transport Chain ... Oxidative Phosphorylation

- ☛ This is the main event, mass production of ATP
- ☛ Uses energy from NADH & FADH
- ☛ ETC chain passes electrons and pumps hydrogens (H+)
- ☛ Electrons and Hydrogens are added to oxygen making water and ATP

- ☛ Produces up to 32 – 34 molecules of ATP per 1 original molecule of Glucose.

