

TUESDAY NOVEMBER 29TH

QUIZZES 3.6 & 3.7 (PHOTOSYNTHESIS & RESPIRATION) THIS THURSDAY /FRIDAY!

LAB 10 DUE RIGHT NOW!

UNIT 3 TEST TUESDAY DECEMBER 6!

STARTER:

DESCRIBE THE LIGHT DEPENDENT AND LIGHT INDEPENDENT REACTIONS OF PHOTOSYNTHESIS. HOW ARE THEY RELATED?

3.7 CELLULAR RESPIRATION

STANDARD OBJECTIVES:

- IDENTIFY THE CELL TYPE AND THE ORGANELLE REQUIRED FOR CELLULAR RESPIRATION
 - IDENTIFY THE REACTANTS AND PRODUCTS OF THE CELLULAR RESPIRATION CHEMICAL REACTION
 - DESCRIBE THE PURPOSE OF THE SUB-REACTIONS OF CELLULAR RESPIRATION

3.7 CELLULAR RESPIRATION

LOCATION LOCATION LOCATION:

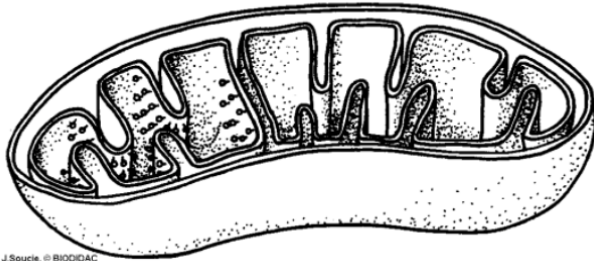
- CELL RESPIRATION OCCURS IN ALL CELLS!
- BREAKDOWN OF GLUCOSE FOR ENERGY



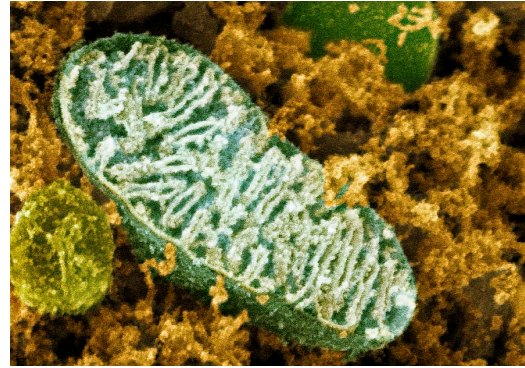
3.7 CELLULAR RESPIRATION

LOCATION LOCATION LOCATION:

- CELL RESPIRATION STARTS IN CYTOPLASM
→ MOVES TO MITOCHONDRIA! (FOUND IN BOTH PLAN & ANIMAL CELLS)

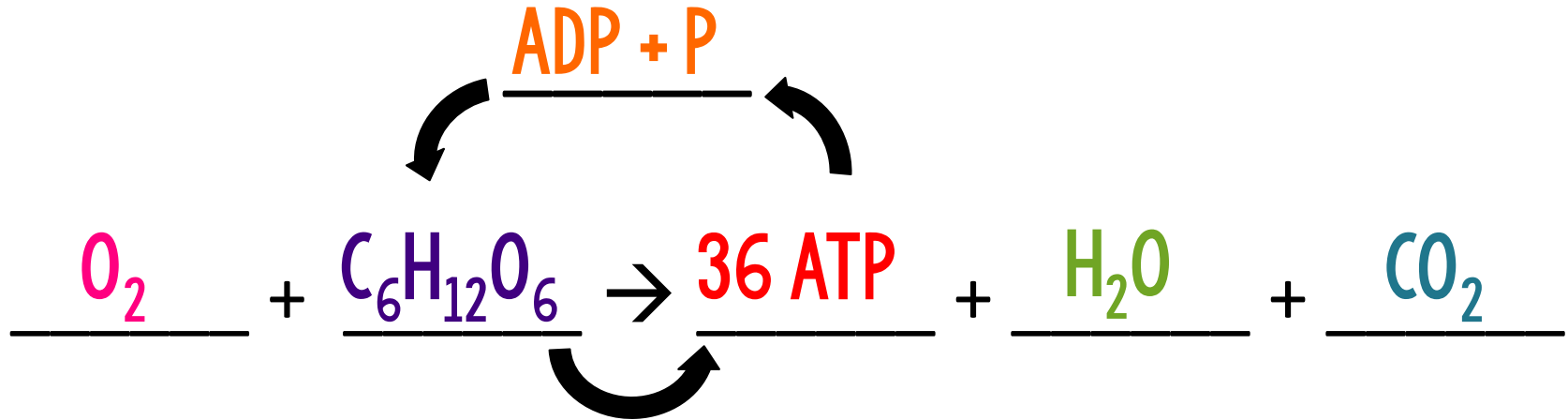


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3.7 CELLULAR RESPIRATION

GENERAL REACTION:



3.7 CELLULAR RESPIRATION

THREE SUB-REACTIONS:

GLYCOLYSIS REACTION:

- INITIAL BREAKDOWN OF GLUCOSE
- GLUCOSE IS SPLIT INTO TWO MOLECULES OF PYRUVATE
- OCCURS IN CELL'S CYTOPLASM



3.7 CELLULAR RESPIRATION

KREB'S CYCLE REACTION:

- PYRUVATE MOVES INTO THE MITOCHONDRIA
- PYRUVATE IS BROKEN DOWN TO CO₂ THROUGH MANY CHEMICAL REACTIONS IN THE MITOCHONDRIA
- ENERGY FROM PYRUVATE BONDS TRANSFERRED TO BONDS OF ATP

PYRUVATE  CO₂ + HIGH-ENERGY ELECTRONS

KREB'S CYCLE REACTION



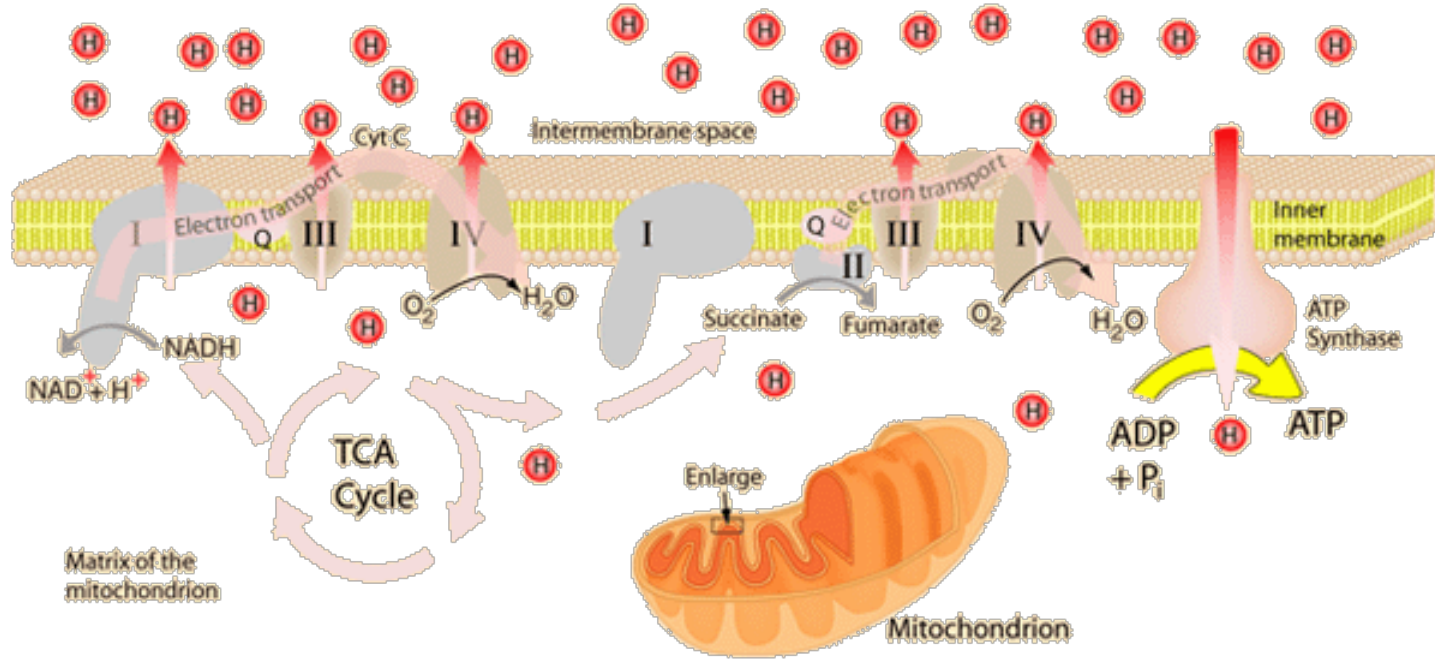
3.7 CELLULAR RESPIRATION

ELECTRON TRANSPORT CHAIN:

- HIGH-ENERGY ELECTRONS MOVE THROUGH SERIES OF REACTIONS CALLED ETC
- REACTIONS RELEASE ENERGY AND O_2 RECEIVES ELECTRONS; ENERGY IS TRANSFERRED ELECTRONS TO $ADP + P$ TO MAKE ATP

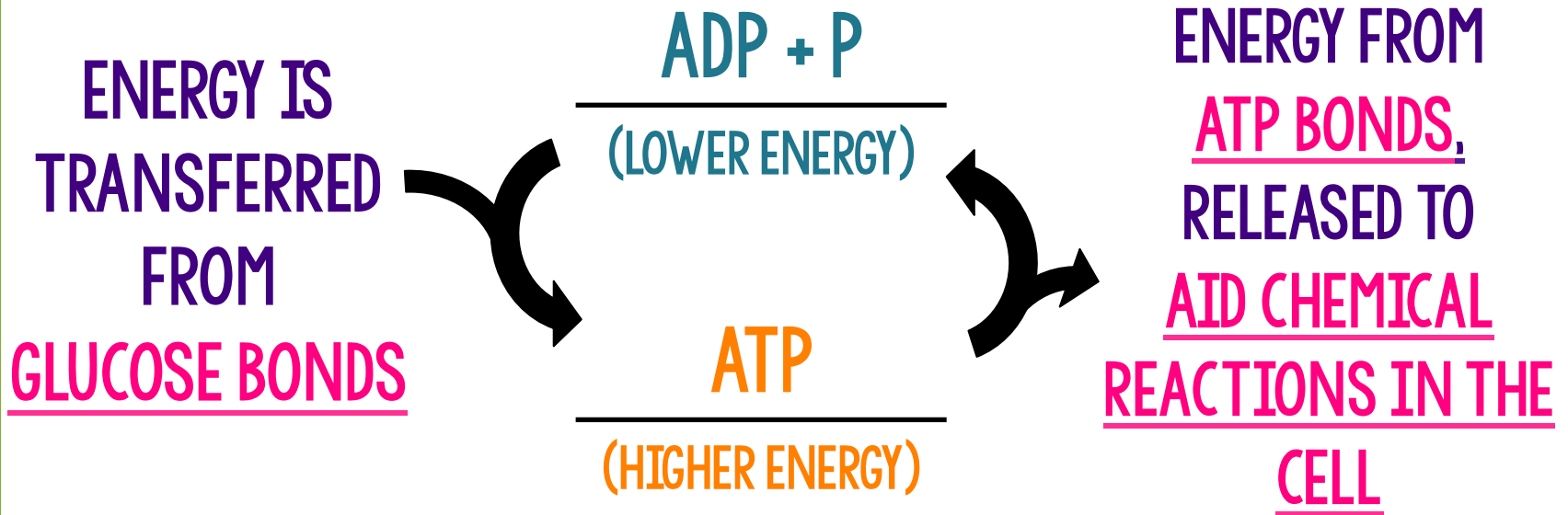


ELECTRON TRANSPORT CHAIN



3.7 CELLULAR RESPIRATION

FLOW OF ENERGY IN PHOTOSYNTHESIS:



3.7 CELLULAR RESPIRATION

LIMITING FACTORS OF CELLULAR RESPIRATION:

A LIMITING FACTOR IS ANY FACTOR THAT WILL DECREASE THE RATE OF CELL RESPIRATION:

1. GLUCOSE:

CANNOT TRANSFER ENERGY TO MAKE ATP FROM ADP + P

2. O₂:

CANNOT RECEIVE ELECTRONS IN ETC TO TRANSFER ENERGY TO ADP → ATP

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