

CHAPTER 5	Flow of Energy Between Photosynthesis and Cellular Respiration	BLM 5.3.6
HANDOUT		

1. Complete the chart below to identify the basic steps for photosynthesis and cellular respiration.

The Energy Processes

Photosynthesis			Cellular Respiration		
Energy Used or Released	Reactions	Location	Energy Used or Released	Reactions	Location
Light energy captured	Water splits, forms oxygen; NADP reduced to form NADPH			Glycolysis	
	Chemi-osmosis			Pyruvate is used to make acetyl CoA	
	Synthesis of PGAL			Krebs cycle	
	Synthesis of RuBP from PGAL		Many ATP produced using energy from proton gradient	Chemi-osmosis	

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2. Add the following labels to the diagrams of the mitochondrion and the chloroplast. Some labels may be used more than once.

Labels:

ATP

Calvin-Benson cycle

carbon dioxide

cristae

cytoplasm

glucose synthesis

glycolysis

Krebs cycle

light energy

matrix

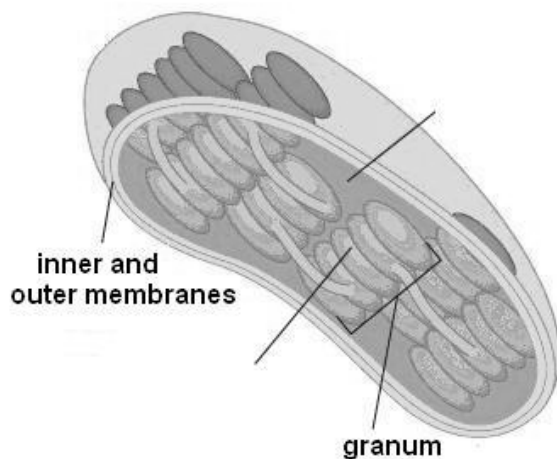
oxygen

PGAL

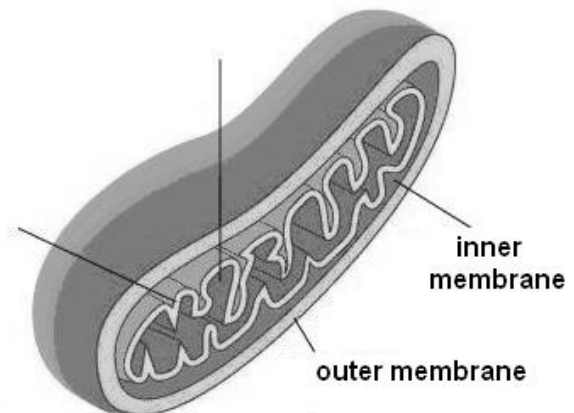
pyruvate

stroma

thylakoid



cytoplasm



3. Make a detailed flow chart showing the flow of energy between photosynthesis and cellular respiration.