

Sunlight to ATP Poster

Name: _____

Teammate(s): _____,

Goals:

- Create a diagram that represents the energy transfers involved in photosynthesis and cellular respiration.
- Understand that photosynthesis has both light and dark reactions.
- Know the organelles responsible for photosynthesis and respiration.
- Understand that respiration includes glycolysis, the Krebs Cycle, and the electron transport system.

Requirements:

You must include all of the following items/concepts in a picture flow-chart showing how sunlight is converted into ATP that you use.

ADP	grana stacks	Plant Cell
Acetyl CoA	Hydrogen Ions (H ⁺) or protons	Pyruvate
aerobic	Inner mitochondrial membrane	Respiration
alcohol fermentation	intermembrane space	rubisco
anaerobic	Krebs Cycle	stomata
Animal Cell	lactate	stroma
ATP	lactic acid fermentation	substate-level phosphorylation
ATP synthase	Leaf	sunlight
Calvin Cycle	Light-Dependent Reactions	thylakoids
Carbon Dioxide (CO ₂)	mesophyll	Water (H ₂ O)
carbon fixation	Mitochondria	
chemiosmosis	mitochondrial matrix	
chlorophyll a	NAD ⁺	
chlorophyll b	NADH	
chloroplast	NADP ⁺	
citrate	NADP ⁺ reductase	
cyclic electron flow	NADPH	
cytochromes	noncyclic electron flow	
Cytosol	oxidative phosphorylation	
Carbon-fixing	Oxygen (O ₂)	
dehydrogenase	phosphofructokinase	
Electron Transport Chain	photophosphorylation	
ethanol	phosphofructokinase	
FAD	photosynthesis	
FADH ₂	photosystem II	
Glucose (C ₆ H ₁₂ O ₆)	photosystem I	
Glycolysis	Plant	

The Expectations:

Must be teams of 2 or 3

Must have an equal distribution of work

Must be able to explain your work to:

- 1) your teammates
- 2) your teacher

You will be graded on:

- 1) poster quality/completion
- 2) explanation of content
- 3) ability to work as a team player