

## Pre-AP Biology Notes: Light Energy & Photosynthesis

### I. Energy for life processes

- a. Definition: The ability to cause matter to move or to change, ability to do work  
Examples:

b. Types of energy

i. Potential:

1. \_\_\_\_\_ energy

2. example: \_\_\_\_\_

ii. Kinetic (mechanical)

1. energy of \_\_\_\_\_

2. examples:

iii. examples of energy

1. atomic, wind, solar, heat, chemical, electrical, mechanical (motion)

c. Biochemical pathways

- i. Series of reactions in which the \_\_\_\_\_ of one reaction is the \_\_\_\_\_ of the next.

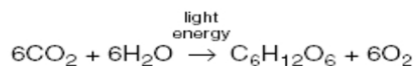
ii. Examples: Photosynthesis & cellular respiration

1. only \_\_\_\_\_ are capable of photosynthesis

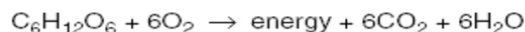
2. both \_\_\_\_\_ & \_\_\_\_\_

perform cellular respiration to release energy to do cellular work.

Photosynthesis



Respiration



d. Thermodynamics

- i. Definition: the study of energy \_\_\_\_\_

ii. 1<sup>st</sup> law of thermodynamics (law of conservation of energy): energy cannot be \_\_\_\_\_ or \_\_\_\_\_,

only converted from one form to another

1. example: stored chemical energy in \_\_\_\_\_ →

stored chemical energy in \_\_\_\_\_ → mechanical energy to

\_\_\_\_\_ → heat energy to maintain your

body \_\_\_\_\_