

Energy Flow in Ecosystems

- Radiant energy (light energy) from the SUN keeps all organisms alive

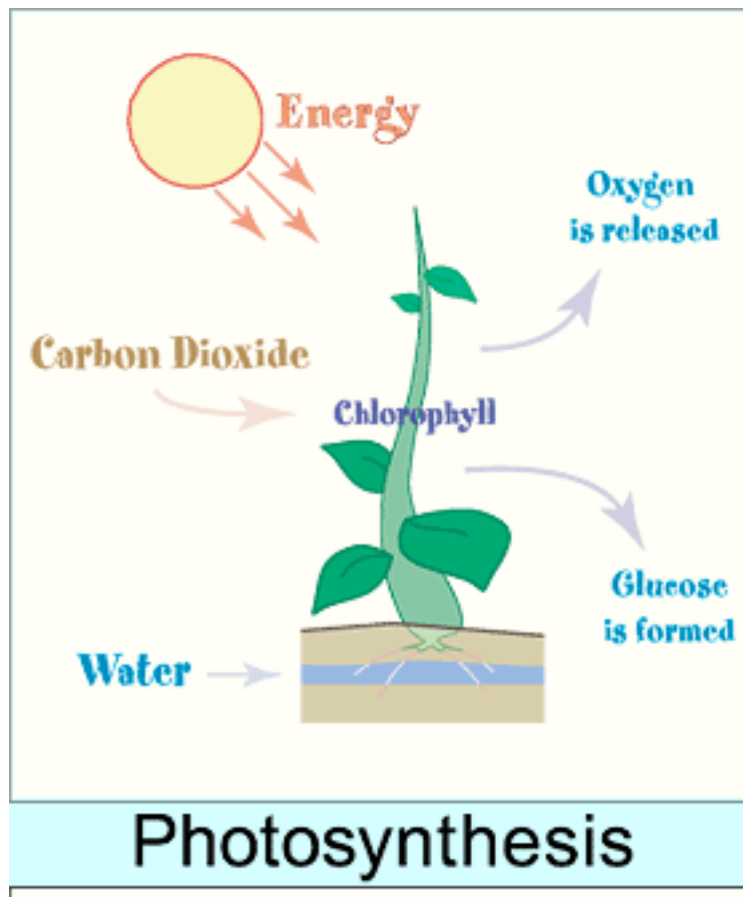
30% reflected back into space
70% absorbed by hydrosphere & lithosphere
- thermal energy
- 0.023% of the radiant energy is used for...

Photosynthesis

- Organisms that convert the light energy to produce their own food are called producers (autotrophs)
- All other organisms (i.e., humans) depend on these consumers (heterotrophs) for food.
- Some of these producers are land-based. The green colour of plants comes from chlorophyll which captures the light energy.
- Other producers, such as algae & cyanobacteria are aquatic-based.

The reaction for photosynthesis is:





- Sugar (glucose) is chemically stored energy!!!

Cellular Respiration

- Chemical process in which energy is released from food (stored energy - glucose)

The reaction for cellular respiration is:



- Organisms that cannot convert light energy to produce their own food are called consumers.
- These _____ (such as us humans) obtain their energy by consuming other organisms.