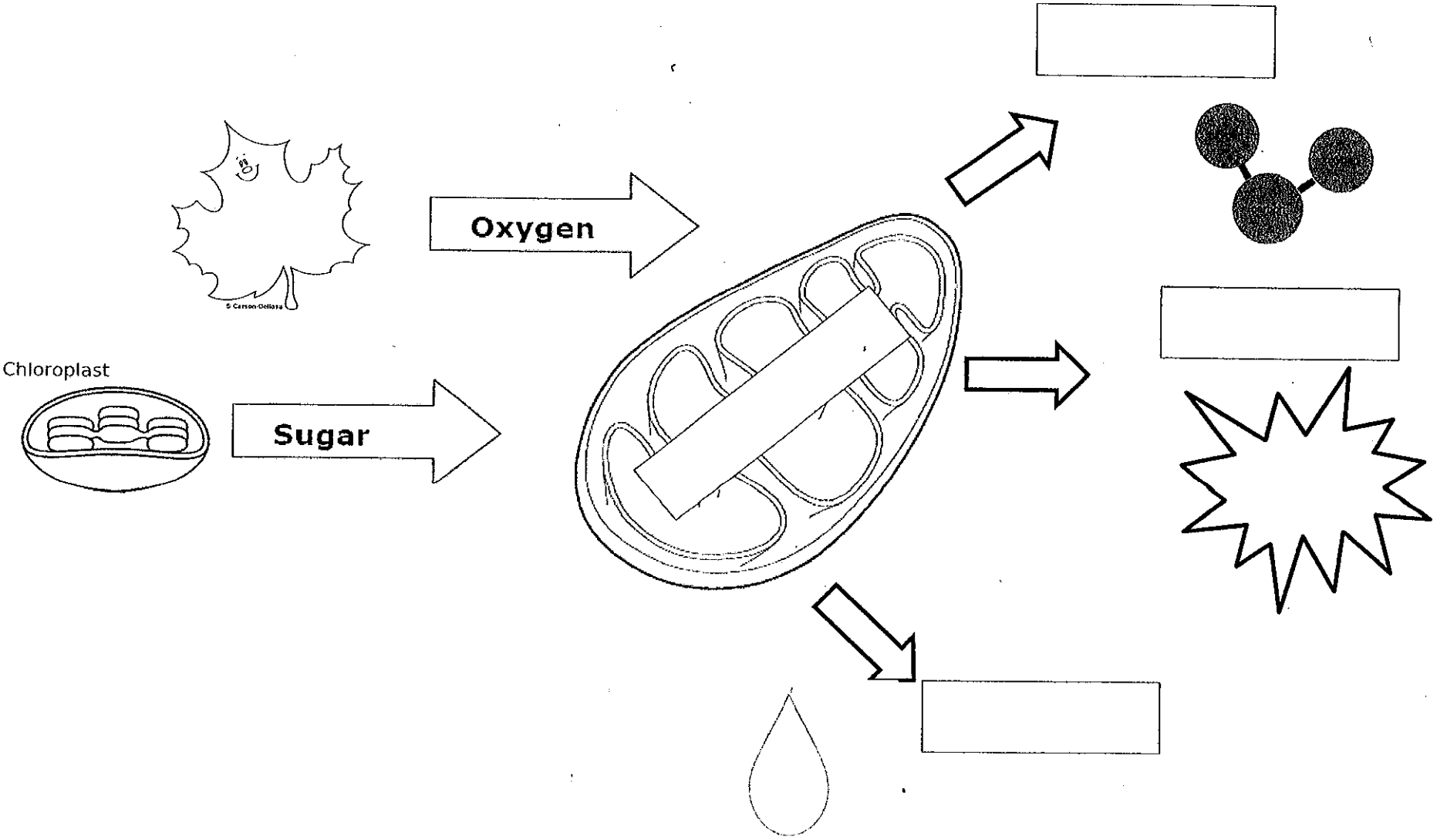
# Cellular Respiration



# Photosynthesis & Respiration

- _____- A process by which plants convert sunlight, water, and carbon dioxide into food energy (sugar), oxygen and water.
- _____- An elongated cell organelle containing chlorophyll where photosynthesis takes place.
- _____- A green molecule which uses light energy from sunlight to change water and carbon dioxide gas into sugar and oxygen
- Photosynthesis Equation

| $H_2O$ | + | $CO_2$ | + | light | → | $O_2$ | + | $C_6H_{12}O_6$ |
|---|---|---|---|---|---|---|---|---|
| _____ | | _____ | | _____ | | _____ | | _____ |
| | | _____ | | | | | | ( ) |

- The _____ absorbs the _____. Chlorophyll then uses sunlight to change water, carbon dioxide and, nutrients from the soil.
  The chlorophyll processes the ingredients to make _____ (plant food) and _____.

<u>But, what about animals</u>?

- Animals make the _____ that plants need, and plants make the _____ that animals need.
- _____- The process by which the chemical energy of "food" molecules is released and changed into ATP.
- _____- Rod-shaped organelles with a double membrane which converts the energy stored in glucose into ATP for the cell.

- Respiration Equation

| $O_2$ + $C_6H_{12}O_6$ → $H_2O$ + $CO_2$ + ATP |
| --- |
| _____ _____ _____ _____ _____ |
| ( ) _____ |

- Animals & Plants Rely On Each Other

  Animals use:
  - _____ (from producers/plants)
  - _____ (from producers/plants)

  Plants use:
  - _____ _____ (from animals)

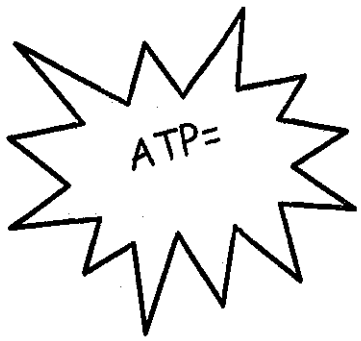
  The _____ change the $O_2$ and sugars (food) into $CO_2$, $H_2O$, and ATP
- Comparing Equations:

**Photosynthesis Equation:**

$H_2O + CO_2 + light \rightarrow O_2 + C_6H_{12}O_6$

**Respiration Equation:**

$O_2 + glucose \rightarrow H_2O + CO_2 + ATP$




What do you notice about the two?

*They are _____ of each other!