

# Photosynthesis



## Chapter 8

# Chapter 8.1 Energy & Life

*Where does the energy that living things need come from?*

The sun is the primary source of energy for all living things.

**Autotrophs**: organisms that make their own food

**Heterotroph**: organisms that obtain energy from foods they consume



All organisms must release the energy into sugars and other compounds

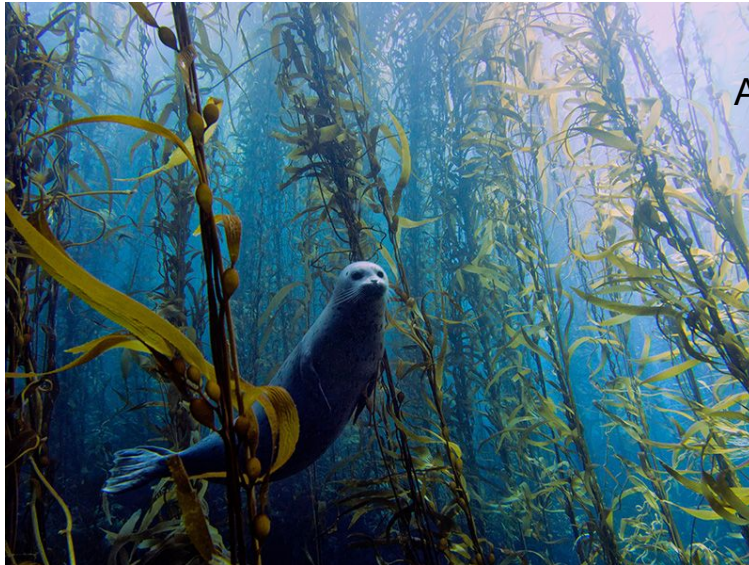


Autotroph

Heterotroph



Autotroph



Autotroph

Heterotroph

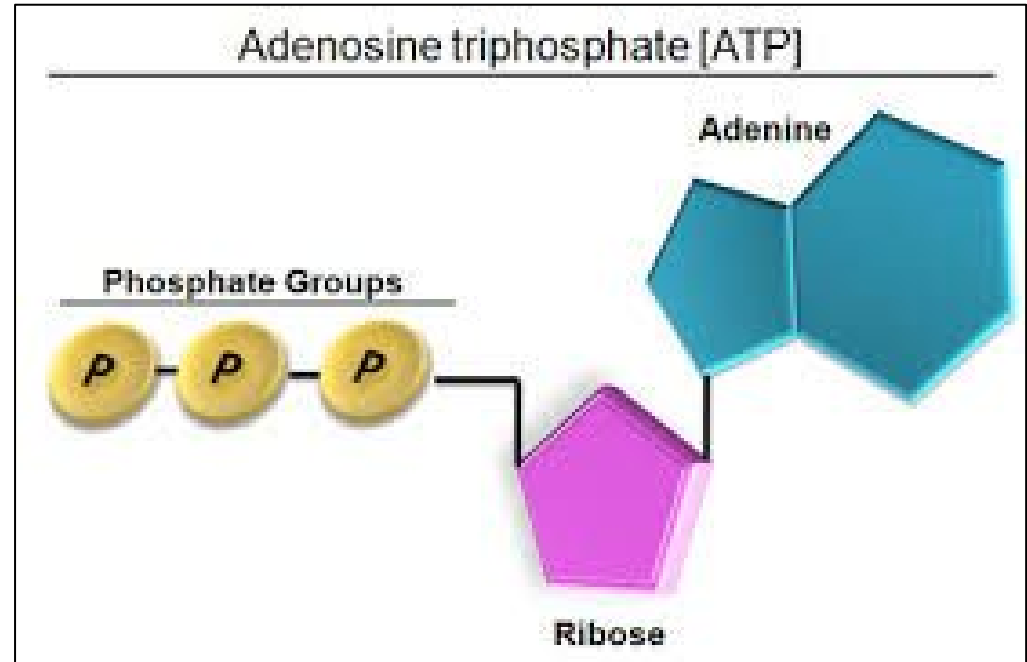
Heterotroph



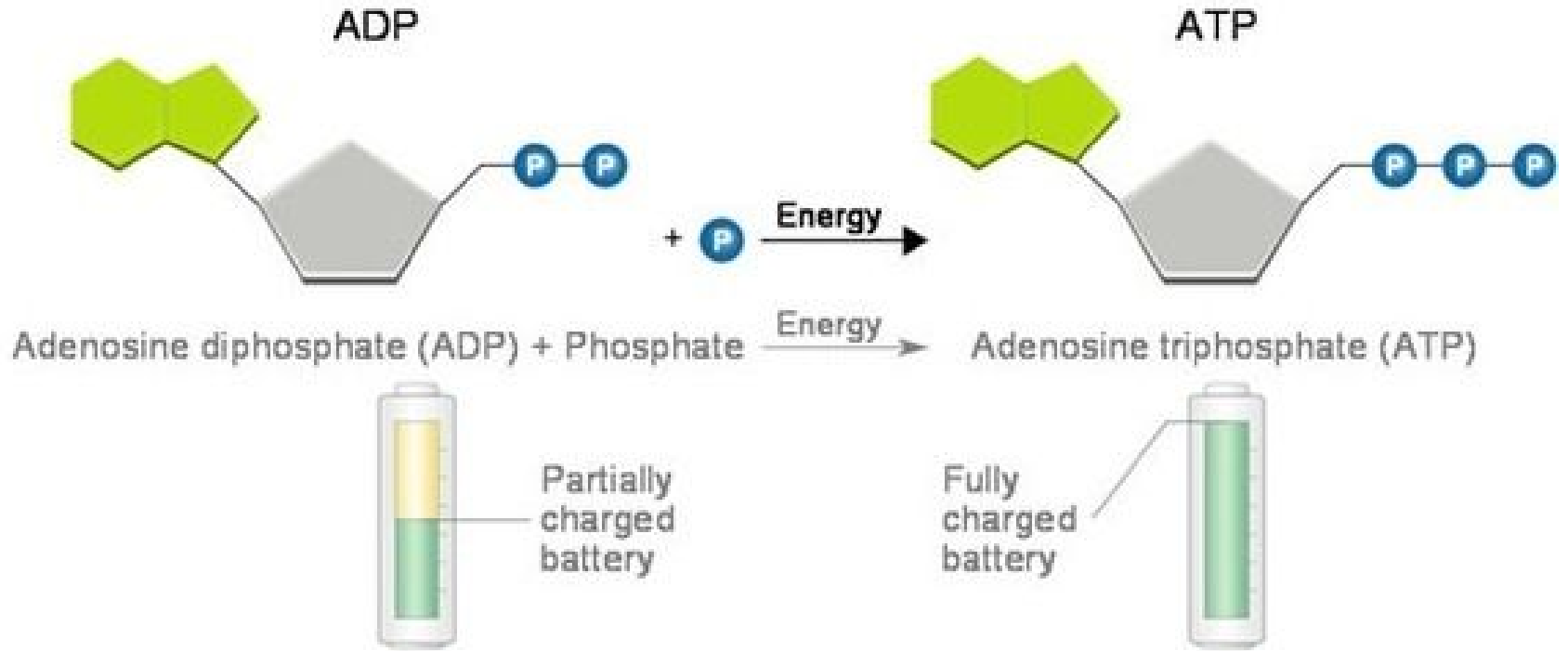
# 8.1 Chemical Energy & ATP

Energy can be stored in chemical compounds, which organisms use as chemical fuel.

**Adenosine triphosphate (ATP)**: the principal compounds that cells use to store and release energy



Adenosine diphosphate (ADP) is a compound that looks like ATP except it has 2 phosphate groups instead of 3.



Energy is released when the chemical bond between the 2nd and 3rd phosphate group break.

ATP can power a variety of cellular activities:

- active transport
- protein synthesis
- muscle contraction

[What is ATP?](#)

