

COMMUNITY ECOLOGY

BIODIVERSITY

Invasive Species

- non-native species that decline biodiversity

Habitat Destruction

Pollution

INTERSPECIFIC

Competition

- Niches
- Competitive Exclusion Principle
- Mutualism
 - Symbiotic Species benefitting from each other
- Predation
 - crypsis
 - behavior
 - toxins
 - Mimicry

Producer: Plant

Primary Consumer: Herbivore

Secondary Consumer: Carnivore (Mouse)

Tertiary Consumer: Carnivore (Snake)

Quaternary Consumer: Carnivore (Eagle)

TROPHIC STRUCTURE

Producer

Primary Consumer

Secondary Consumer

Tertiary Consumer

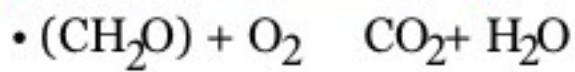
Quaternary Consumer

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PHOTOSYNTHESIS

FORMULA & INFO

General Formula



Concepts

- performed by green plants and select organisms
- chloroplasts = the site of this in the cell
- chlorophyll converts light to chemical energy

CHLOROPHYLL

CHL a

- Universal to all plants

CHL b

CHL c

CHL d

All pigments other than CHL a are accessory pigments. Common ones are Anthocyanin, Xanthophyll, and Carotene.

LIGHT AND DARK REACTIONS

Light

- chlorophyll = energy converter
- requires photons of light
- produces ATP
 - chemiosmosis
- Produces NADPH
 - reduced electron carrier
- Oxygen produced in the breakdown of water

Dark

- no direct input of photons/light
- ATP + NADPH to produce sugar
- needs light reaction in order to work
- Calvin Cycle
 - fixed Carbon Dioxide
 - C₃
 - loses water but uses less ATP
 - C₄
 - loses less water but uses more ATP
 - CAM
 - saves water but only happens at night

Dark reactions don't actually happen in the dark.