



Energy flow through an ecosystem

ENERGY: the ability to do work

Exists as:

Potential Energy – stored

Kinetic Energy – motion



1st Law of Thermodynamics

**Energy cannot be
created or destroyed ,
but energy can change
from one form to another!**

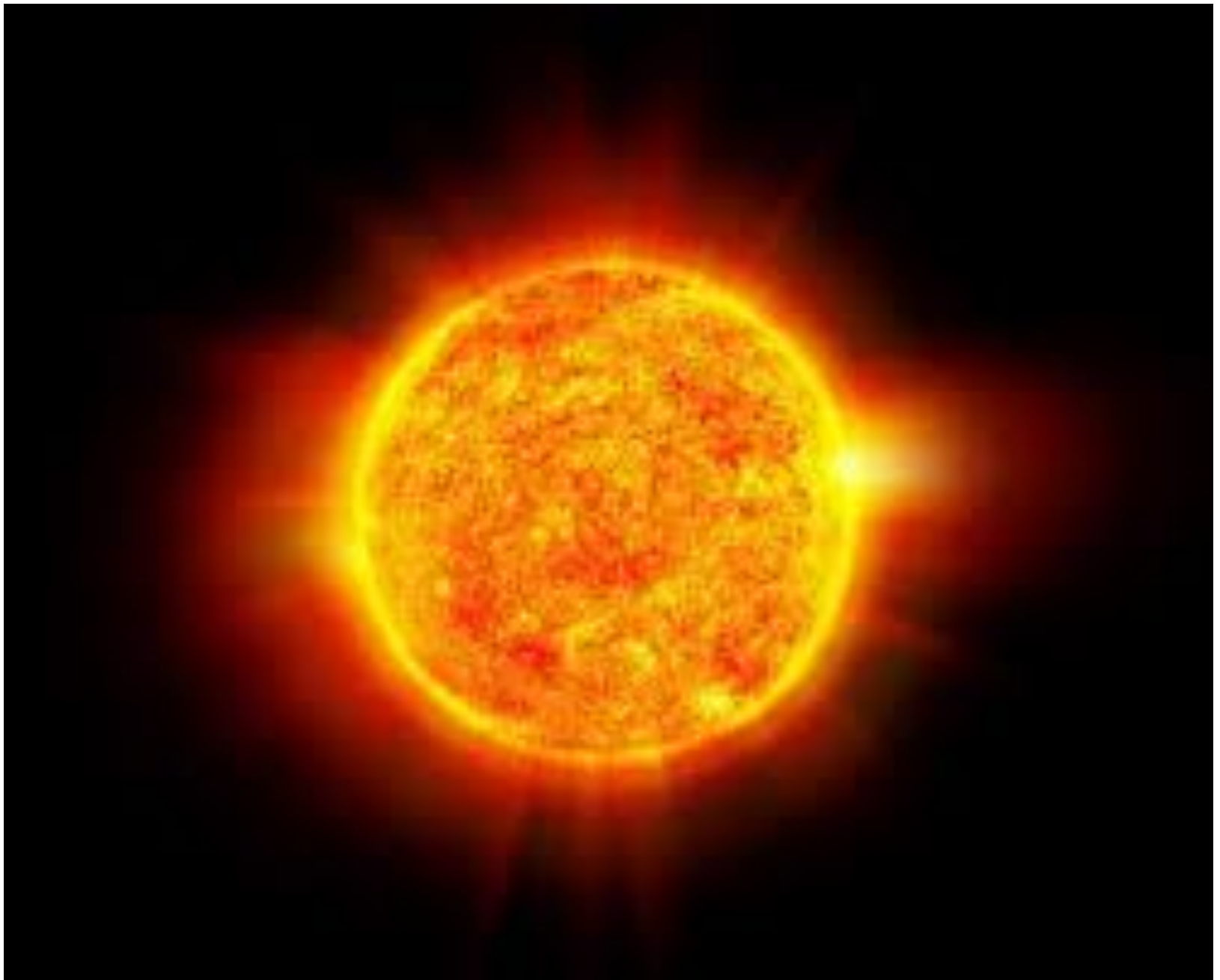
Ecological Systems

**Biotic Factors: the living
components of the community**

**Abiotic Factors: the physical or non-
living parts of the community**

How does energy enter an ecosystem?



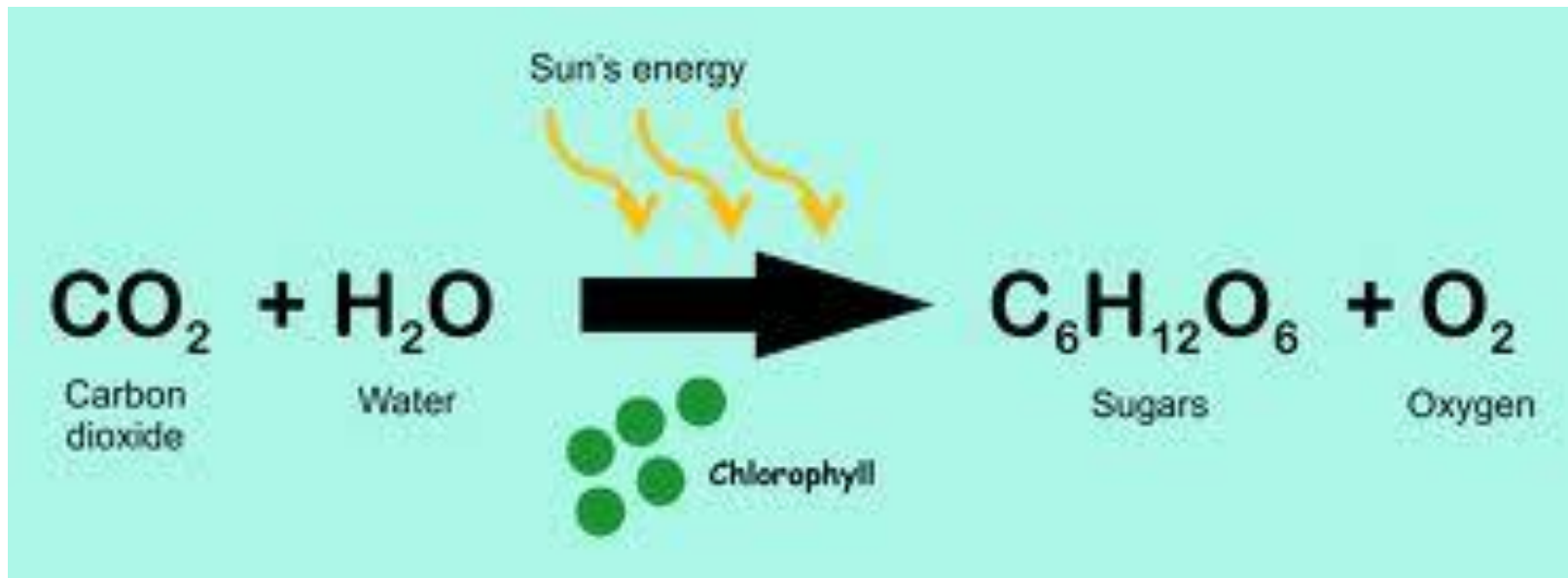


How is energy from the sun converted into usable forms?



Photosynthesis

Food Chains



2nd Law of Thermodynamics

When energy is converted from one form to another, some of the energy is changed to heat and released into the surroundings. This heat energy is no longer available for organisms to use for biological work

Producers-manufacture organic molecules using the energy of sunlight. Includes plants, algae, and some bacteria.

Carnivore-meat eaters

Herbivore-plant eaters

Omnivores- eat a variety of plants and animals

Detritivores- consume organic matter such as animal carcasses, leaf litter, and feces

Decomposer – break down dead organisms and waste products

Trophic level: each level or link in the food chain. The level represents the number of energy transfers.

- Arrow in food chain/web always points from the species consumed to the species that uses the food**
- Energy flow in ecosystems is linear, or one way**