

Roles of Producers, Consumers and Decomposers



Ecosystems

Living things rely on a constant supply of energy to stay alive.

Some organisms can get the energy they need from the Sun.

Some organisms get energy from consuming other organisms.



Organisms that live together in a particular environment form an ecosystem. The plants, animals and microbes that live in an environment are well adapted its conditions.

Producers

Organisms need a constant supply of energy to stay alive. Producers are organisms that create their own energy supplies. They do not rely on any other organism for their food.

There are two processes that producers use to create food:

Photosynthesis

Plants produce a sugar called glucose from sunlight, water and carbon dioxide. Oxygen is produced as waste during photosynthesis.

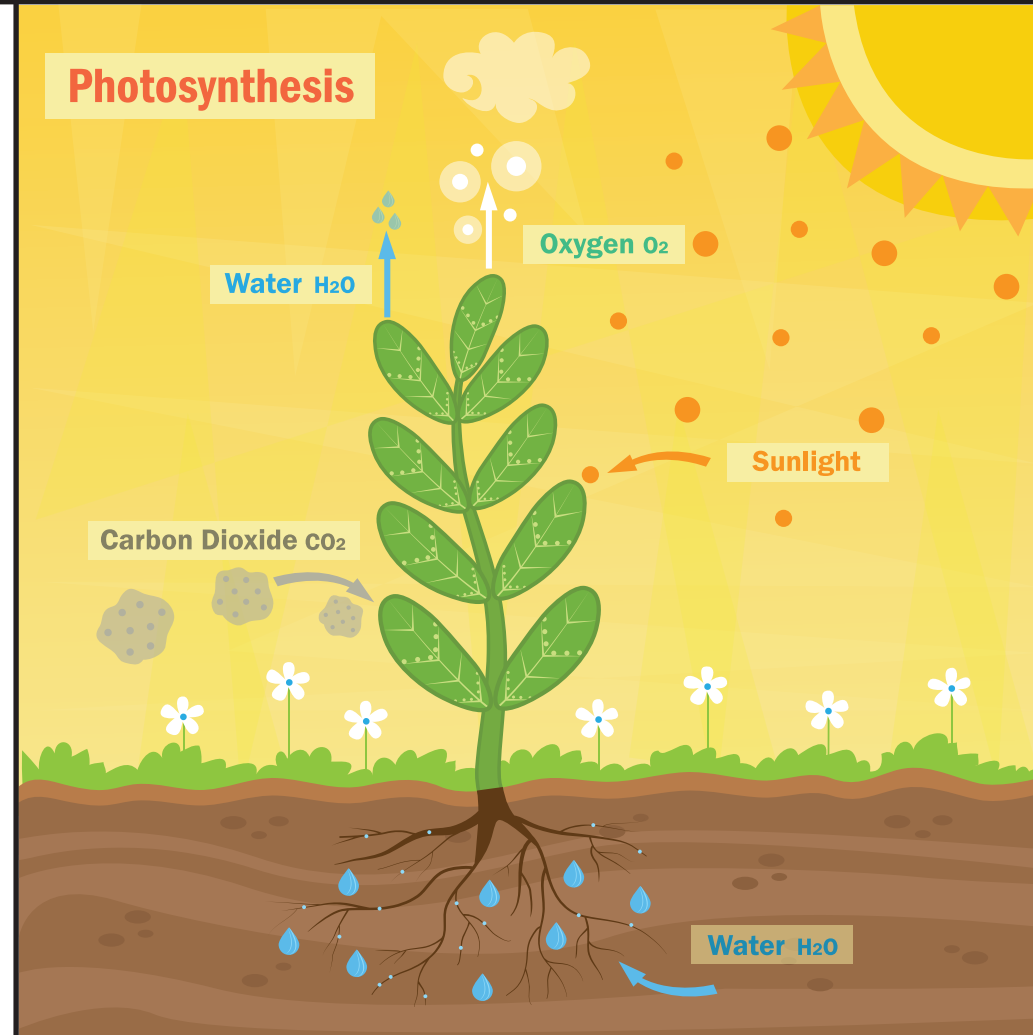
Phytoplankton are microscopic organisms that live in marine environments. Phytoplankton generate about half of the atmosphere's oxygen through photosynthesis!

Trees, shrubs, grass, lichen, algae, seaweed and phytoplankton are all producers.

Chemosynthesis

Some producers don't need light to create their own food. Some types of bacteria can make food from sulphur found in active volcanoes.

Studyladder



Producers are the foundation of an ecosystem. They provide consumers with food and oxygen. Consumers provide producers with carbon dioxide for photosynthesis.

Consumers

Producers use the energy of the Sun to convert carbon dioxide and water into glucose through the process of photosynthesis. This energy is stored within the producer. When an animal eats the producer they consume this stored energy and this keeps them alive.

Primary consumers are animals that eat producers. They are herbivorous and don't eat other animals. Examples of primary consumers include insects, grubs and mice.

Secondary consumers are carnivorous animals that eat herbivores. For example, a snake that eats a mouse.

Tertiary consumers eat the secondary consumers. For example an eagle might eat a snake.

There may be more levels of consumers in a food chain. The last animal in a food chain is the **apex predator** (top predators). They have no other natural enemies (except humans) in that ecosystem that will consume them. Lions, great white sharks and bobcats are examples of apex predators.

BASIC JUNGLE FOOD CHAIN

APEX PREDATOR



TERTIARY CONSUMERS



SECONDARY CONSUMERS



PRIMARY CONSUMERS



PRIMARY PRODUCERS



Detritivores and decomposers

Detritivores are organisms that eat the non-living remains of plants and animals. Examples of detritivores include scavengers such as vultures and hyenas.

Decomposers are organisms that decompose organic waste into nutrients that are returned back to the soil or ocean. Examples of decomposers include bacteria, fungi, maggots and worms.

