Food Chains & Food Webs

SNC2D_06 - 07

Text Book: pages 32 – 39

All living things need energy. They get their energy from food. Plants are called_____ because they make their own food.
_____ is source of all energy for ecosystems. Plants use sunlight to make food by the chemical process known as_____.
Write a chemical equation for the photosynthesis process:

Without plants, humans and all other living things would starve to death. This is because they _____ _____ make their own food. The only way animals can obtain energy is by eating, or consuming, plants, or other animals, hence animals are called _____.

Food chain shows how one living thing is the food for another; food chains show a step-by-step sequence of who eats whom.
Energy passes along a food chain from_____ to_____as one member of the chain eats the next.

Food chains always start with a_____, e.g. seaweed, clover, grass, tree, tomato plant, herbs, shrubs, algae, aquatic plants. Plants are also termed as **autotrophs.**
Heterotrophs: can not make their own food, but obtain food and energy from auto and heterotrophs.
Every organism in a food chain provides energy for other organisms.

Trophic level indicates the position of an organism in a food chain, the position depends on whether it is a plant or an animal. Trophic level is a way of categorizing an organism according to where it gets its energy from:

Producers ⟶ 1st order consumers ⟶ 2nd order consumers ⟶ 3rd order consumers

Herbivores 1st order carnivore 2nd order carnivores

1st Trophic level 2nd Trophic level 3rd Trophic level 4th Trophic level: **top carnivore**

Grass ⟶ Grasshopper ⟶ Frog ⟶ Snake —> hawk

The final carnivore – not eaten by other animals is called the <u>top carnivore</u>.

<u>Make a food chain using the following, state the order, the niche, and the trophic level of each species:</u>

a. grass, hawk, rabbit, sparrow, fox, hawk

b. Shrubs & berries, fish, bear,

c. Aquatic plant, wolf, deer, mouse.

d. Floating algae, perch, minnow, mosquito larva

e. Cougar, grass, lynx, red fox, snowshoe hare.

f. Hawk, snail, blackbird, lettuce

FOOD WEBS

A food web shows a feeding relationship, it is the intermingling of food chains forming a feeding relationship.

Most organisms eat more than one food and most foods are eaten by more than one organism.

The greater the biodiversity --- greater the food chain -- step-by-step sequence linking organisms that feed on each other.

Make a food web using the following organisms:

a. INSECTS SMALL BIRDS SNAKE

MAPLE KEYS

SQUIRREL MICE OWL

b. Use information form the paragraph below to answer the questions that follow the paragraph:

It's a beautiful, sunny, summer morning in Ottawa. In a garden near Colonel By a fat slug crawls off a rotting tomato upon which it feasted and crawls under a dead maple leaf, where it continues to feed. A hungry robin arrives just too late to get the slug but is quite content to eat a juicy earthworm for breakfast. An energetic bumble bee races to the flowering tomato plant, ignoring the mushrooms growing on the dead, damp leaves in the garden. From a tree beside the garden, the flea-bitten family cat keeps a hungry eye on the activities, especially those of the unsuspecting robin.

i. Name two organisms that are producers. _____
ii. What is the top carnivore in this scenario?_____
iii. What is the source of energy needed to support the biotic components of the garden? _____
iv. What is the niche of the robin? _____
v. Name a herbivore in this scenario. _____
vi. What is the role of the mushroom in the garden? _____

Draw a food web that uses all the biotic components mentioned in the paragraph. Make any reasonable assumptions or inferences about "who eats what".

c. Construct a food web containing at least 4 food chains and using all the following organisms

wolf, grass, deer , mouse, grasshopper, hawk, rabbit, snake