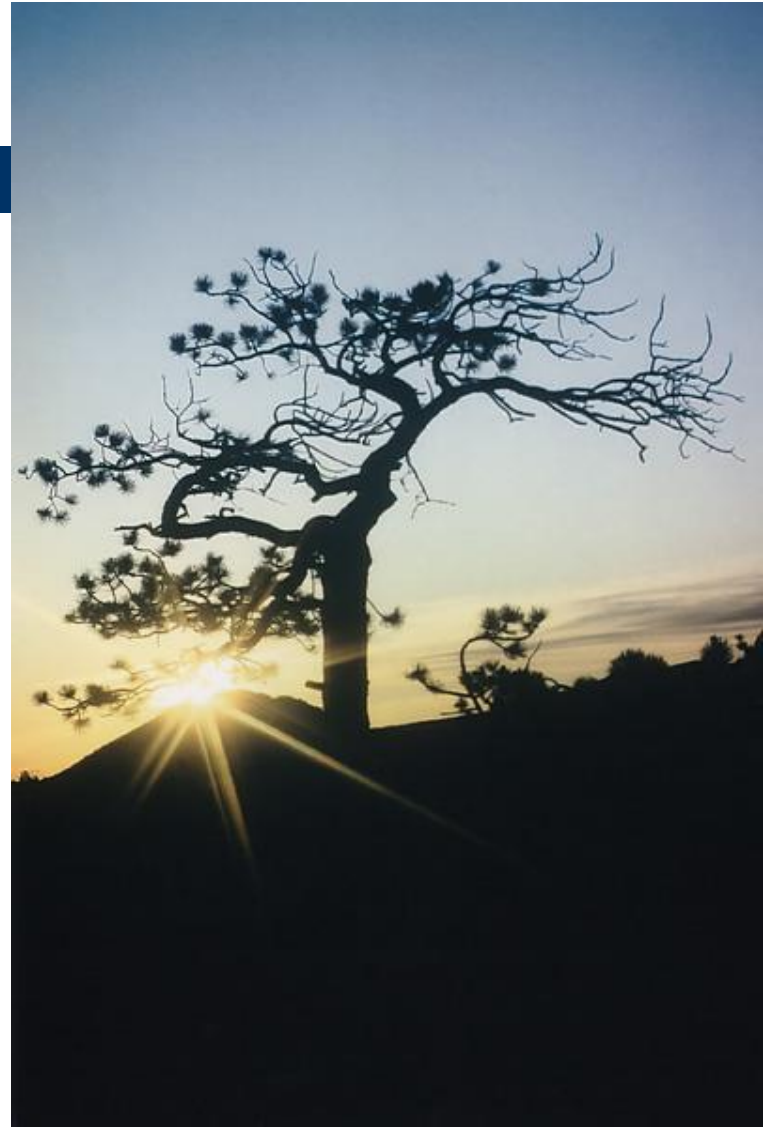


Energy Flow Through An Ecosystem



The Sun

- All energy for living organisms comes from the **sun**.



Plants



- Plants capture light energy and convert it to sugar through photosynthesis.
- This chemical energy then can be transferred to other organisms through feeding.

Energy (Food) Chains

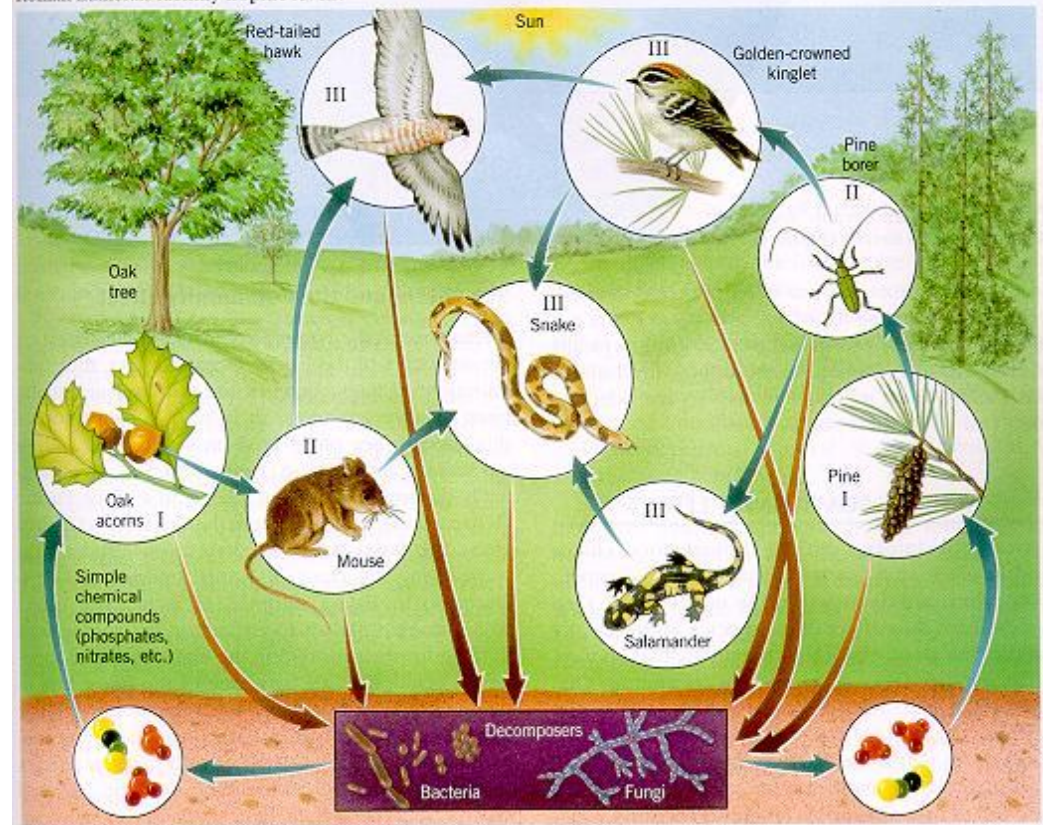
- A simple model that shows how energy moves from the sun to organisms.
- Sun → Sunflower → Mouse → Rattlesnake → Hawk → Bacteria
- Arrows show the direction the energy moves and which organism gets eaten.



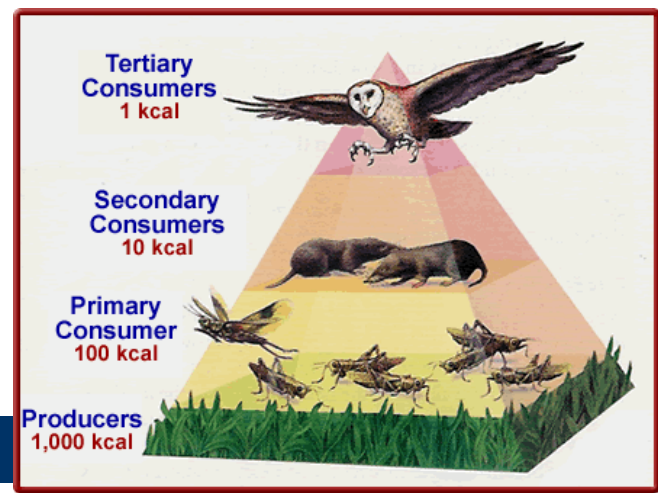
Food Webs

- Complex models that show how energy moves through an ecosystem.
- A food web is a number of intertwined food chains.

FIGURE 6.3 Food webs: (a) a typical terrestrial food web. Roman numerals identify trophic levels.



Energy Pyramids



- Energy pyramids show the amount of energy available at each feeding level in an ecosystem.
- Bottom=largest=most energy.
- Top=smaller=less energy.

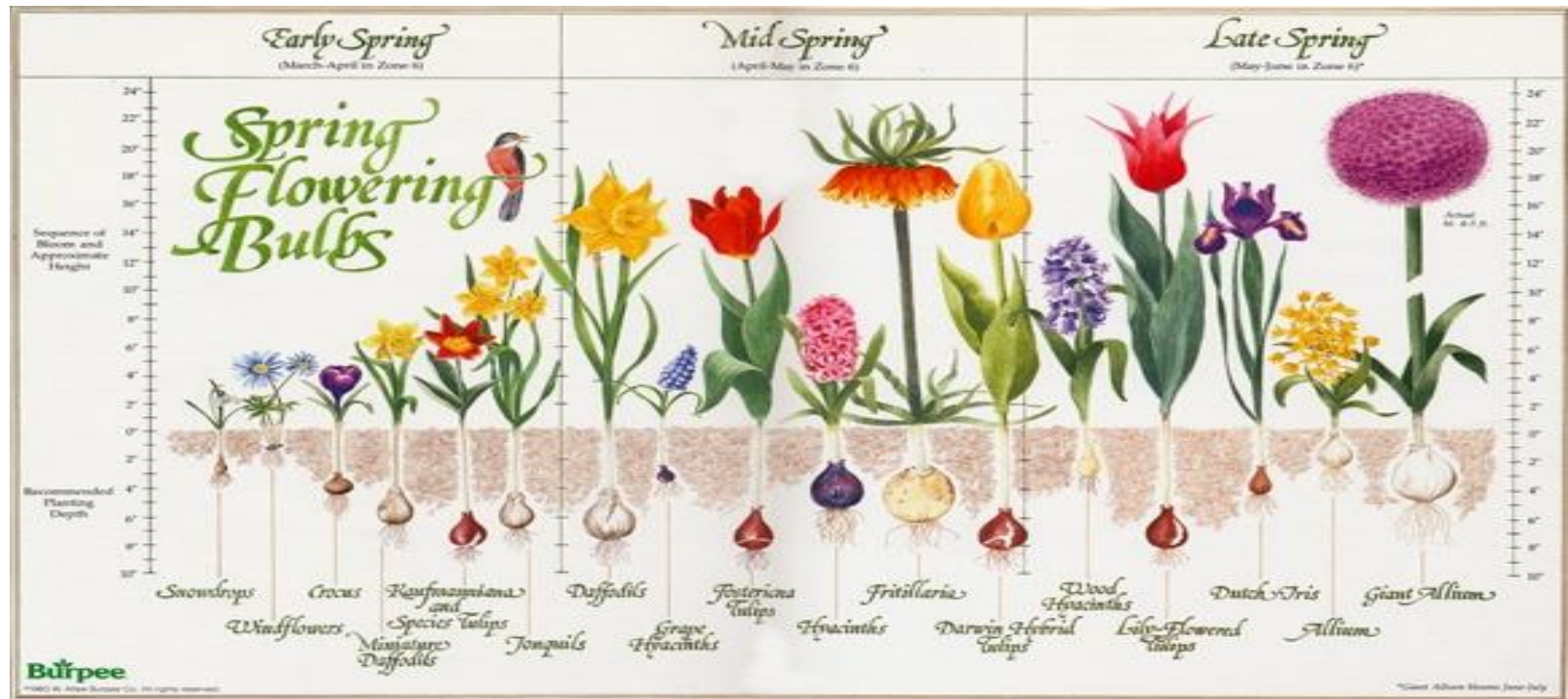
Energy Loss



- Energy is lost as heat at each level.
- 10% is passed to the next level.
- 90% is lost at each level.

Producers

- An organism that produces its own food.
 - Plants



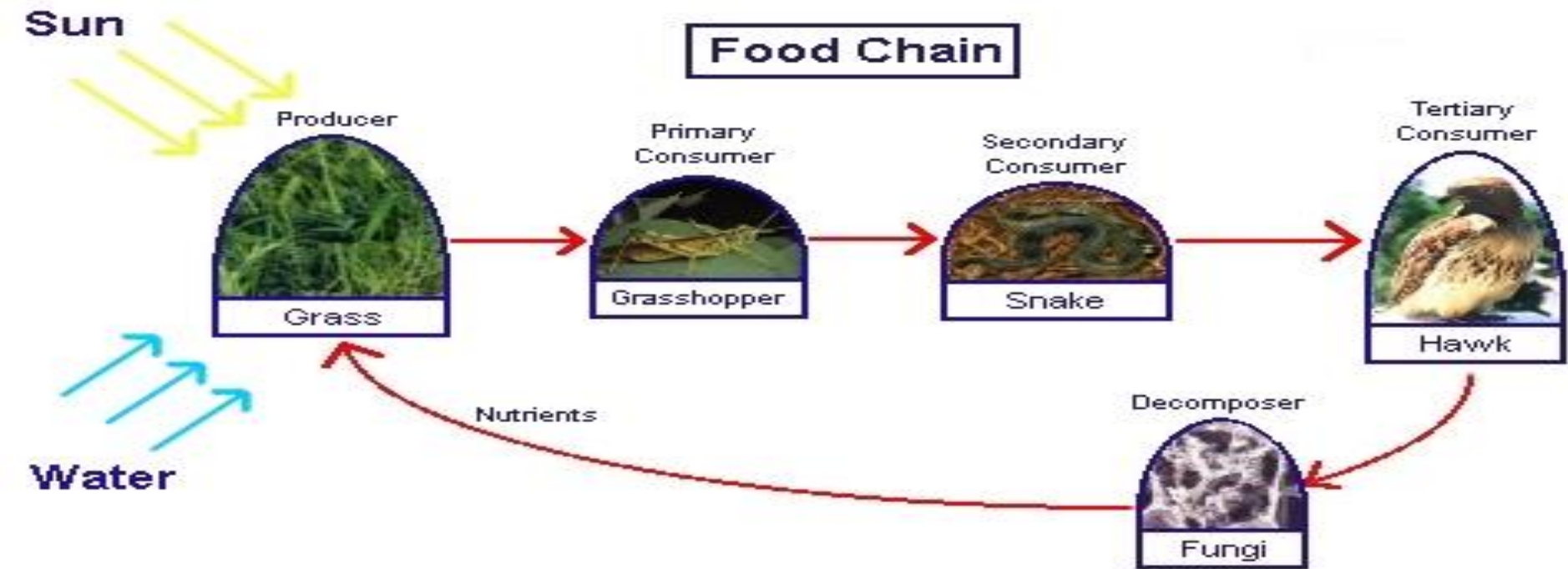
Consumers

- Organisms that can not make their own food.
- They obtain their food by eating other organisms.



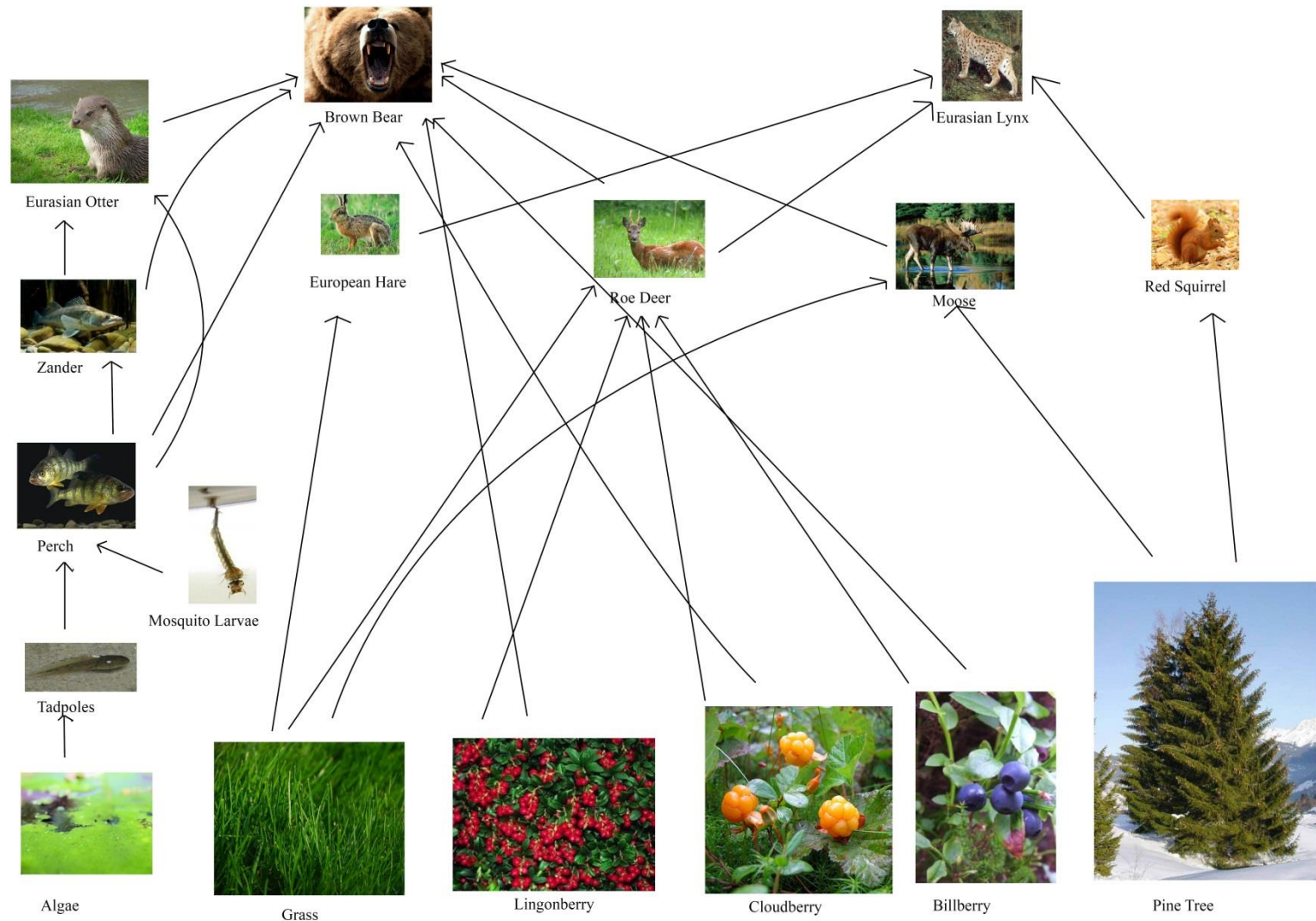
Types of Consumers

Organisms are classified according to the place they are in a food chain.



- Some organisms can be at different levels depending on what they eat.

When the bear eats berries, it is the primary consumer.
When the bear eats a fish, it is a secondary consumer.



Types of Consumers

- Consumers are also classified by what they eat.
 - Herbivores
 - Carnivores
 - Omnivores



Herbivores

- Organisms that only eat plants.

-Examples

Grasshoppers

Rabbits

Deer

Beavers

Moose

Cows

Sheep



Carnivores

- Organisms that only eat other animals.

-Examples

Foxes

Frogs

Snakes

Hawks

Spiders

Lions



Omnivores

- Organisms that eat both plants and animals.

-Examples

Bears

Turtles

Monkeys

Squirrels



Decomposers

- End of all food chains
- Break down dead organisms into smaller molecules.

-Examples

Bacteria

Fungus

