

1. Ecosystems

Ecosystem

"Interaction between living and non-living components of the environment/habitat is k/a ecosystem."

Living component of environment is ^{also} called biotic component.

Non-living component ~~is~~ aka abiotic component

⇒ Ecology: "The study of interaction between living and non-living components of the environment"

[* Sun is the primary source of energy in any ecosystem.]

Components of an ecosystem

Biotic components of an ecosystem are:

- ① Producers
- ② Consumers.
- ③ Decomposers.

① Producers:

Green plants are producers as they make food for themselves as well as for other organism. (using sunlight)

↳ Photosynthesis

② Consumers :

Plants and plant products are consumed as food by

Primary Consumers ←

herbivores



Consumed by

Secondary Consumers ←

Carnivores.



Consumed by

Tertiary Consumers. ←

Top carnivores

are consumers in any ecosystem.

For eg: Lion is top carnivores

When animals (herbivores or carnivores) die, some animal feed on the carcass, these animals are called

Scavengers . eg. Vulture is a scavenger .

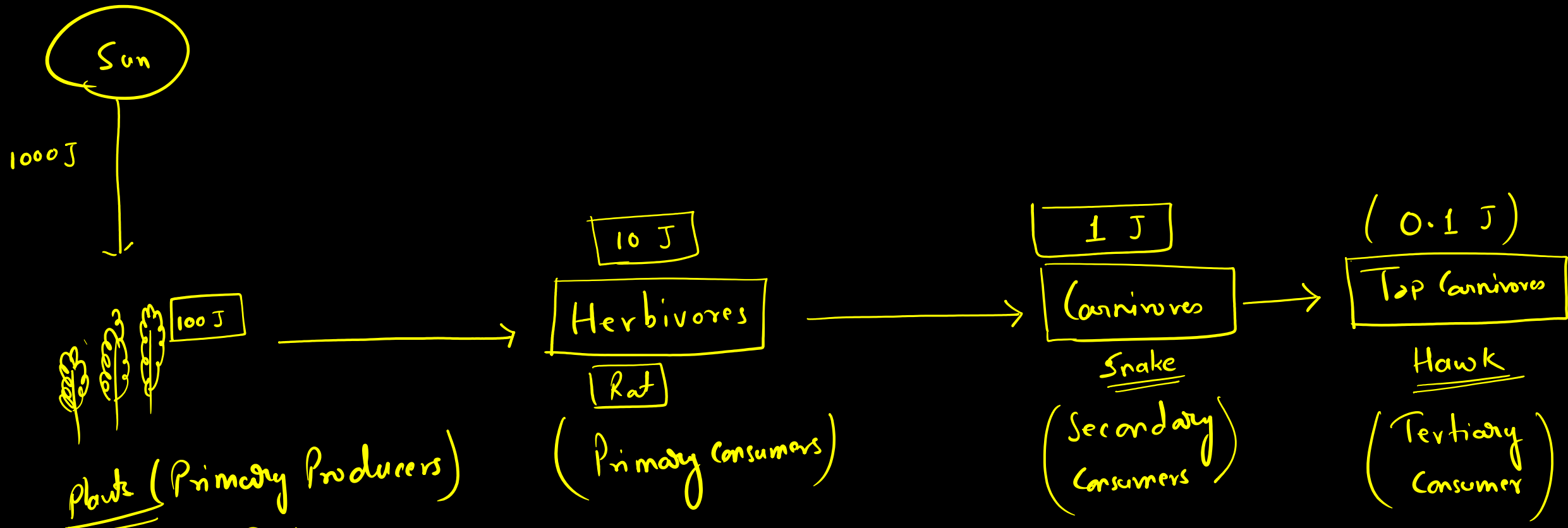
↳ Scavengers are ~~not~~ also consumers .

③ Decomposers

When plants and animals die, the microorganism present in soil decomposes the dead matter.

These microbes are called decomposers.

↳ eg. bacteria
↳ fungi



10% of Sun's energy is absorbed by the plants.

90% is lost into the surrounding

10% law

⇒ At every step only 10% of energy is available and 90% is lost into the surrounding environment.

Types of Ecosystem.

- Grass Ecosystem / Grassland Ecosystem
- Forest Ecosystem.
- Pond Ecosystem
- Sea / marine Ecosystem.

① Grassland Ecosystem :

- Main producer is the Grass .
- Primary Consumers : Grasshoppers , termites , rabbits , sheeps , Grazing animals .
- Secondary consumers : Frogs , lizards , snakes , etc .
- Tertiary consumers : snakes .
- Top carnivores : Hawk .

② Forest Ecosystem

Main Producer :→ Trees and Plants

Primary consumers :→ deer, elephant, beetle, etc.



Small Carnivores : foxes, wolves, snakes, ~~etc.~~, wolverine, etc.
(Secondary consumers)

~~etc.~~ ↓

Top carnivores: → Tigers, Lions, Bears.
(Tertiary carnivores)

Pond Ecosystem: Shallow water body (still water)



Primary Producers: Algae, Aquatic plants.
↳ Lotus, water lily, Water Hyacinth.

Primary Consumers: → Small fish, insects.

Secondary Consumers: → Frog, large fish, aquatic snakes.

Tertiary Consumers : → Eagle, Kingfisher,

* Every ecosystem has microorganism (bacteria) or fungi
Rde is to decompose dead organism.

Sea or Marine Ecosystem.

→ They are like pond ecosystem except it is much bigger, salt water,

and more diverse life form.

H.W.

Primary Producers :

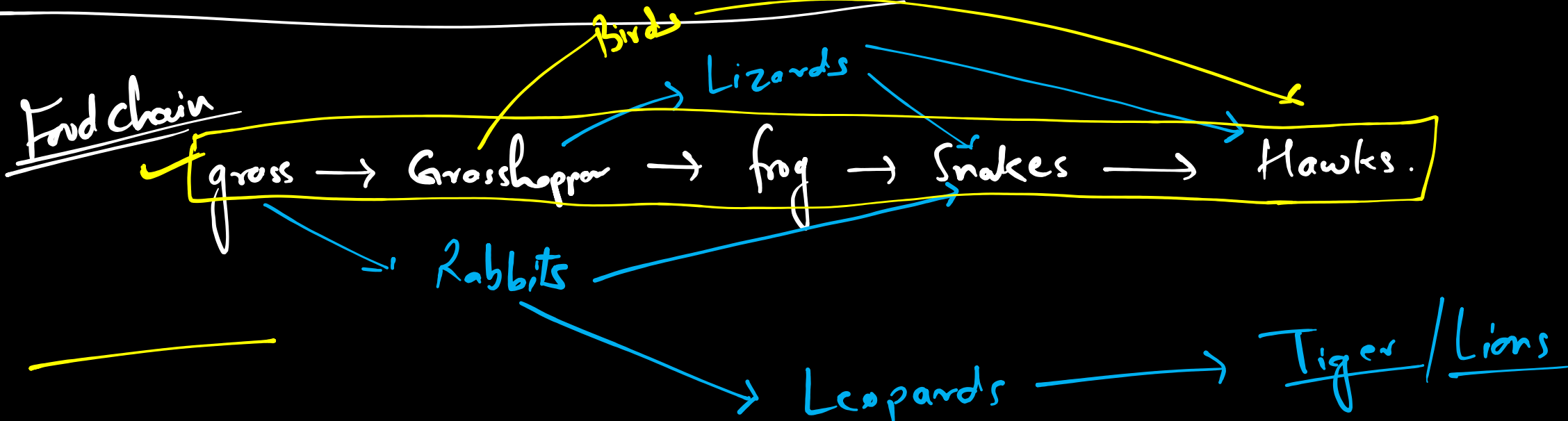
Primary consumer :

Secondary consumer :

Tertiary consumer :

H.W.

Food Chain and Food Web:



Food chain: A linear link between various organisms for the purpose of food.



is food chain.

Producers → Herbivores → Small carnivores or Omnivores

Food web

Interconnected network of food chain.

~~q. 1~~ (i) Grass → Deer → Lion

(ii) Grass → Rabbit → Tiger.

(iii) Leaves → Elephant

(iv) Algae → Fish → Seal → Shark / ^{Killer} whales

Food Web: Interwoven pattern of several interconnected food chains is known as a food web.

End of the chapter