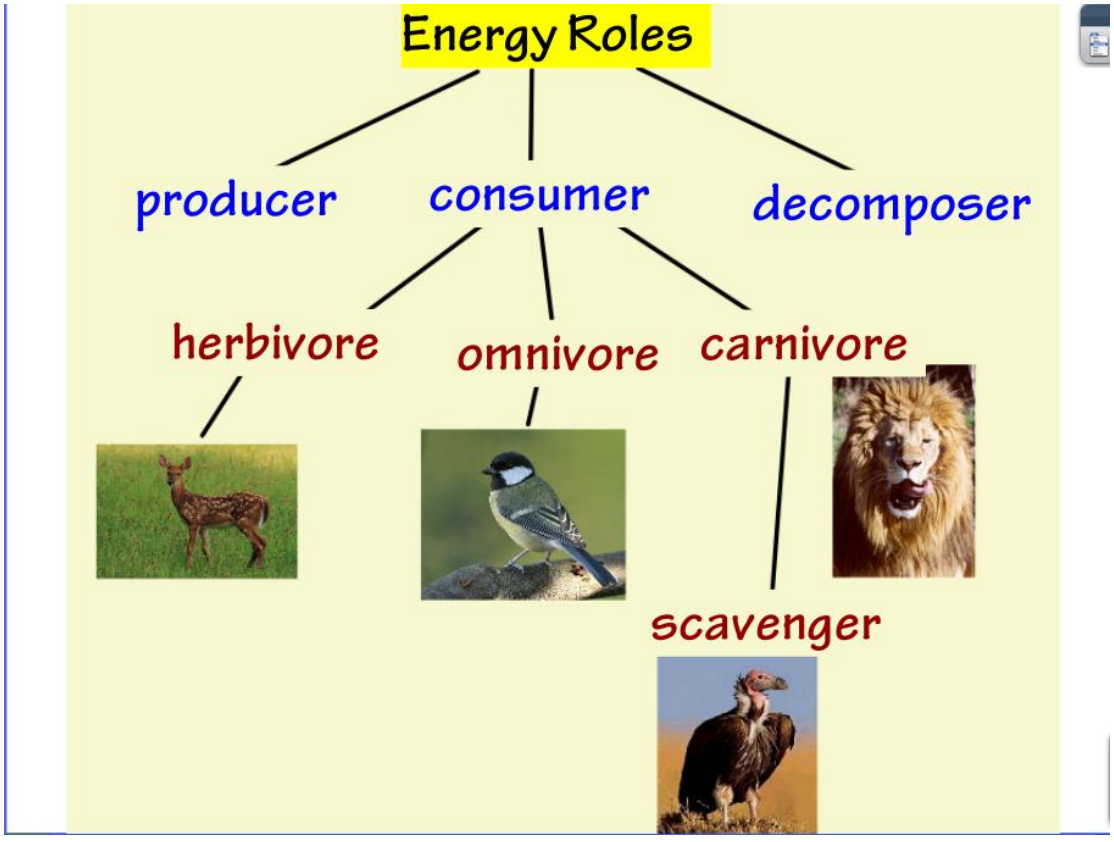
Notes on Food Chains and Food Webs

Producers, consumers, and decomposers describe how organisms make or consume food.

Consuming food gives us ENERGY that we need to carry out daily activities. We can track how energy moves throughout an ecosystem through the use of food chains and food webs.



Example of a food chain

*Note: the arrow shows the direction of the energy flow - it always points to the next link in the food chain.

Each organism obtains energy from consuming the previous organism

Example of a food chain


marsh grasses


fish


heron

The fish obtains energy & nutrients from the marsh grasses. The heron obtains energy & nutrients from eating the fish.

Sample Food Chains

Trophic Level	Grassland Biome	Pond Biome	Ocean Biome
Primary Producer	grass	algae	phytoplankton
Primary Consumer	grasshopper	mosquito larva	zooplankton
Secondary Consumer	rat	dragonfly larva	fish
Tertiary Consumer	snake	fish	seal
Quaternary Consumer	hawk	raccoon	white shark

Food Chain

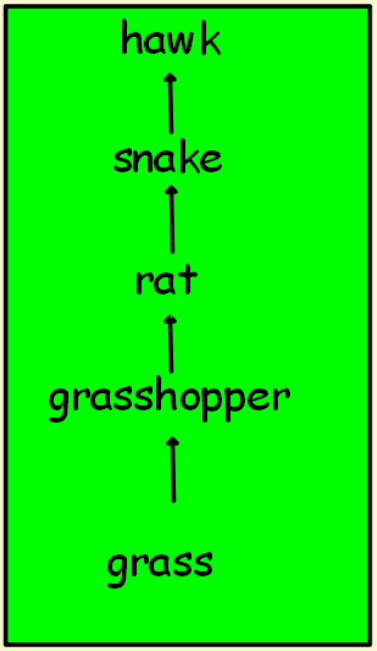
Quarternary Consumer:
Feeds on the tertiary consumer

Tertiary Consumer:
Feeds on the secondary consumer

Secondary Consumer:
Feeds on the primary consumer

Primary Consumer:
Organism that feeds on the producer

Producer: Always the first level in the food chain



Producer:

Arrange the organisms into the correct level!

phytoplankton

Primary Consumer:

zooplankton

Secondary Consumer:

fish

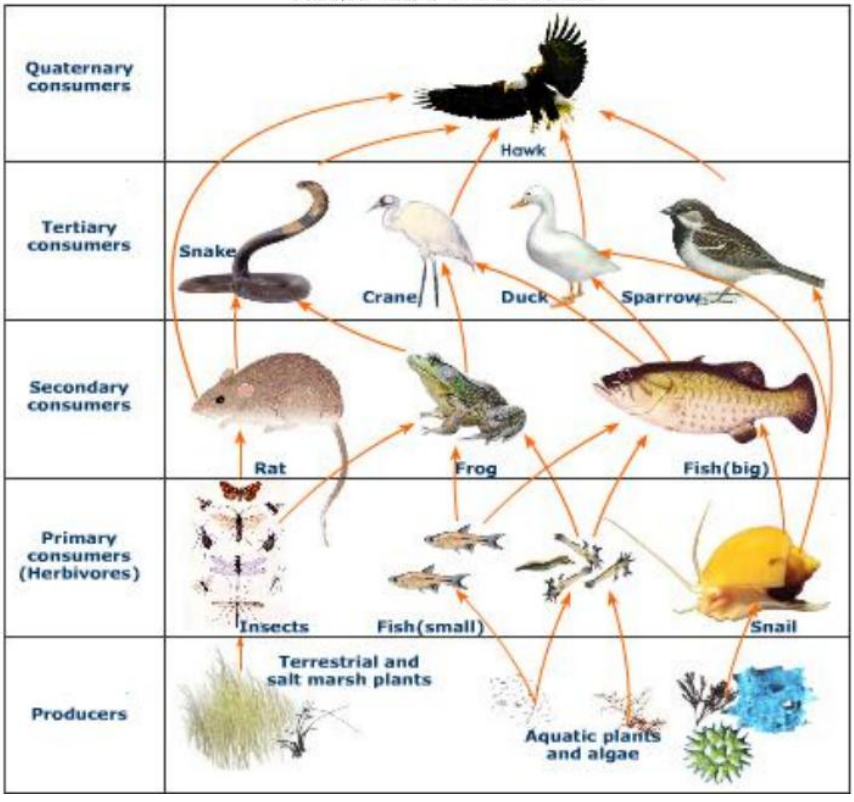
Quaternary Consumer:

shark

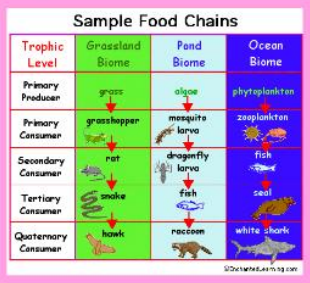
Tertiary Consumer:

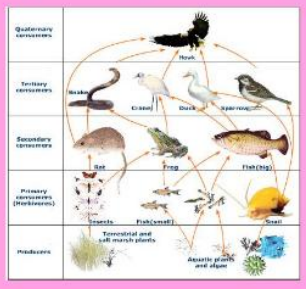
seal

SAMPLE FOOD WEB



WHAT DIFFERENCES DID YOU SEE BETWEEN THE TWO TYPES OF CHARTS?

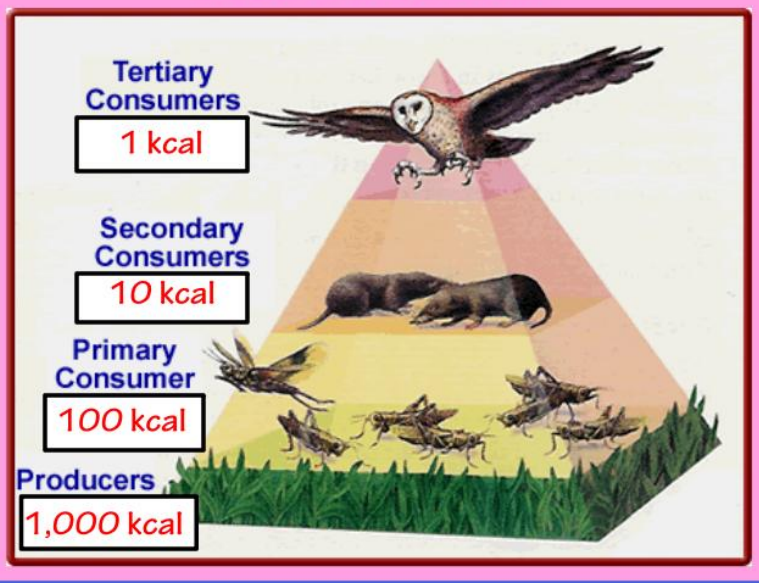




LET'S SEE IF YOU CAN PLAY....

THE FOOD CHAIN GAME!

WHAT'S HAPPENING TO THE ENERGY AS IT TRAVELS THROUGH THE SYSTEM?



Energy Role:

- determined by how an organisms gets energy from its environment
- Ex: producers, consumers, decomposers

Producer:

- an organism that makes its own food
- captures sunlight and turns it into usable energy
- Examples: trees, grass, phytoplankton

Consumers:

- any organsism that feeds on other organisms
- Different types:
  - herbivore (eats only plants)
  - carnivore (eats meat)
  - omnivore (eats plants and meat)
  - scavinger (eats dead organisms)

- Ex: you, me, birds, insects, zooplankton)

Decomposers:

- break down dead materials and return them to the environment

- Ex: bacteria, slime molds, mushrooms

Food Chain:

- one organism eats another and gets energy from that relationship.

- different than a food web.
- must start with a producer
- then to...
  - primary consumer (eats producers)
  - secondary consumer (eats primaries)
  - tertiary consumer (eats secondaries)
  - quaternary consumer (eats tertiaries)

Food Web:

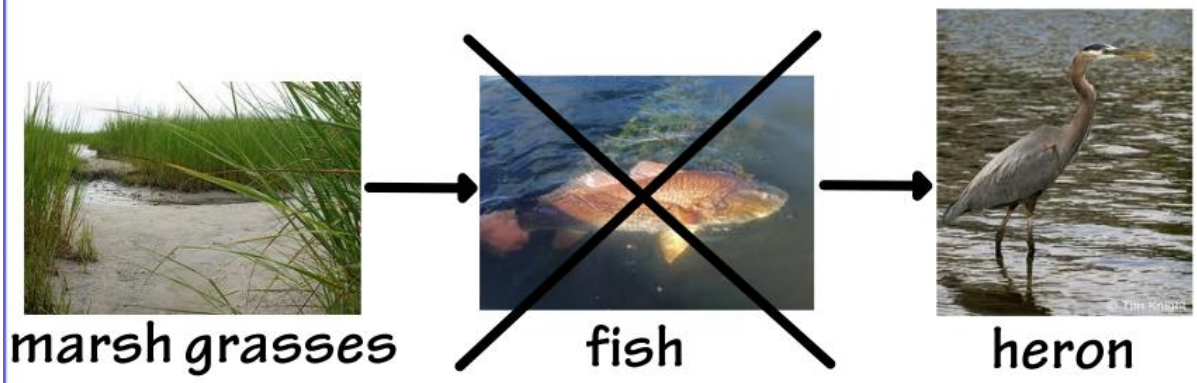
- shows the flow of energy through an ecosystem.

- has many overlapping food chains within it.

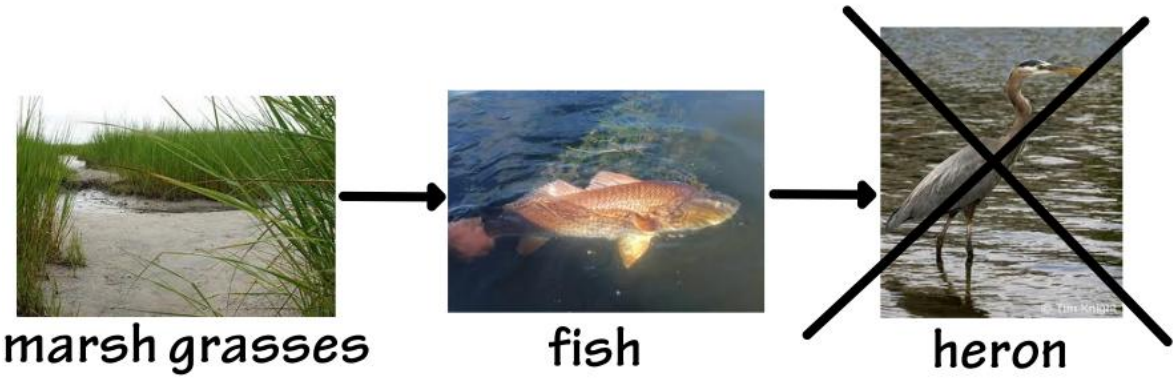
- all organisms in a food web are connected

Energy Pyramid:

- shows the amount of energy passed from one organism to the next within a food web.
- at each level, there is less energy available than the level before it.



What would happen if the fish population suddenly decreased?



What would happen if the heron population suddenly decreased because they moved to a different habitat?