

**Ministry of Higher Education
and Scientific Research
University of Ishik
College of education
Department of Biology**

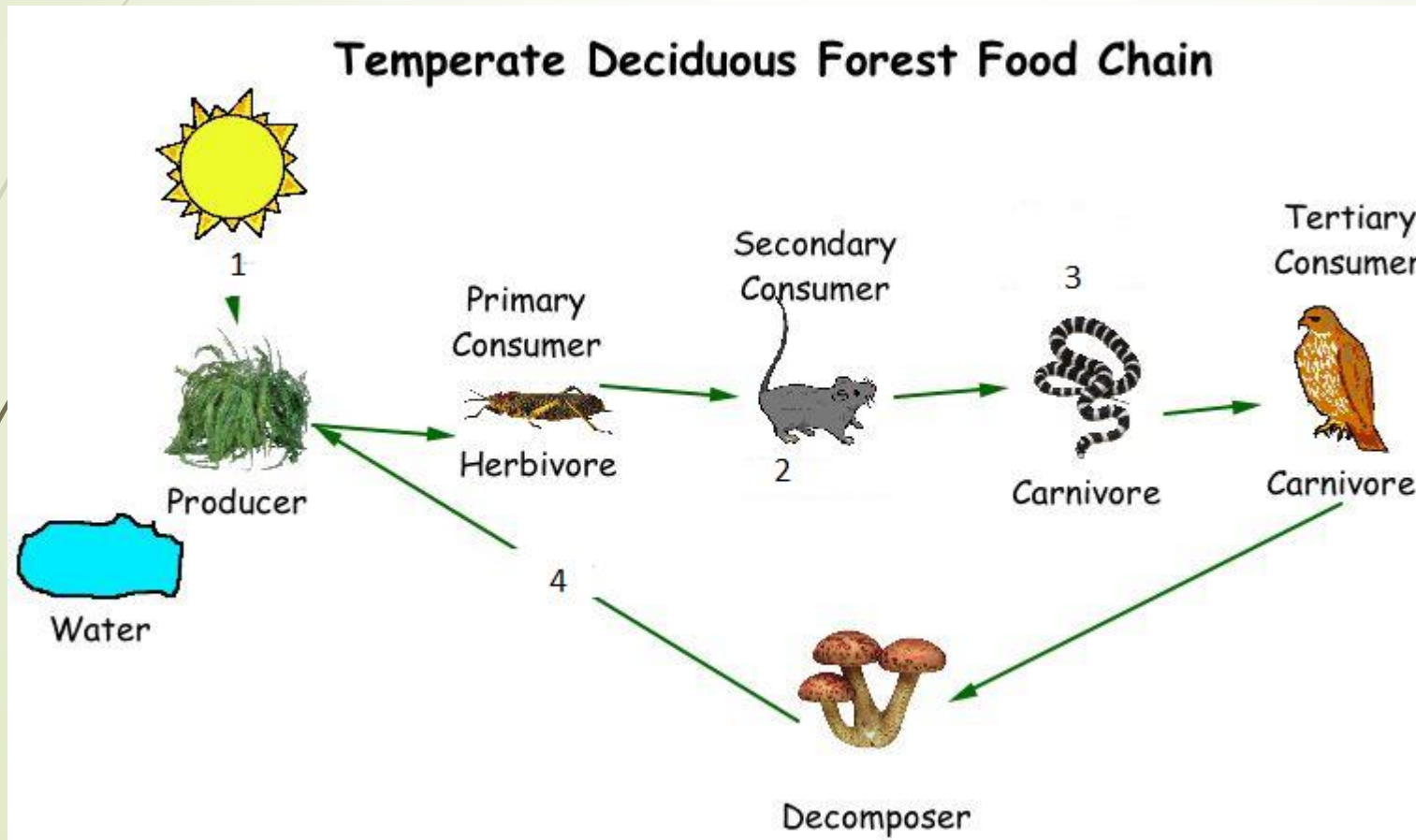


**Practical Ecology
Ecological Pyramid
7th lab.
2017- 2018 (3rd Grade)**

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QUIZ

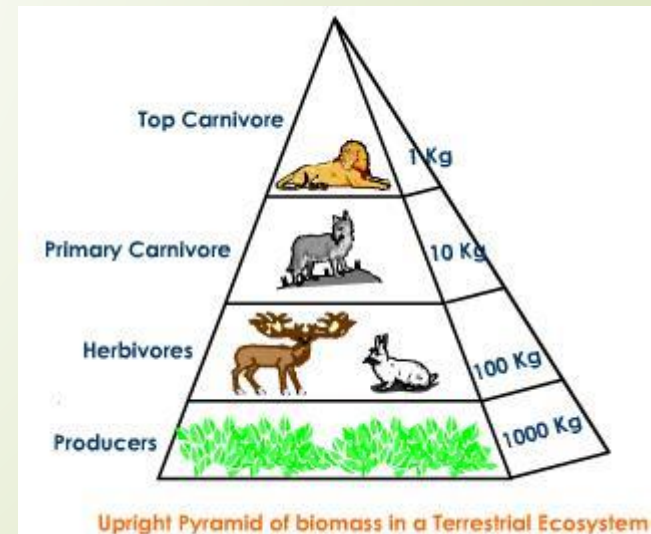
- Define scavenger .
- Write the name of the labeled part :D



What is Ecological Pyramid ?

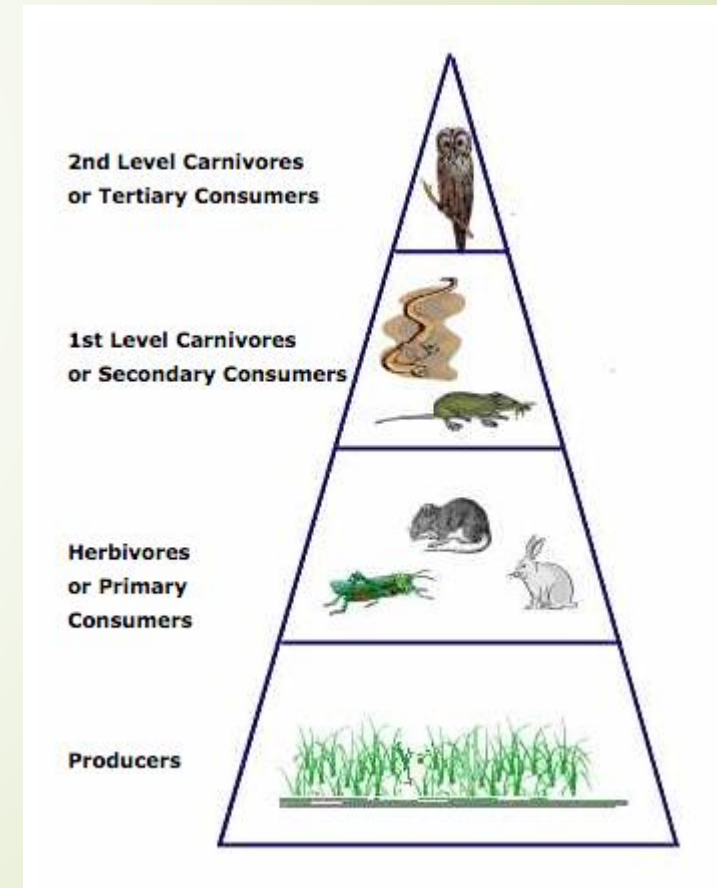
An ecological pyramid is a graphical representation designed to show the number of organisms, energy relationships and biomass of an ecosystem

Succeeding levels in the pyramid represent the dependence of the organisms at a given level on the organism at the lower level.



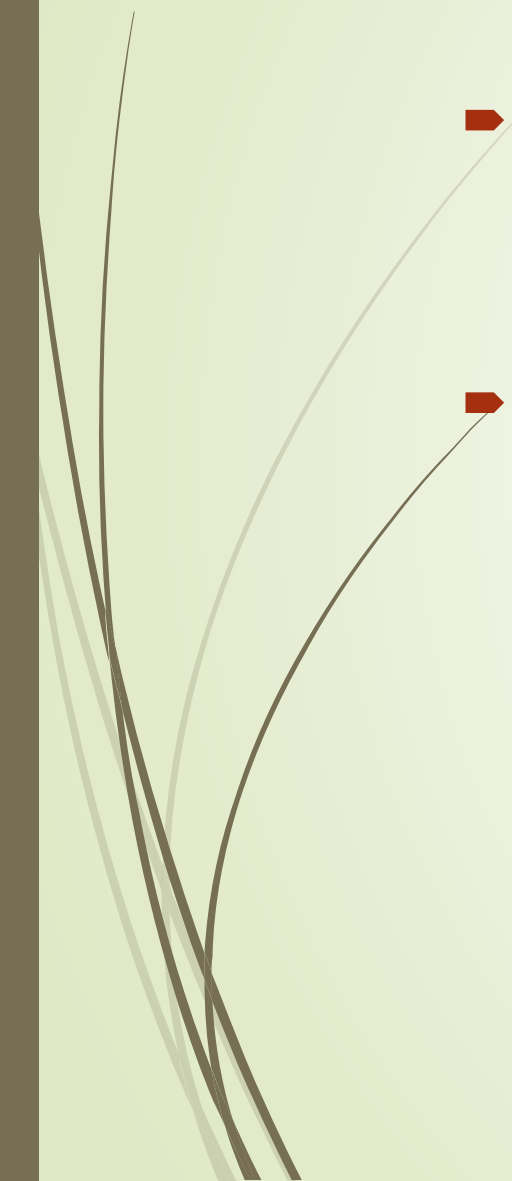
Why are ecological pyramids shaped as pyramids?

- ▶ When the food passed from primary producers to secondary consumers and then to tertiary consumers (carnivores), it is estimated that about 10% of energy is lost during the process. To graphically explain this concept, ecologists came up with the pyramid diagrams, hence the 'Ecological Pyramids.'



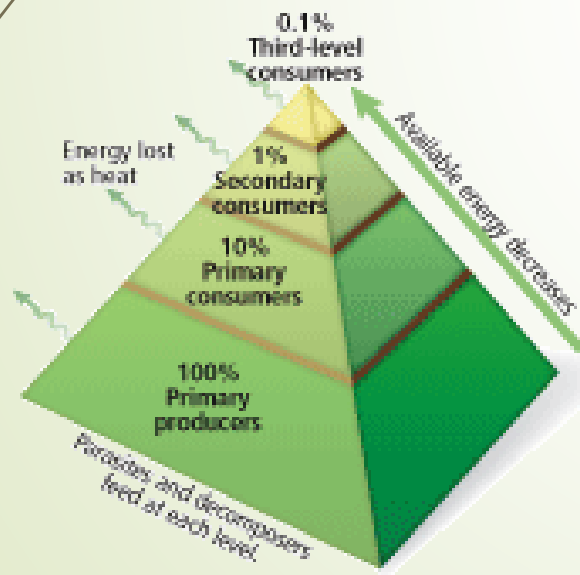


Function of Ecological Pyramid

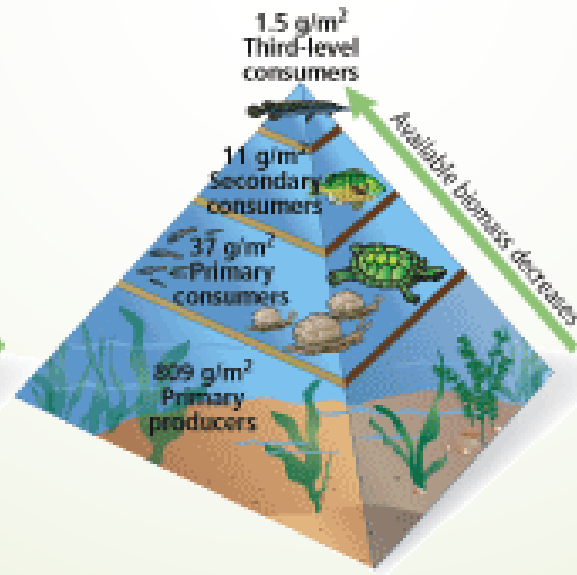
- ▶ An ecological pyramid not only shows us the feeding patterns of organisms in different ecosystems, but can also give us an insight into how inefficient energy transfer is, and show the influence that a change in numbers at one trophic level can have on the trophic levels above and below it.
 - ▶ Also, when data are collected over the years, the effects of the changes that take place in the environment on the organisms can be studied by comparing the data. If an ecosystem's conditions are found to be worsening over the years because of pollution or overhunting by humans, action can be taken to prevent further damage and possibly reverse some of the present damage.
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Types of Ecological Pyramid

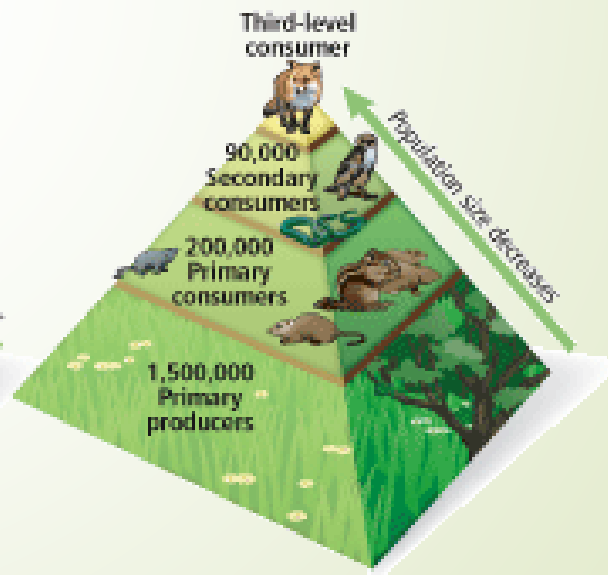
- ▶ Pyramids of Production (Energy)
- ▶ Pyramids of Biomass
- ▶ Pyramids of Number



Pyramid of Energy



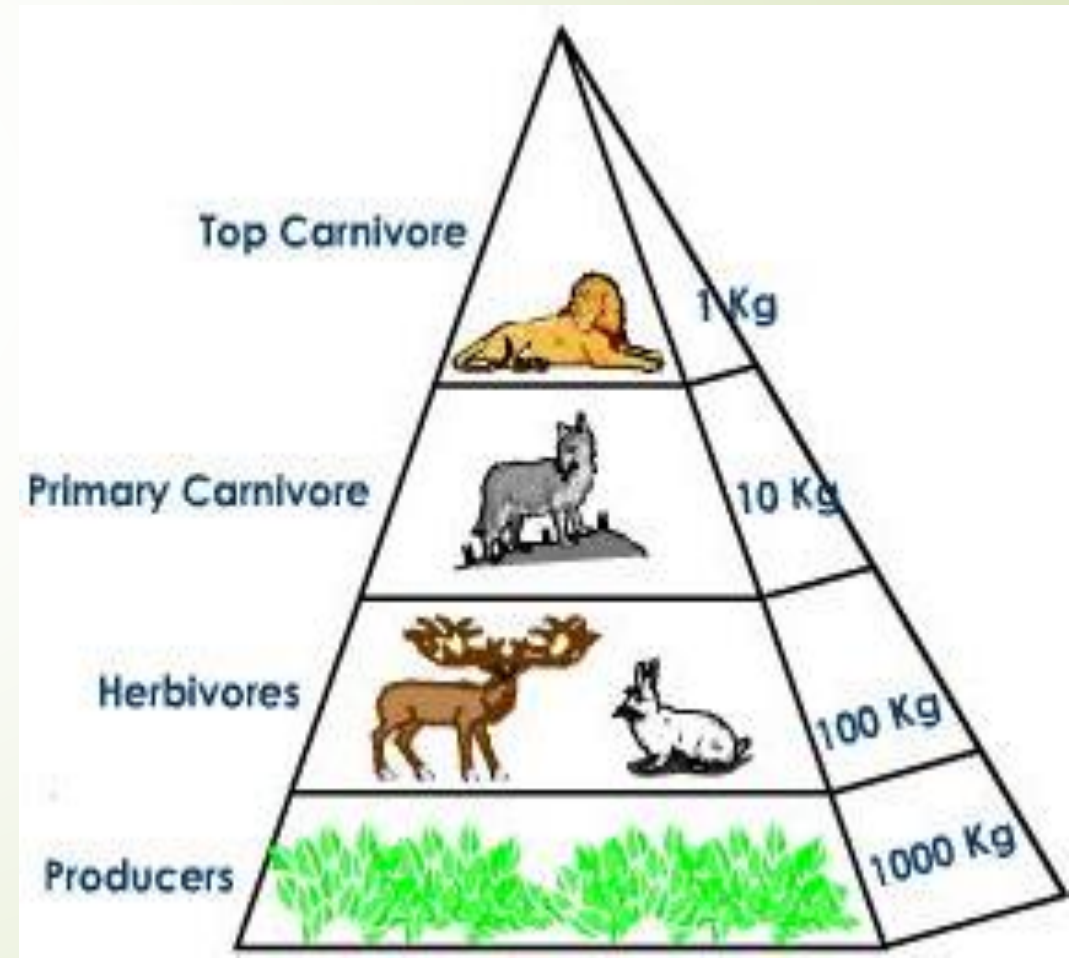
Pyramid of Biomass

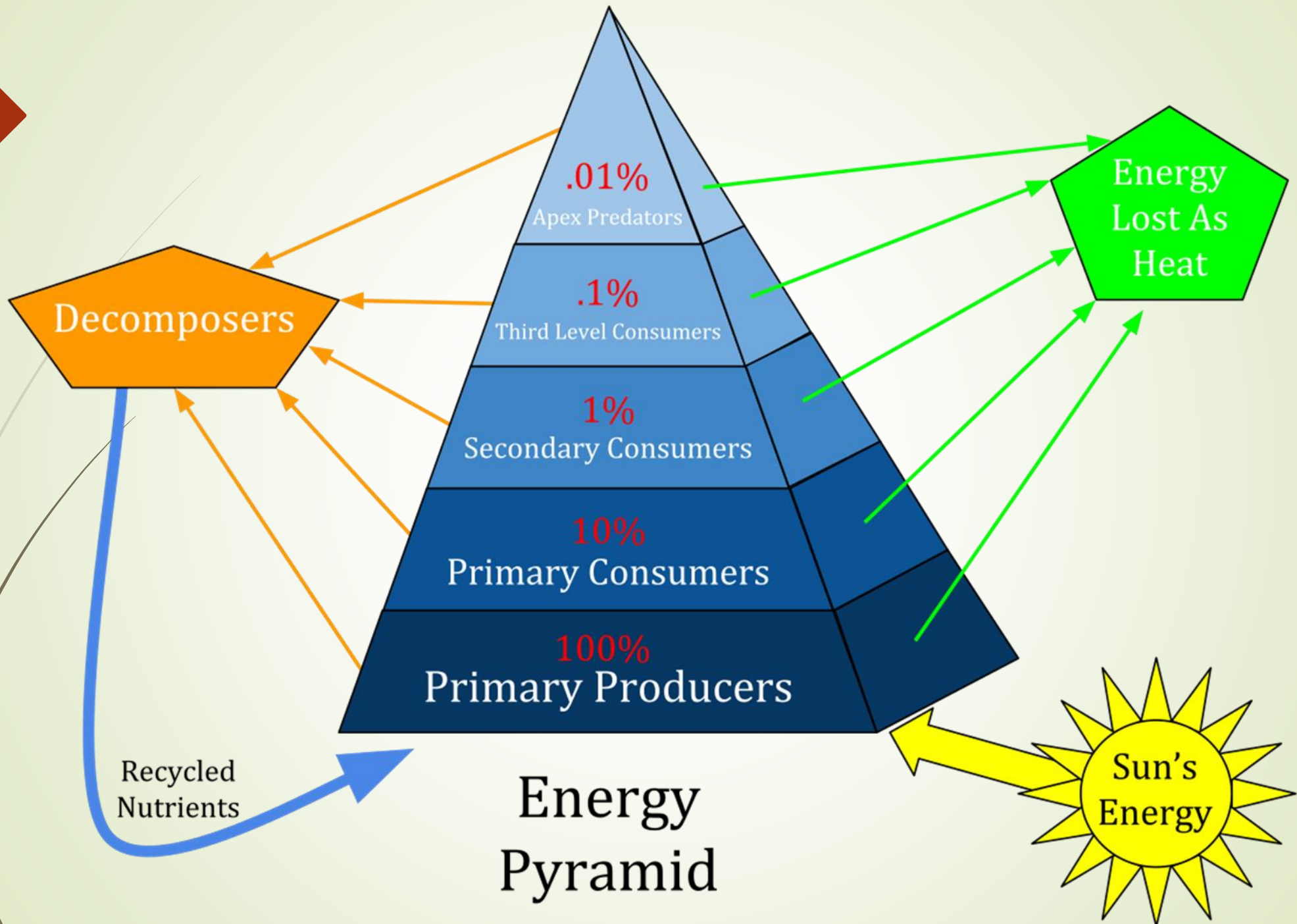


Pyramid of Numbers

Pyramids of Production

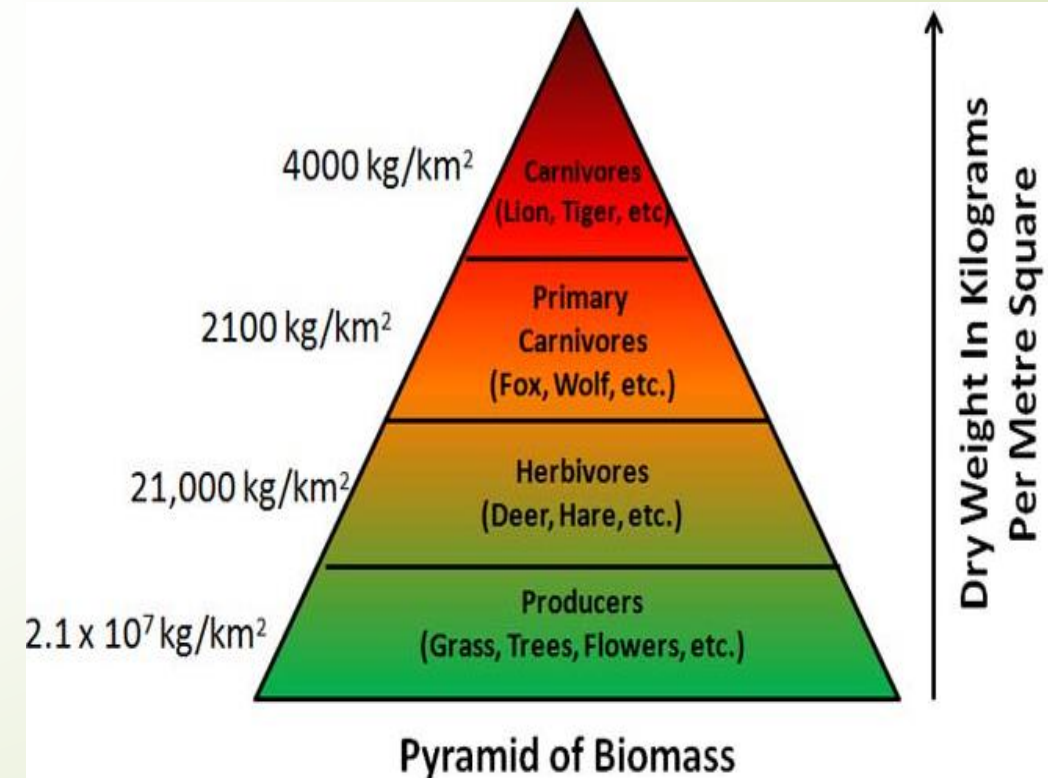
- ▶ A "**pyramid** of productivity" is often more useful, showing the **production** or turnover (the rate at which energy or mass is transferred from one trophic level to the next) of biomass at each trophic level. Instead of showing a single snapshot in time, productivity **pyramids** show the flow of energy through the food chain.
- ▶ is the pyramid of energy that shows the overall energy in the ecosystem and how much energy is required by organisms as it flows up the higher trophic levels.





Pyramids of Biomass

- Biomass is defined as the amount of biomass per unit area product of the living material present in an organism and the total number of organisms present) in a specific trophic level. In less complicated terms, it refers to the food available for the succeeding trophic level.

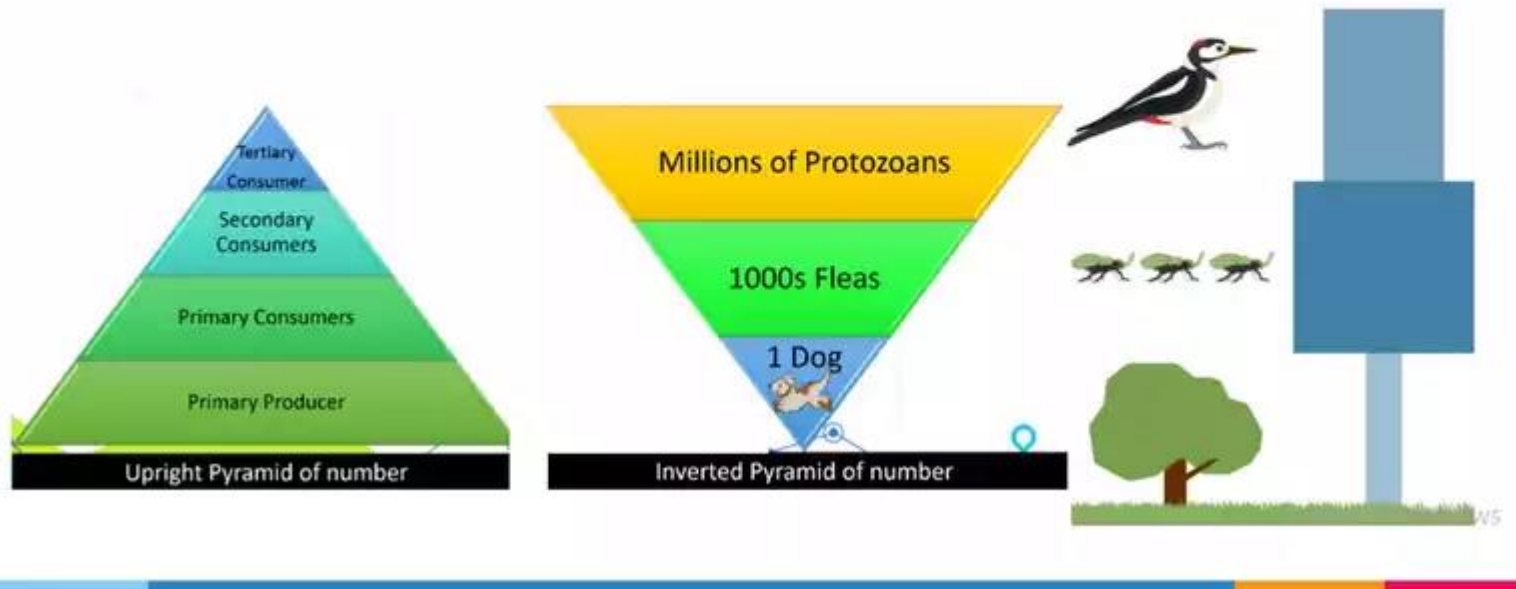


Pyramids of Number

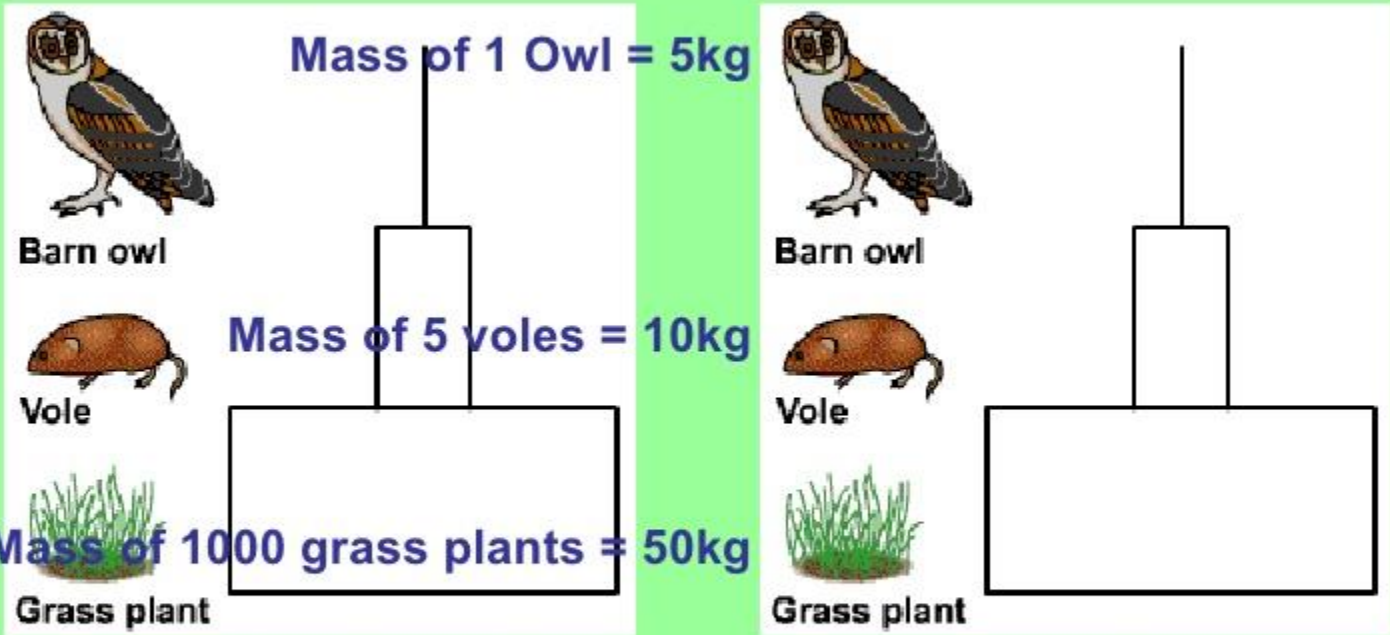
- ▶ A **pyramid of numbers** is a graphical representation that shows the **number** of organisms at each trophic level. It is an upright **pyramid** in light of the fact that in an ecosystem, the producers are always more in **number** than other trophic levels
- ▶ This type of pyramid can have two different forms depending on the number of organisms: *upright* and *inverted*.



Pyramids of Numbers

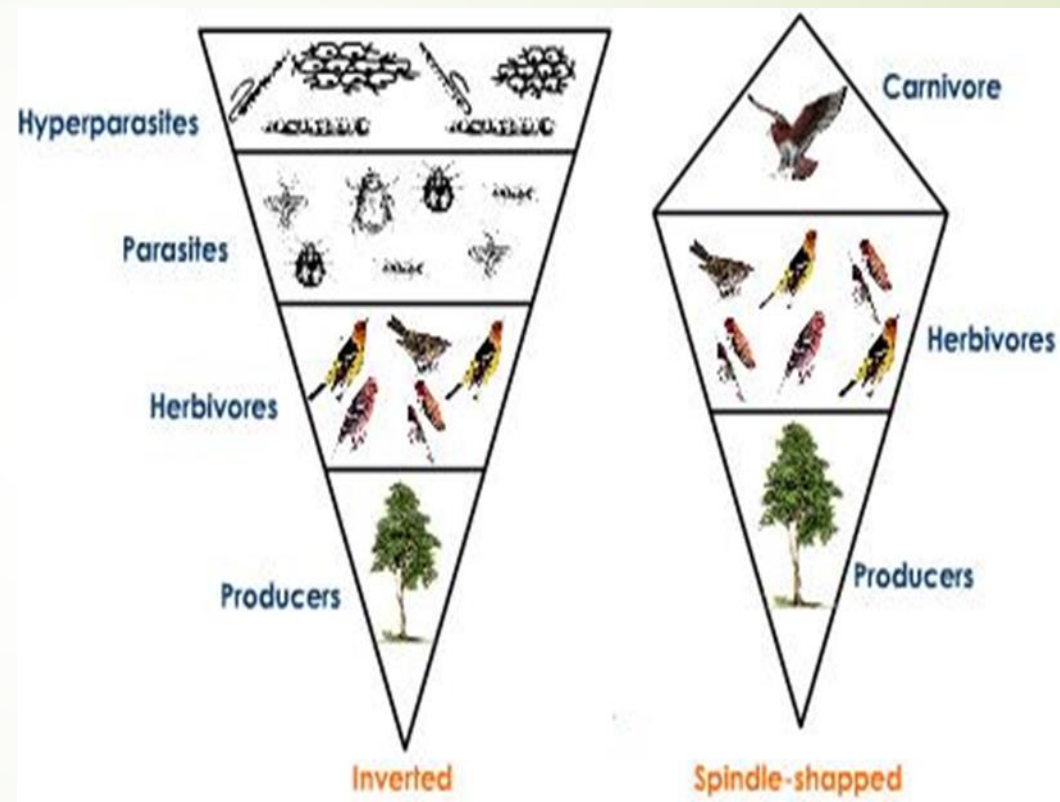


Pyramid of biomass

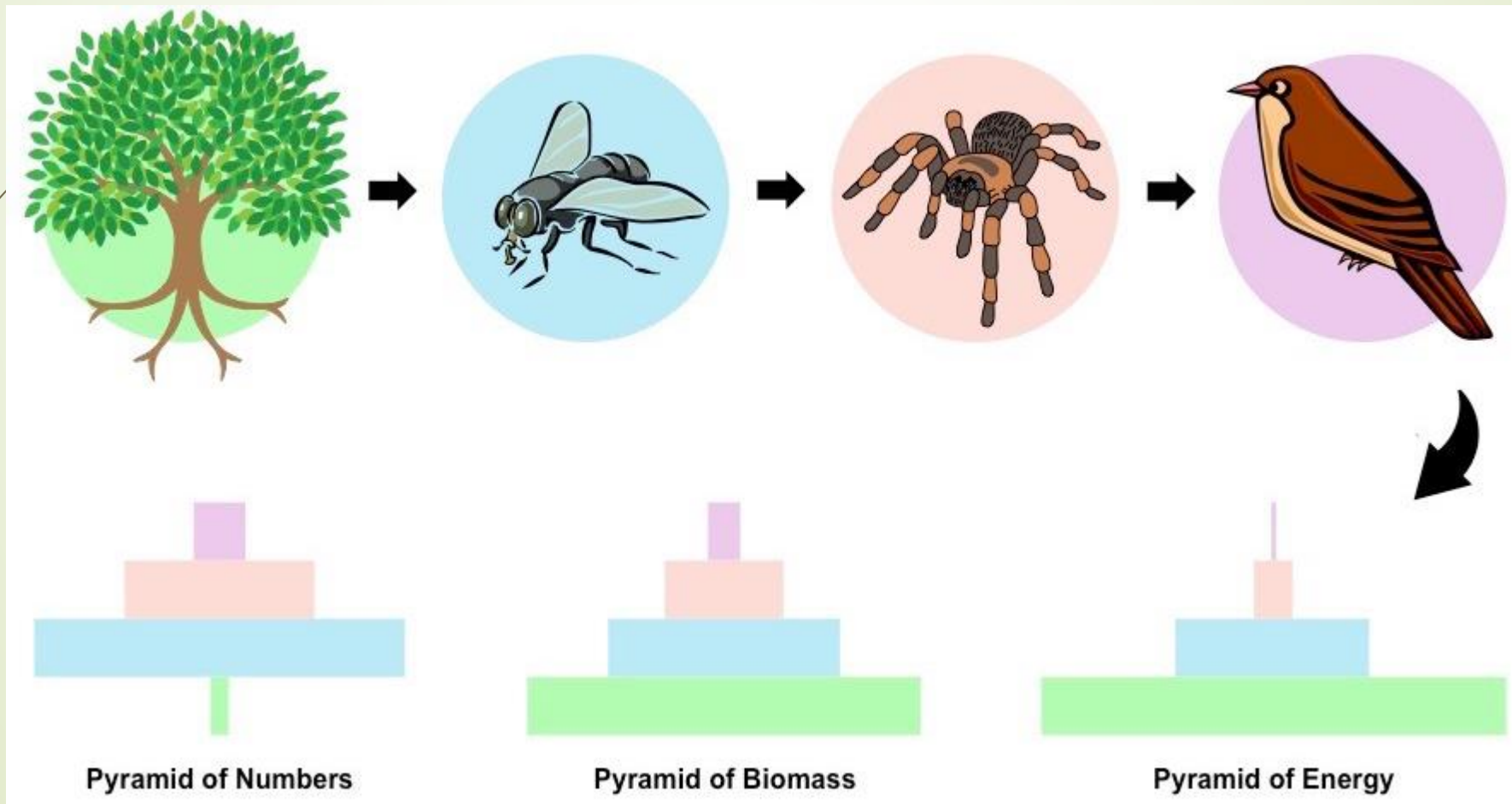


Pyramid of numbers

Pyramid of biomass



- Among the three types of ecological pyramids, the pyramid of number is the least accurate for it does not take account the exact number of population and therefore cannot completely define the trophic structure in that ecosystem.





THANK YOU FOR YOUR ATTENTION 😊



ANY QUESTIONS ???