



Ecological Trophic Pyramids

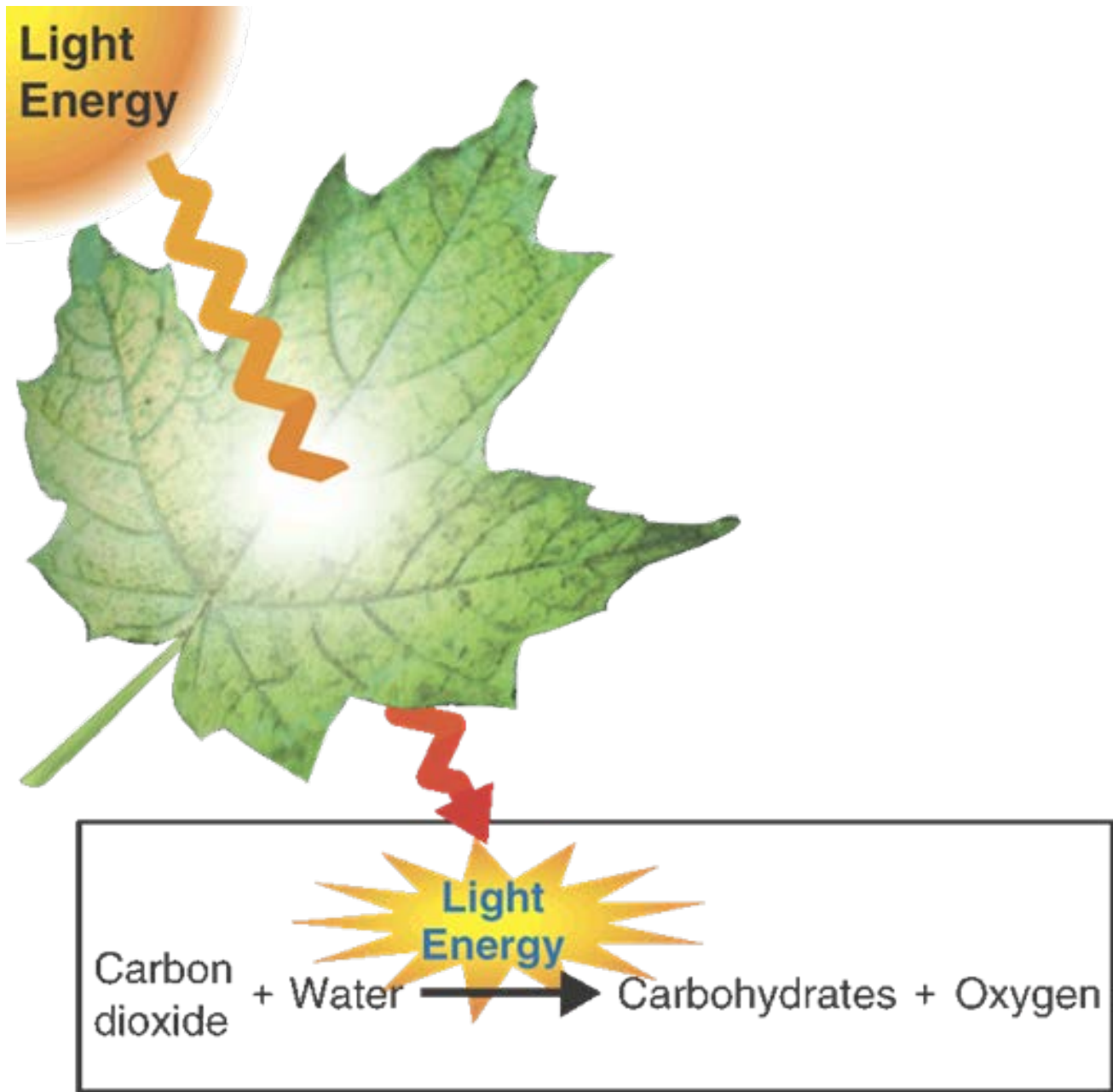


- A species -
- **Populations** -
- **Communities** -

- All of the above live in the same area

Producers

- Sunlight -
- Only plants, some algae, and certain bacteria can capture energy
- **autotrophs.**
- Because they make their own food, also called _____



PHOTOSYNTHESIS IN PLANTS

- There are many different types of heterotrophs (consumers).
 - _____ eat plants.
 - _____ eat animals.
 - _____ eat both plants and animals.
 - **Detritivores** -
 - **Decomposers** -

- Energy flows _____

- From _____ to _____

Trophic Levels

- Each step in a food chain or food web is called a _____.
- Each consumer depends on the trophic level below it for energy.

3 uses of Consumed Matter

1. _____ – building a nest, protecting young, looking for food
2. _____ – leaves, stems, bigger muscles
3. _____ into the atmosphere
 1. Most as heat

Ecological Pyramids

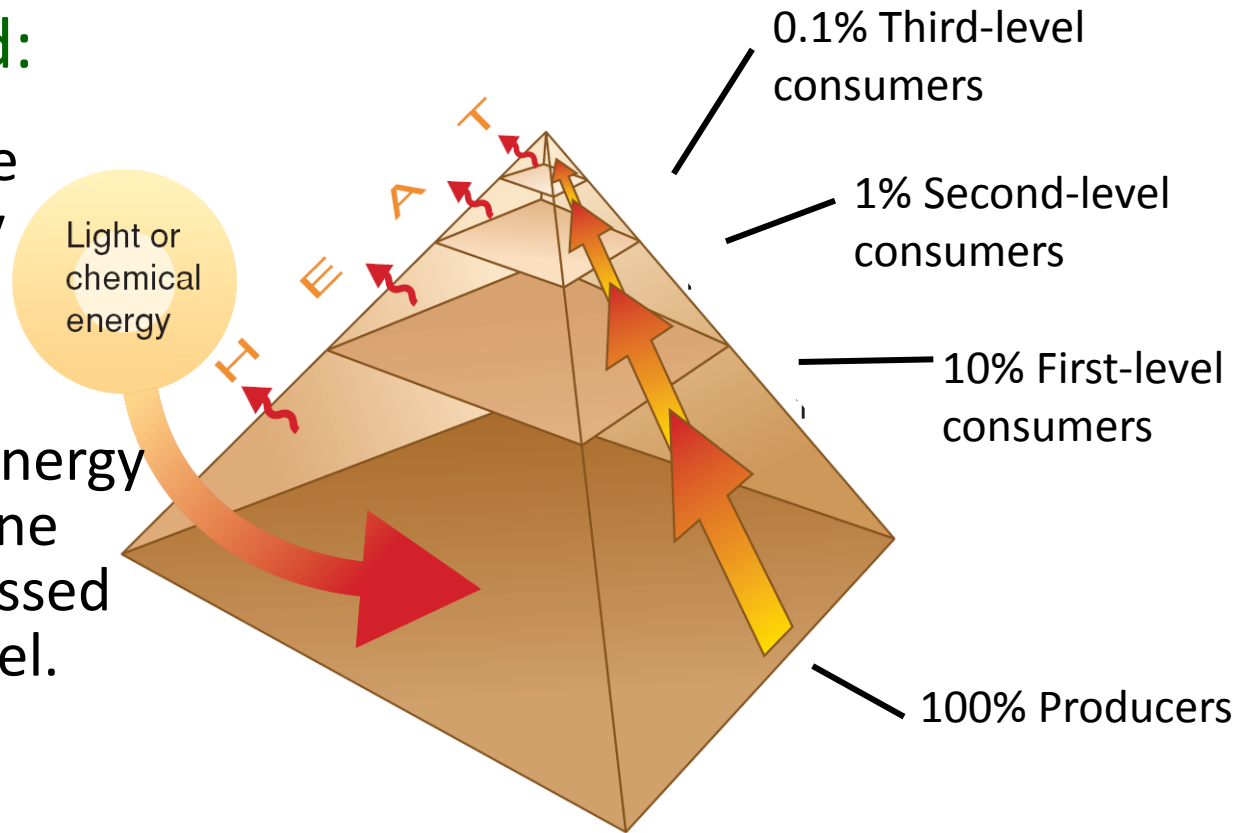
- An **ecological pyramid** is a diagram that shows the relative amounts of energy or matter contained within each trophic level in a food chain or food web.

Ecological Pyramids

Energy Pyramid:

Shows the relative amount of energy available at each trophic level.

Only part of the energy that is stored in one trophic level is passed on to the next level.

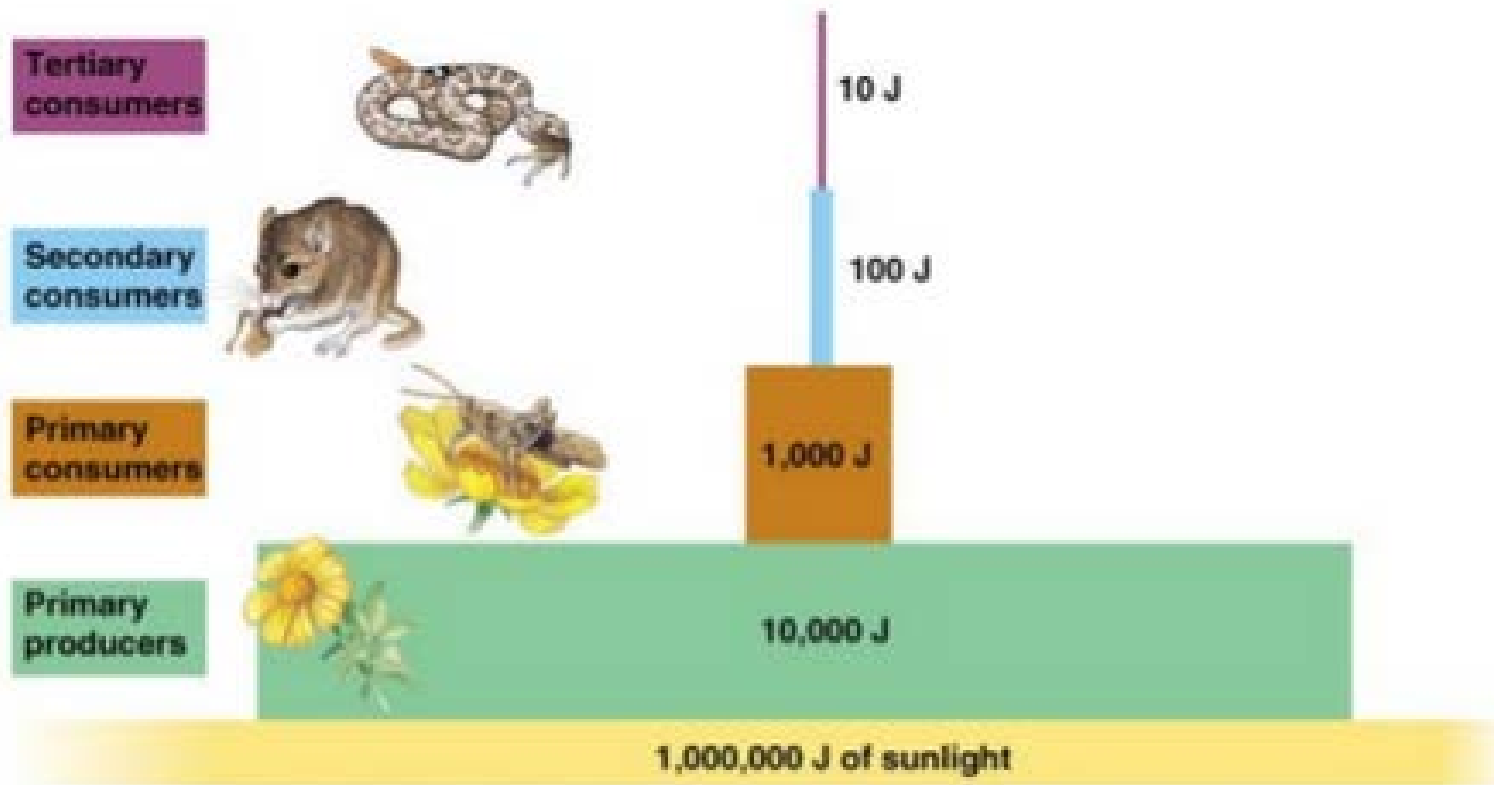


- The more levels that exist between a producer and a top-level consumer in an ecosystem, the less energy that remains from the original amount.
- Only about **10 percent** of the energy available within one trophic level is transferred to organisms at the next trophic level.

3 Ecological Pyramids – What is it and how is it measured(units)?

1. Pyramid of Energy -
2. Pyramid of Biomass -
3. Pyramid of numbers -

Trophic Levels



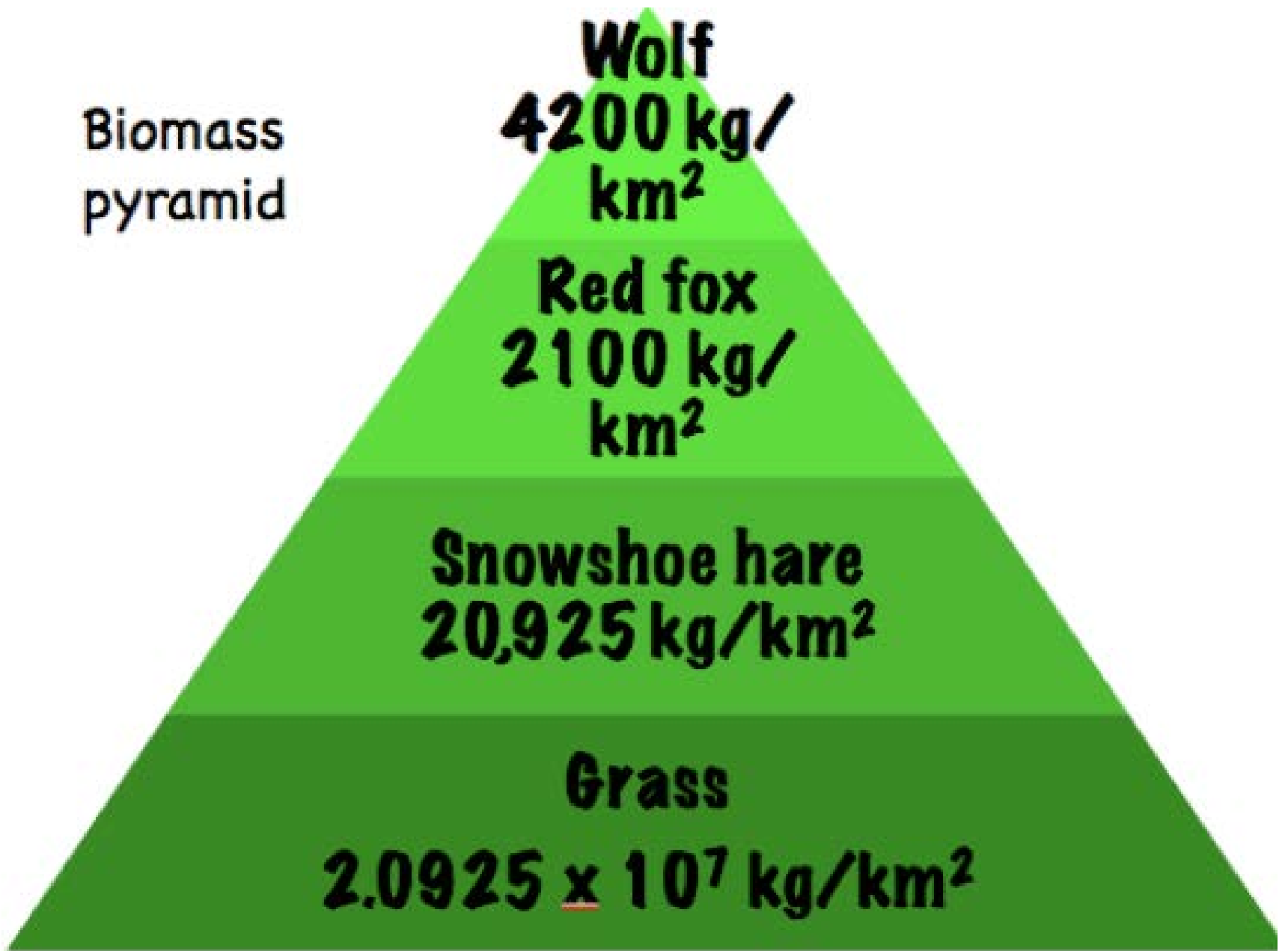
Biomass
pyramid

Wolf
**4200 kg/
km²**

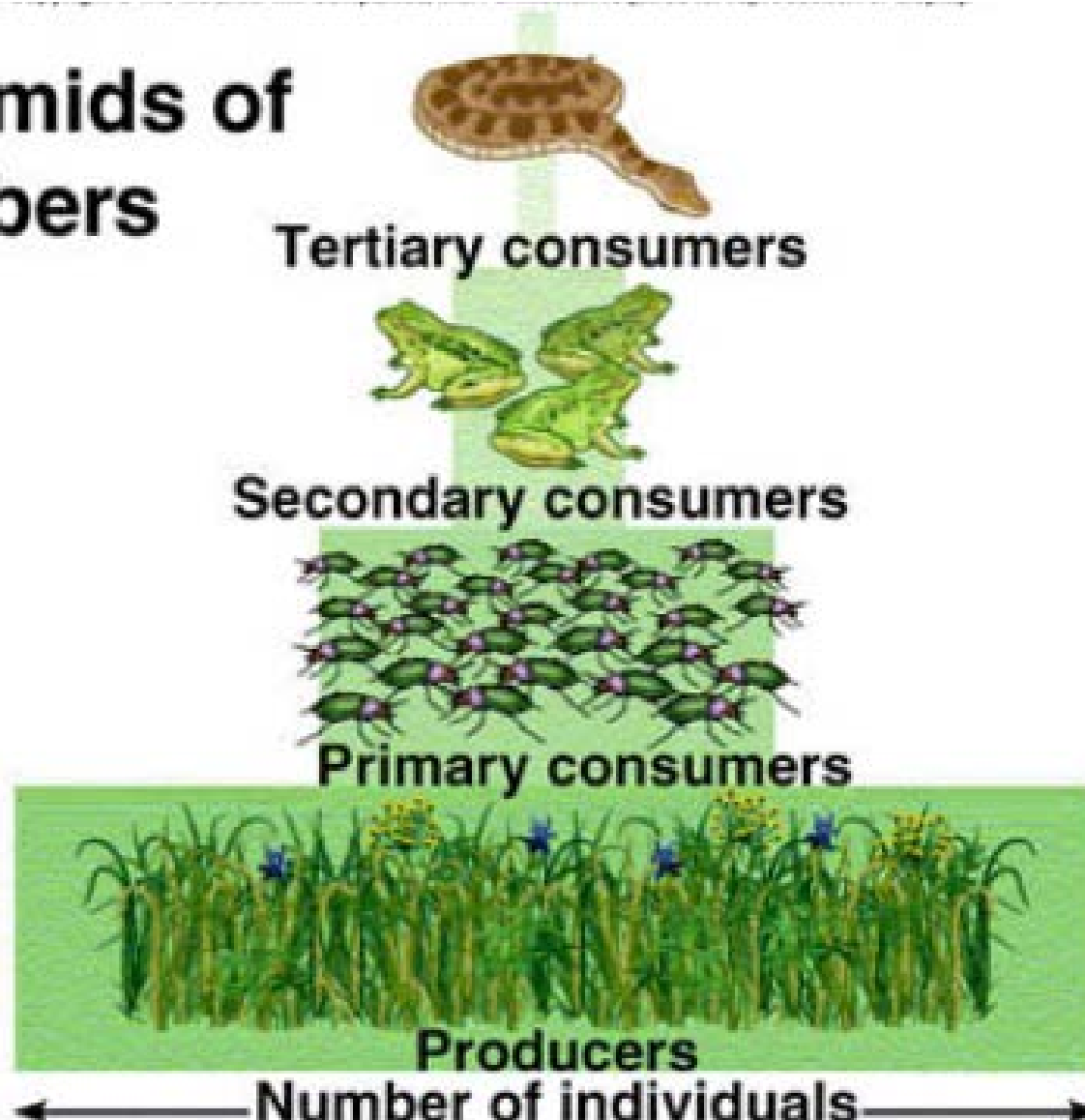
Red fox
**2100 kg/
km²**

Snowshoe hare
20,925 kg/km²

Grass
2.0925 x 10⁷ kg/km²



Pyramids of numbers





Sparrowhawk
(Tertiary consumer)



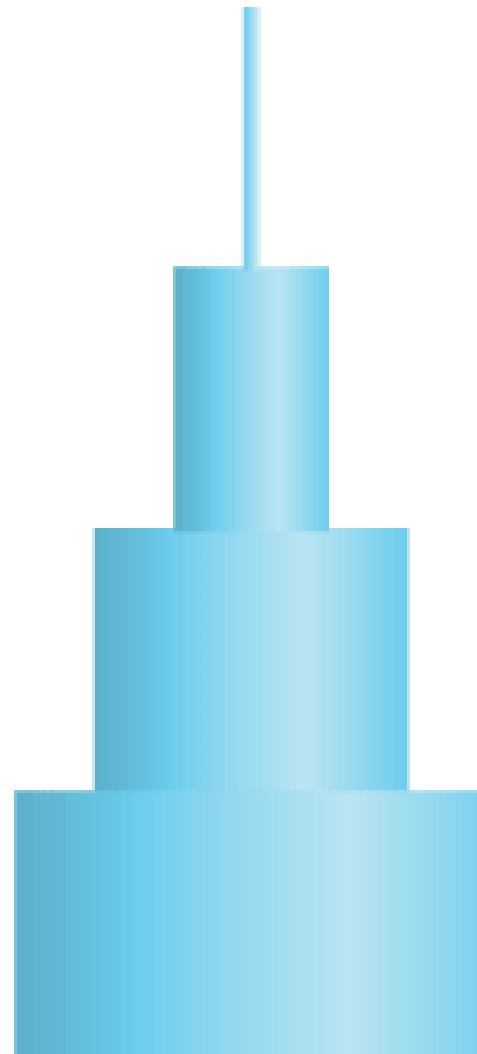
Thrush
(Secondary consumer)



Snail
(Primary consumer)



Clover
(Producer)





Woodpecker
(Secondary consumer)

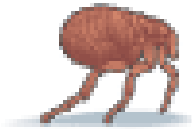


Insects
(Primary consumer)



Oak tree
(Producer)

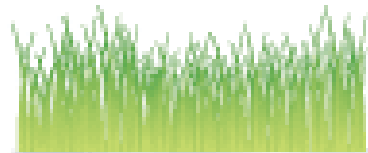




Flea
(Secondary consumer)



Rabbit
(Primary consumer)



Grass
(Producer)

