

Section Quiz 13.6: PYRAMID MODELS

Choose the letter of the best answer.

- _____ 1. Each level in a food chain contains less energy than the one below it because some energy is
- added to the system.
 - lost as heat.
 - consumed by carnivores.
 - incorporated into biomass.
- _____ 2. The term biomass refers to the total
- dry mass of the organisms in a given area.
 - unused material excreted as waste.
 - producer-to-consumer ratio.
 - mass of all living things on Earth.
- _____ 3. A diagram that shows how available energy is distributed among trophic levels in an ecosystem is called a(n)
- food pyramid.
 - pyramid of numbers.
 - food web.
 - energy pyramid.
- _____ 4. A biomass pyramid is a diagram that compares the
- masses of different organisms.
 - numbers of different organisms.
 - biomass of different trophic levels.
 - distribution of energy in trophic levels.
- _____ 5. A diagram that shows the numbers of individual organisms at each trophic level in an ecosystem is called a(n)
- biomass pyramid.
 - pyramid of numbers.
 - energy pyramid.
 - inverted pyramid.

Reinforcement 13.6: PYRAMID MODELS

KEY CONCEPT Pyramids model the distribution of energy and matter

An **energy pyramid** shows the distribution of energy among trophic levels. **Biomass** is a measure of the total dry mass of organisms in an ecosystem. When a consumer incorporates the biomass from a producer into its own biomass, some of the energy is lost as heat and waste. The loss of energy between trophic levels can be as much as 90 percent, meaning only 10 percent of the available energy is transferred from one trophic level to another. A typical energy pyramid has a very large section at the base for the producers, and tiers that become smaller the higher the trophic level.

Two other pyramid models are biomass pyramids and pyramids of numbers.

- A biomass pyramid compares the biomass of different trophic levels within an ecosystem. This pyramid model shows the mass of producers needed to support primary consumers, the mass of primary consumers needed to support secondary consumers, and so on.
- A pyramid of numbers shows the numbers of individual organisms at each trophic level in an ecosystem.

1. What is an energy pyramid?

2. What is biomass?

3. Describe the flow of energy from one trophic level to another.

4. What is the difference between a biomass pyramid and a pyramid of numbers?
