

Biologist _____

Date _____

Ecology Study Guide – ANSWERS!

1. What is Ecology?

The scientific study of species interactions with biotic and abiotic factors.

2. What are the levels of organization in ecology? Start with Species end with Biome.

Species → Population → Community → Ecosystem → Biome

3. What are primary producers?

Organisms that create their own food

4. What are primary and secondary consumers?

Primary consumers are herbivores. Secondary consumers are omnivores or carnivores.

5. What is a food web? Food chain?

Food Web – Interconnected complex model showing the interaction tracing the flow of energy from producers to consumers.

Food Chain – A series of hierarchal steps showing one direction flow of energy in an ecosystem.

6. What are two ways primary producers make their own food? What is the most common?

Producers use Photosynthesis and Chemosynthesis to make their food. Photosynthesis is most common.

7. What is biomass?

Biomass is the amount of living material in each trophic level.

8. What are the five different types of consumers? What is another name for a consumer?

Herbivore – Eats Plants

Omnivore – Eats plants and animals

Decomposer – Recycles dead material

Scavenger – Eats animals that have already been killed

Detritivore – Breaks dead organic material up by consuming it

9. What is a trophic level?

A step on a food chain

10. What do decomposers do for an ecosystem?

Recycle matter from dead organic matter for other living systems to use.

11. How much energy gets transferred between trophic levels?

10%

12. What does the remaining energy get eliminated as?

It gets eliminated as heat.

13. What are biotic factors? Abiotic factors?

Biotic – Living things

Abiotic – Non-living things

14. What is at the base of all ecological pyramids?

PRODUCERS

15. What is an organism's niche?

A niche is an organism's role in its environment. Like it's Job. It's a combination of its interaction with the biotic and abiotic factors in its ecosystem.

16. What is the competitive exclusion principle?

It states that no two species can occupy the exact same area at exactly the same time completing the exact same niche.

17. What is a symbiotic relationship?

It is a relationship where two organisms live very close together and interact with one another.

18. What is mutualism? Commensalism? Parasitism?

Mutualism – when both species benefit

Commensalism – when one species benefits and the other isn't helped or harmed

Parasitism – when one species benefits and the other is harmed

19. What is exponential growth?

The rapid growth of a population under ideal conditions

20. What is a limiting factor?

A resource that controls (limits/reduces) the size of a population

21. What are density-independent limiting factors?

A limiting factor that is NOT dependent on population size

Example – Fire, Earthquake, Tornado, Hurricane, Flood

22. What are density-dependent limiting factors?

A limiting factor that IS dependent on population size

Example – Disease, Predators