

Name: _____ Block: _____

Chapter 8: Matter and Energy in the Environment

Study Guide due: _____ Test on: _____

1. Identify the composition of our atmosphere. Include the percentages of each gas.

2. Name the 6 abiotic factors and describe each factor's role in the ecosystem.

Abiotic Factor	Role or Importance in the Ecosystem

3. Weather conditions include _____, _____, and _____.

4. Matter cycles through the ecosystem in the _____ cycle, _____ cycle, _____ cycle, and _____ cycle.

5. Draw the water cycle. Include definitions and arrows showing how water cycles through the atmosphere.

6. What is transpiration?

7. Describe the role of animals in the nitrogen cycle.

8. Describe producers, for example, phytoplankton's role in the Oxygen Cycle.

9. What process is responsible for returning carbon to the soil and releasing CO₂ back to the atmosphere?

10. Carbon is stored in fossils fuels such as _____, _____, and _____.

11. Compare and contrast photosynthesis and chemosynthesis.

How are they similar?	How are they different?

12. Describe how nitrogen is necessary for life on Earth.

13. Complete the chart.

Term	Definition	Examples
Producer		
Consumer		
• Herbivore		
• Omnivore		
• Carnivore		
• Detritivore		
• Decomposers		

14. Using the terms listed below, create AND label a food chain. Include arrows showing the flow of energy.

Sun	Producer	Snake
Mouse	Owl	Emits energy
Consumer (use 3 times)	Grass	Herbivore
Carnivore (use 2 times)		

15. Matter and energy flow through an ecosystem. Sort the following terms based on how it flows through the ecosystem:

Water, Carbon, Nitrogen, Energy, Oxygen

One Direction	Cycles

16. Describe how a FOOD WEB is different than a FOOD CHAIN.

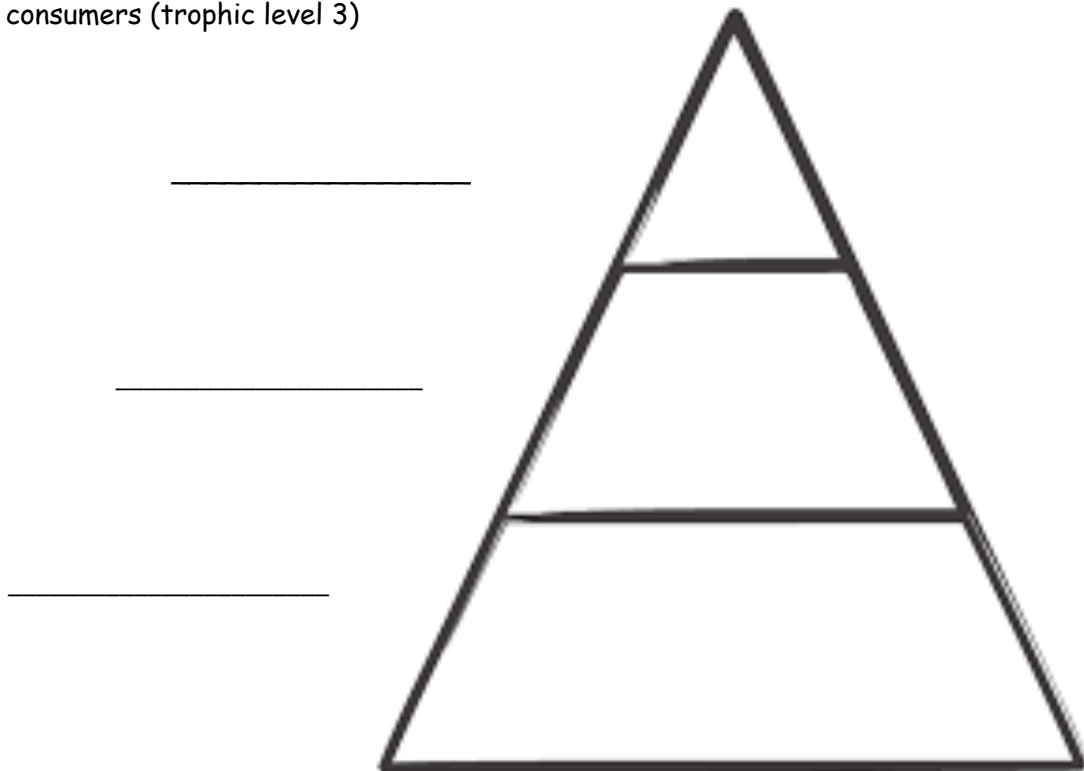
17. Is a food web or food chain a more accurate description of the energy flow within an ecosystem. Why?

18. Create an energy pyramid. Place the organisms in the correct level:

- Rabbit, flowers, mice, grass, hawk, trees

Label the trophic levels:

producer (trophic level 1), primary consumers (trophic level 2),
and secondary consumers (trophic level 3)



19. If 1000 kcal were available at the producer (trophic 1) level of the energy pyramid, how many kcal would be available at the secondary consumer (trophic 3) level?

20. What type of energy is stored in the organisms at each trophic level?