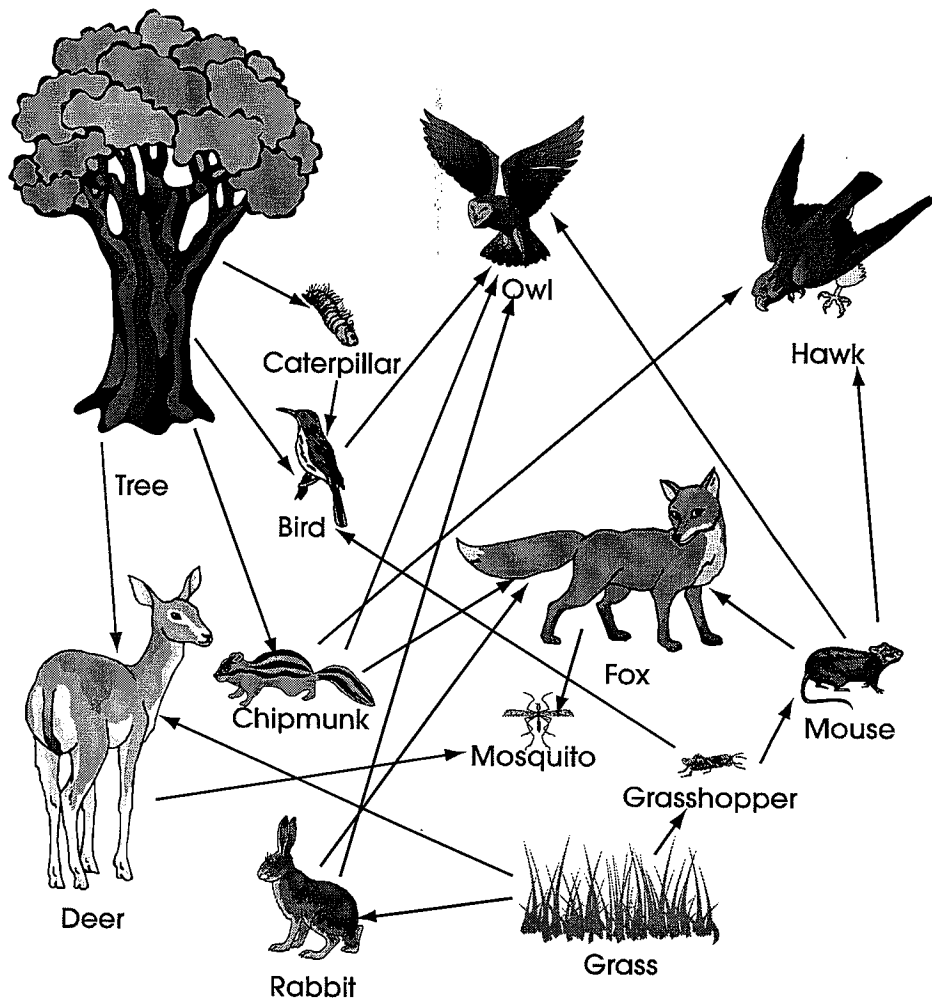


## Blizzard Bag #2 - Biology Assignment

Please read and answer the following OGT practice test on the answer document that follows. This assignment will be due two weeks from the date assigned. The only sheet that needs printed out is the answer document to be turned in.

15. The diagram below illustrates the relationships in a forest food web.

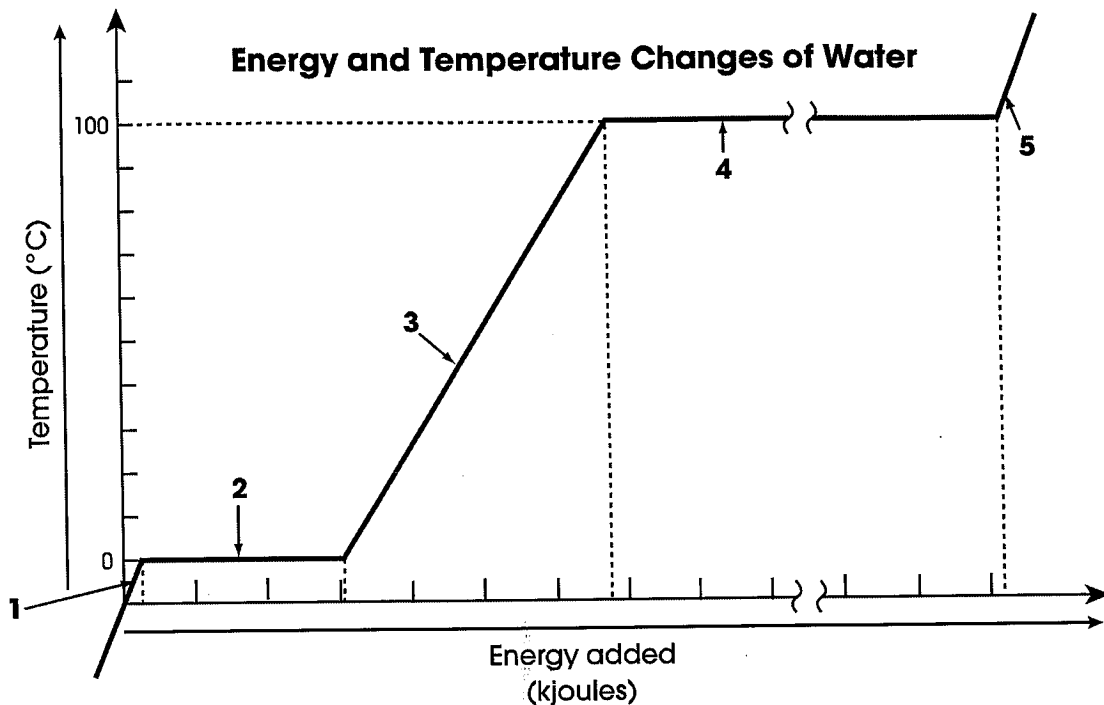


Based on this diagram, an ecologist would most likely conclude that a decrease in the fox population would result in

- A. an increase in the owl population.
- B. a decrease in the rabbit population.
- C. a decrease in the chipmunk population.
- D. an increase in the grasshopper population.

Use the information to answer question 22.

The following graph shows the change in temperature of a sample of  $H_2O$ , which begins as ice, as thermal energy is added.



22. Which region of the graph represents water ( $H_2O$ ) in the liquid form only?

- A. 1
- B. 2
- C. 3
- D. 4

23. A scientist uses a microscope to examine two slides of living bacteria. Each slide contains a different type of bacteria. While the cells on the first slide are moving rapidly, the cells on the second slide are stationary.

Based on these observations, the cells on the second slide most likely have no

- A. nucleus.
- B. flagella.
- C. chloroplasts.
- D. mitochondria.

24. A driver traveling from the coniferous region to the tundra region would most likely observe

- A. a decrease in air quality.
- B. a decrease in biodiversity.
- C. an increase in deciduous tree species.
- D. an increase in nighttime temperatures.

25. Telemedicine is defined as the practice of medicine from a distance. It allows doctors to communicate with patients and other health care workers from a remote area. Early ways of transmitting medical information included the postal service and telegraph. Identify two advances in technology that have improved the speed and accuracy of modern telemedicine. Explain how each improves the ability of doctors to treat or diagnose patients.

Respond in the space provided in your **Answer Document**. (4 points)

26. At 25°C, water has a density of 1.0 g/mL and vegetable oil has a density of 0.90 g/mL.

How would a substance with a density of 0.95 g/mL behave when placed in both oil and water?

- A. sink in both oil and water
- B. sink in oil and float on water
- C. float on oil and sink in water
- D. float on both oil and water

Use the partial periodic table to answer question 27.

6	— Atomic number
C	— Symbol
Carbon	— Name
12.0107	— Average Atomic Mass

**Partial Periodic Table of the Elements**

	IA 1									VIIIA 18
1	1 H Hydrogen 1.00794									2 He Helium 4.0026
		IIA 2A		IIIA 13	IVA 14	VA 15	VIA 16	VIIA 17		
2	3 Li Lithium 6.941	4 Be Beryllium 9.0122		5 B Boron 10.811	6 C Carbon 12.0107	7 N Nitrogen 14.0067	8 O Oxygen 15.9994	9 F Fluorine 18.9984	10 Ne Neon 20.1797	
3	11 Na Sodium 22.9898	12 Mg Magnesium 24.3050		13 Al Aluminum 26.98154	14 Si Silicon 28.0855	15 P Phosphorus 30.9738	16 S Sulfur 32.065	17 Cl Chlorine 35.4527	18 Ar Argon 39.948	
4	19 K Potassium 39.0983	20 Ca Calcium 40.078								

27. A neutral atom of silicon has

- A. 12 electrons.
- B. 13 electrons.
- C. 14 electrons.
- D. 15 electrons.

Use the table to answer question 28.

### Data on Select Organisms

Organism	Date of First Appearance in Fossil Record	Method of Obtaining Energy
purple sulfur bacteria	3.6 billion years ago	ingestion of particles/anaerobic respiration
cyanobacteria	3.3 billion years ago	photosynthesis/cellular respiration
bony fish	341 million years ago	consumption of other organisms/aerobic respiration
mammals	229 million years ago	consumption of other organisms/aerobic respiration

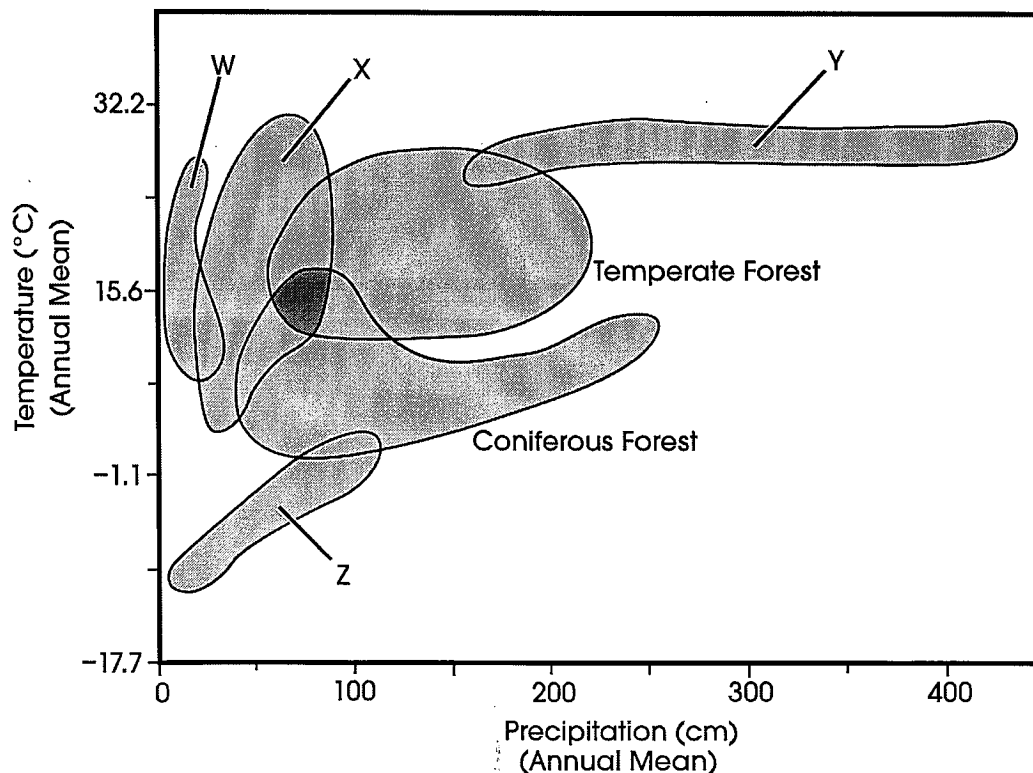
28. The appearance of which organism contributed the most to making it possible for humans and other organisms to breathe Earth's current atmosphere?
- A. bony fish
  - B. mammals
  - C. cyanobacteria
  - D. purple sulfur bacteria

Use the information and graph to answer questions 29 and 30.

### Biomes

The following graph shows the ranges of temperature and precipitation for six American biomes, two of which are identified by name.

#### Selected North American Biomes



29. Tropical forests typically have a narrow range of temperatures but a wide variation in the amount of rain that falls per year. Additionally, some tropical forests receive nearly twice as much precipitation as other wet biomes.

Which biome represents the tropical forests?

- A. W
- B. X
- C. Y
- D. Z

30. Which two biomes share the most similar precipitation ranges?

- A. biome W and biome X
- B. the temperate forest and biome Y
- C. biome Z and the coniferous forest
- D. the coniferous forest and temperate forest

31. Identify two savings that result from recycling aluminum cans and explain one ecological benefit of each. Respond in the space provided in your **Answer Document**. (4 points)

32. A student plans to collect data needed to calculate the kinetic energy of a thrown baseball. She plans to measure the distance from pitcher to catcher, the time it takes for the baseball to arrive in the catcher's glove, the mass of the baseball, and the circumference of the baseball.

Which of these measurements is **not** needed to calculate the kinetic energy?

- A. measuring the mass of the ball
- B. measuring the flight time of the ball
- C. measuring the circumference of the ball
- D. measuring the distance from pitcher to catcher

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Mod: \_\_\_\_\_

Blizzard Bag #2: OGT Review

15. \_\_\_\_\_

\*\*16-21 are omitted

22. \_\_\_\_\_

23. \_\_\_\_\_

24. \_\_\_\_\_

25. \_\_\_\_\_  
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32. \_\_\_\_\_