

8th Grade

Practice Life Science

Assessment Test

2 Organisms are classified as insects based on their

(1) method of reproduction

 internal and external structures

(3) natural habitat

(4) form of communication

3 Nutrients from digested food enter the bloodstream through the process of

 absorption (3) respiration

(2) elimination (4) secretion

4. The kidneys, which remove dissolved wastes from the blood, are organs of the

(1) endocrine system

(3) skeletal system

 (2) excretory system

(4) nervous system

5. Which two systems of a rabbit's body must be working together for the rabbit to run away from a fox?

(1) digestive and endocrine

(2) reproductive and nervous

 (3) muscular and skeletal

(4) excretory and respiratory

6. In which process is oxygen used to release the energy stored in food?

(1) photosynthesis

(3) digestion

 (2) respiration

(4) reproduction

7. Chromosome is to nucleus as DNA is to

(1) cytoplasm

(3) cell membrane

 (2) gene

(4) chloroplast

8. In sexual reproduction, what fraction of genes does each parent contribute to the offspring?


(1) $3/4$

 (2) $1/2$

(3) $1/3$

(4) $1/4$

9. The fur of a snowshoe rabbit changes to white during the winter. This change is an example of

 (1) adaptation

(2) metamorphosis

(3) competition

(4) metabolism

10. The male sex cell is the

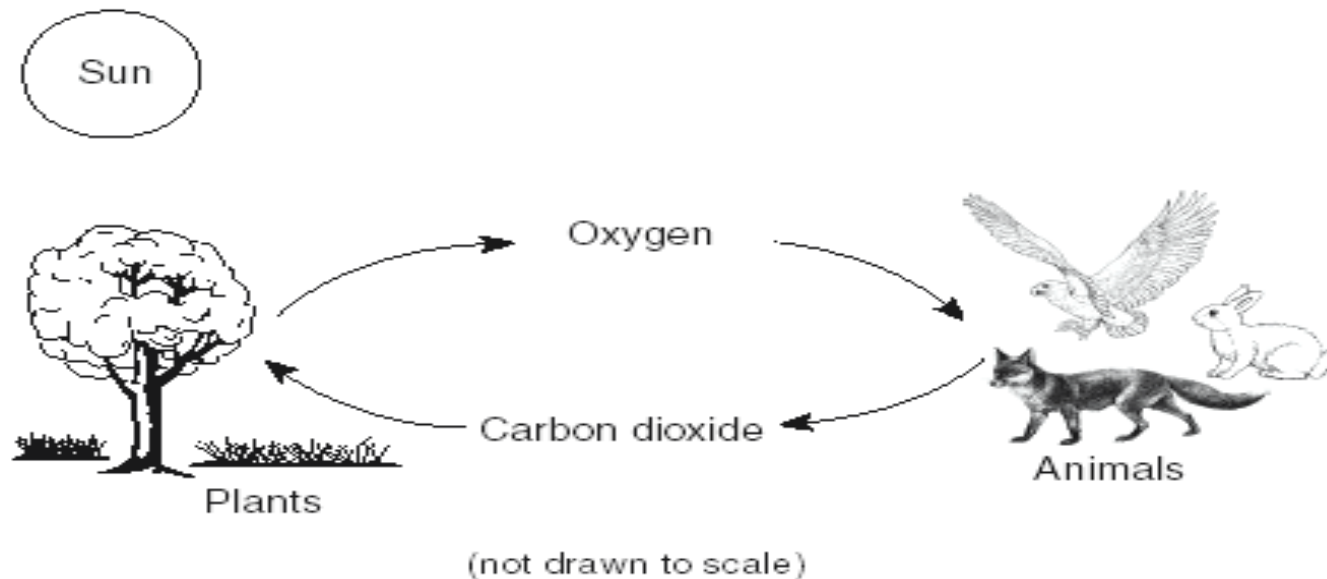
(1) egg

(2) ovary

 sperm

(4) testes

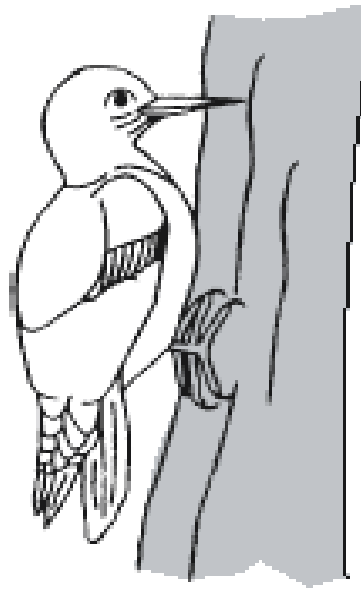
11. The diagram below gives information about carbon dioxide and oxygen in the atmosphere. What is the name of the process represented in this diagram that produces the oxygen?



- (1) ☺ photosynthesis
- (2) metamorphosis

- (3) respiration
- (4) fertilization

12. The drawing below shows a woodpecker using its long, sharp beak to obtain insects. What factor might contribute to the extinction of this species of woodpecker?




- (1) a new source of food
- (2) an overabundance of trees
- 😊 (3) the use of pesticides in the forest
- (4) an increase in the population of insects

13. Which condition is the result of abnormal cell division?

-  cancer (3) infection
(2) pregnancy (4) extinction

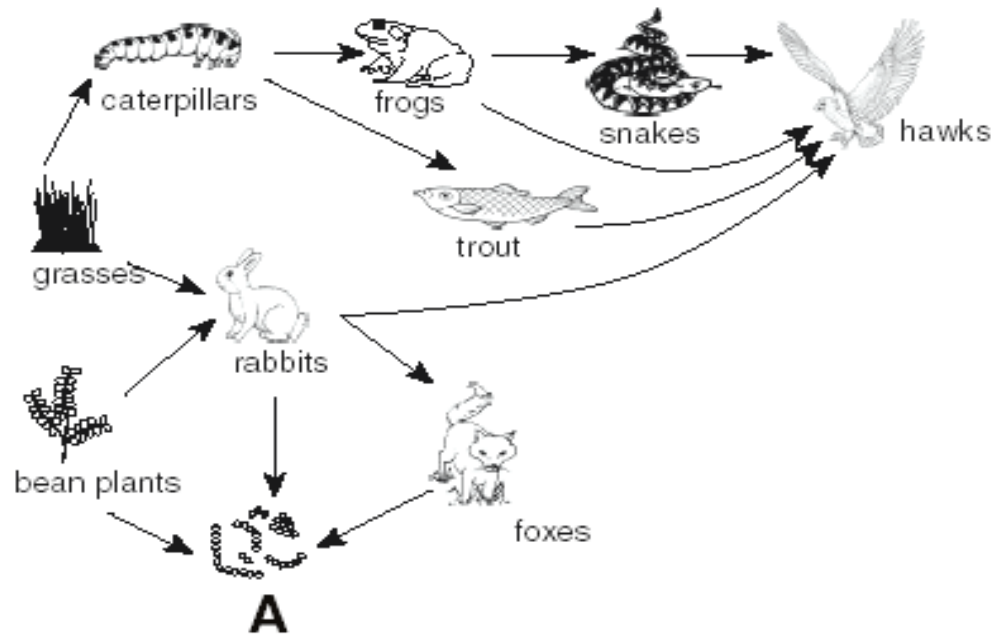
14. Which process gives rise to a variety of traits within a species?

-  sexual reproduction (2) dynamic equilibrium
(3) cellular respiration (4) internal regulation

15. In multicellular organisms, cell division is required for growth and

- (1) circulation  repair
(2) locomotion (4) respiration

Base your answers to questions 16 through 19 on the diagram below, which shows many organisms in a food web.



16. One type of organism in this web that represents a producer is

(1) rabbits

😊 (2) grasses

(3) trout

(4) snakes

17 Which organisms obtain energy for growth and development directly from the Sun?

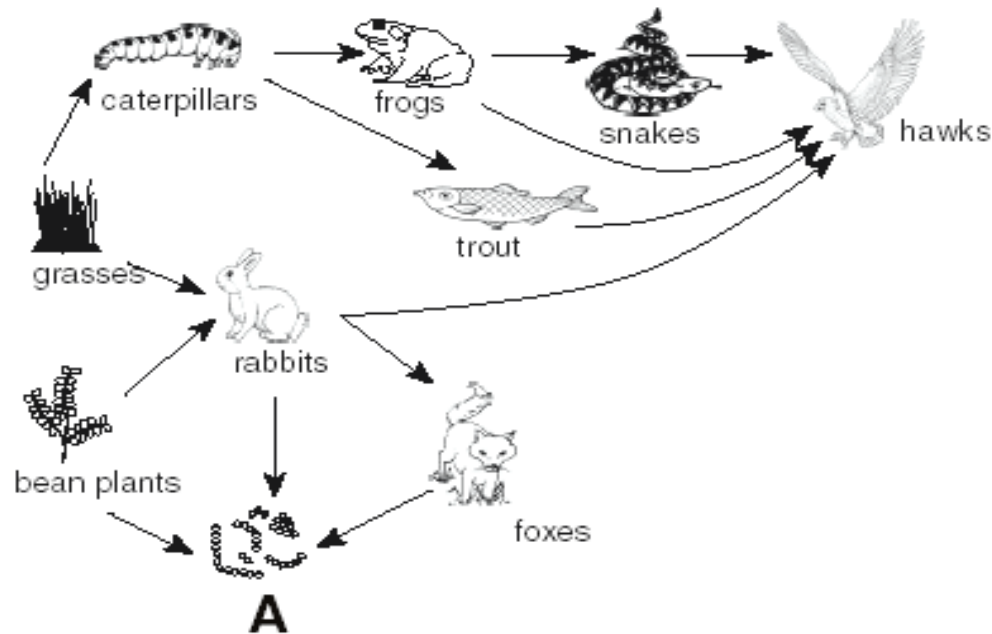
(1) caterpillars

(2) hawks

(3) frogs

😊 (4) bean plants

Base your answers to questions 16 through 19 on the diagram below, which shows many organisms in a food web.



18. According to this food web, which organisms are herbivores?

caterpillars
 foxes

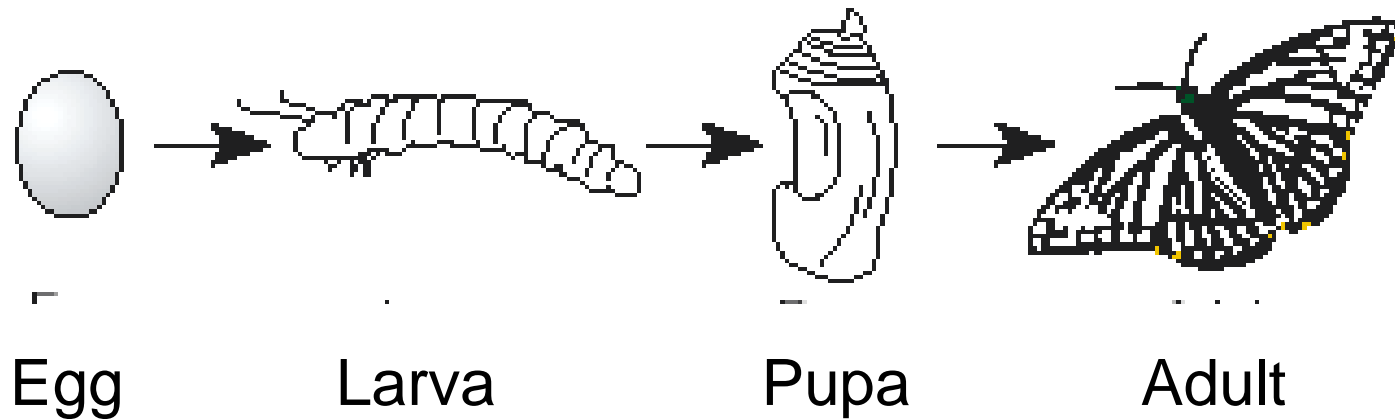
hawks
 snakes

19 Which organism correctly completes the food web at A?

horses
 mice

bacteria
 trees

20. Which process is illustrated in the diagram below?



(not drawn to scale)

- | | |
|-----------------------|--------------------|
| (1) natural selection | ☺ metamorphosis |
| (2) mutation | (4) photosynthesis |

21. Fats are important nutrients because they

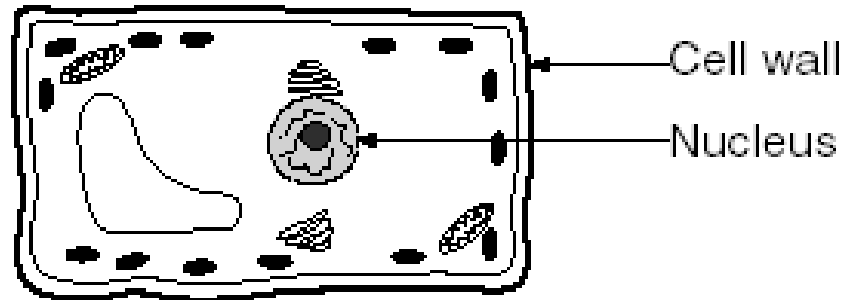
(1) provide genetic information

 (2) contain stored energy

(3) are used in photosynthesis

(4) maintain bone density

22. The diagram below shows a cell. This cell would be found in which type of organism?



(1) animals

(3) viruses

(2) fungi

😊 plants

23. Tissue is composed of a group of

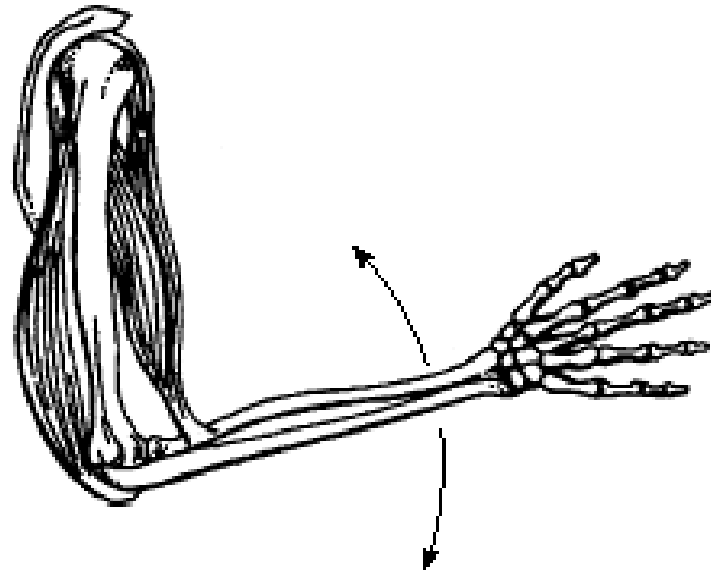
😊 similar cells working together

(2) different organs working together

(3) organ systems working together

(4) nuclei in a cell working together

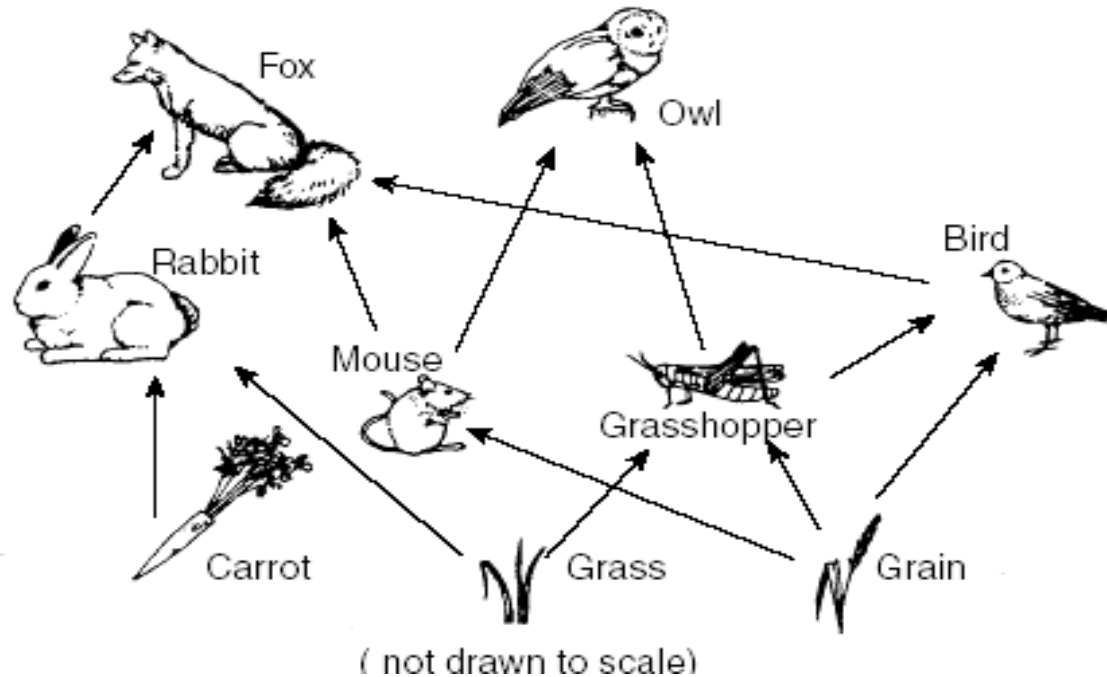
24. The diagram below shows a part of a human body system.



The possible movement represented by the arrows in the diagram is coordinated by the

- (1) circulatory system
- (2) excretory system
- (3) nervous system
- (4) reproductive system

25. The diagram below shows a food web.



Which three organisms in the food web are competing for the same food resource?

(1) carrot, rabbit, and fox

(2) grain, bird, and owl

(3) fox, owl, and rabbit

☺ bird, mouse, and grasshopper

26. The endocrine system produces chemicals that affect organ functions. These chemicals are called

(1) nutrients

(3) microbes

 hormones

(4) wastes

27. What is the function of DNA in a cell?

(1) regulating the movement of nutrients

(2) storing and releasing chemicals


 carrying genetic material

(4) providing energy for activities

Base your answers to questions 27 and 28 on the table below, which compares human population and carbon dioxide (CO₂) levels in the atmosphere over time.

Human Population and Carbon Dioxide Levels

Year	Human Population (billions)	Carbon Dioxide (CO ₂) Levels in the Atmosphere (parts per million)
1960	2.50	317
1970	2.75	325
1980	3.00	337
1990	5.00	342

28. How have the size of the human population and the amount of carbon dioxide (CO₂) in the atmosphere changed from 1960 to 1990?
- (1) The human population has increased while the amount of CO₂ has decreased.
 - (2) The human population has decreased while the amount of CO₂ has increased.
 -  (3) Both the human population and the amount of CO₂ have increased.
 - (4) Both the human population and the amount of CO₂ have decreased.


Base your answers to questions 27 and 28 on the table below, which compares human population and carbon dioxide (CO₂) levels in the atmosphere over time.

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Year	Human Population (billions)	Carbon Dioxide (CO ₂) Levels in the Atmosphere (parts per million)
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28. Which human activity might explain the change in carbon dioxide levels shown in the graph?

- (1) storing nuclear waste
- (2) collecting solar energy

- (3) using wind energy
-  burning fossil fuels

29. The effects of natural selection are generally seen most quickly in which organisms?

(1) bacteria

 corn plants

(3) humans

(4) cats

30. A plant forms new tissue at the tips of its roots and stems. This new tissue growth is a direct result of

(1) circulation

(2) coordination

(3) cellular respiration

 cell division

31. What do all organisms need to survive?

 energy

(2) blood

(3) carbon dioxide

(4) soil

32. Which substance provides humans with their main source of energy?

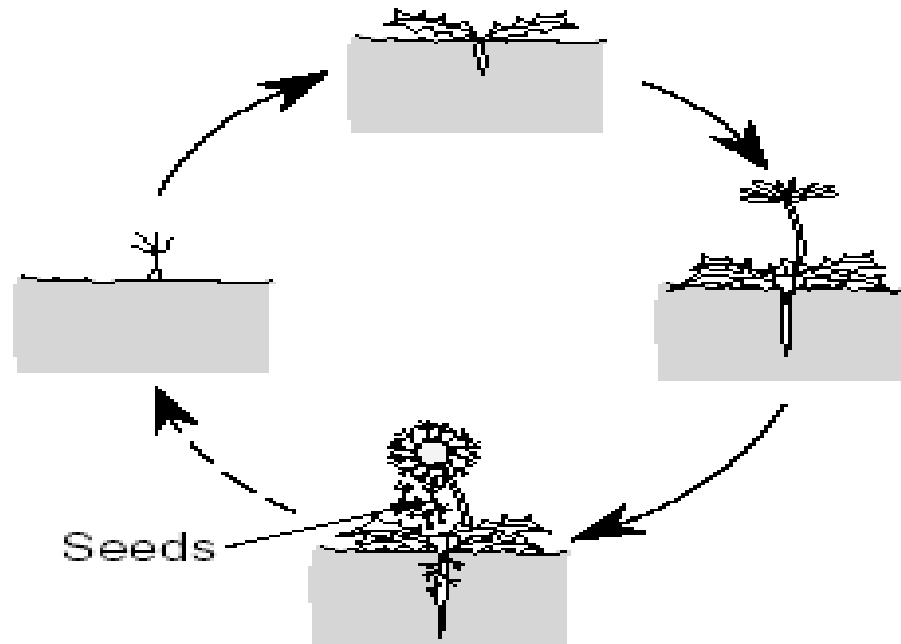
 food

(2) carbon dioxide

(3) water

(4) chlorophyll


33. The diagram below shows a model of plant reproduction.



The seeds shown on the plant are produced as a result of

- (1) ecological succession
- (2) hibernation
- (3) fertilization
- (4) genetic engineering

34. When a human exercises, sweat often forms on the skin. Sweating is an example of the human body's ability to

- (1) recycle nutrients
-  (2) respond to the environment
- (3) obtain water for nourishment
- (4) make more energy

35. Cells are to tissues as tissues are to

(1) microbes

(3) systems

 (2) organs

(4) bacteria

36. Which group is made up of organisms that are all members of the same kingdom?

(1) cat, frog, and mushroom

(2) mold, bacteria, and apple tree

(3) grass, worm, and shark

 (4) fern, rose bush, and corn plant

37. When a person breathes, the lungs absorb oxygen, which is used by cells to carry out the process of

(1) respiration

(3) photosynthesis

(2) secretion

(4) excretion

38. Running is an activity that causes the cells in the muscular system to use oxygen at a faster rate. Which system responds by delivering more oxygen to these cells?

(1) digestive

(2) circulatory

(3) nervous

(4) endocrine

39. To provide energy for the work that cells do, all cells need

(1) chloroplasts

() nutrients

(3) atmospheric nitrogen

(4) carbon dioxide

40. In a one-celled organism, cell division is responsible for

(1) growth and maintenance

(2) sexual reproduction

() asexual reproduction

(4) production of sex cells

41. A new variety of tomato is better tasting and can be stored longer than other tomato varieties. This new tomato is produced by placing additional gene segments into the cells of the tomato plant. This process is known as

- (1) 😊) genetic engineering
- (2) selective breeding
- (3) natural selection
- (4) sexual reproduction

42. Which human body systems are directly involved in reflex actions, such as knee jerk, blinking, and jumping when startled?

(1) circulatory and respiratory

(2) digestive and excretory

 (3) nervous and muscular

(4) reproductive and skeletal

43. In which human body system are hormones produced?

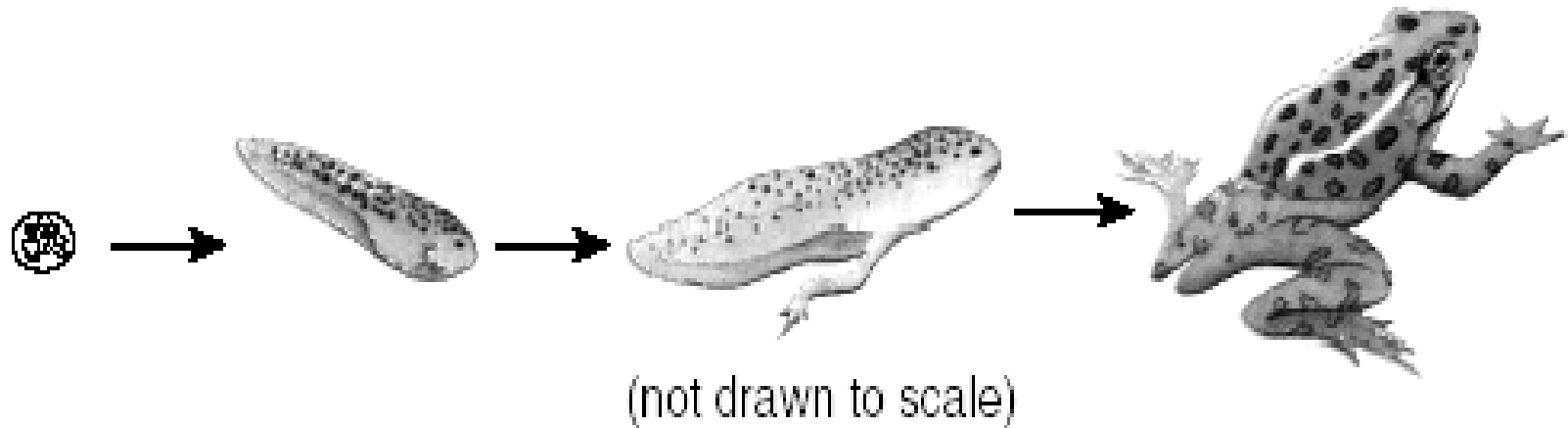
(1) respiratory

(3) nervous

 (2) endocrine

(4) digestive

44. The diagram below shows how a frog develops. A fertilized egg hatches into a tadpole with gills. The tadpole develops legs and lungs and becomes an adult frog.



What is the term for this series of changes during the life cycle of the frog?

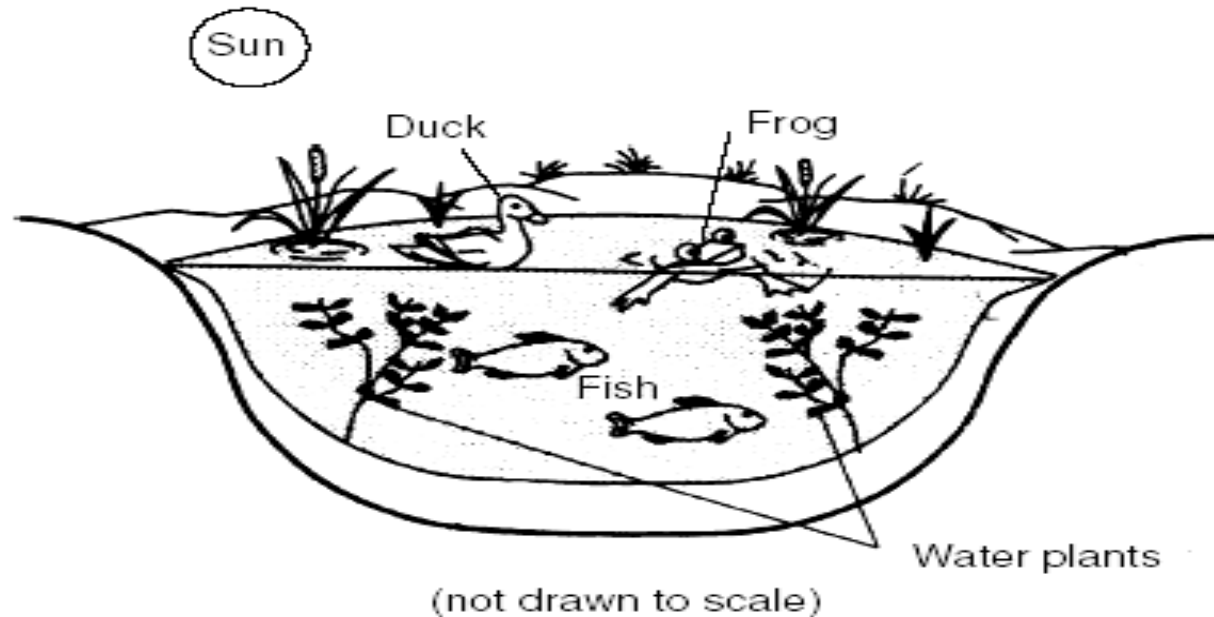
(1) fertilization

(3) mutation

(2) reproduction

(😊) metamorphosis

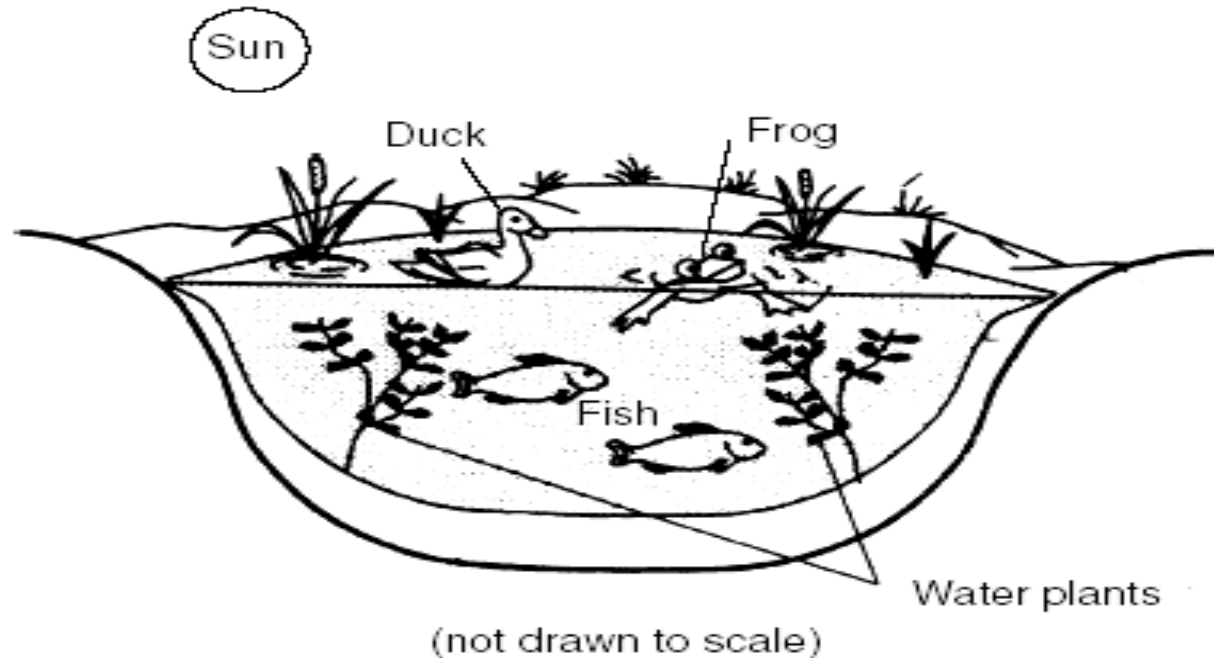
Base your answers to questions 45 and 46 on the diagram below and on your knowledge of science. The diagram represents a pond community containing a variety of plants and animals.



45. Why are the fish able to survive in the pond?

- (1) The fish use carbon dioxide produced by the plants.
- 😊 (2) The fish use oxygen produced by the plants.
- (3) The plants use oxygen produced by the fish.
- (4) The plants use chlorophyll produced by the fish.

Base your answers to questions 45 and 46 on the diagram below and on your knowledge of science. The diagram represents a pond community containing a variety of plants and animals.



46. The main source of energy for this pond community is the

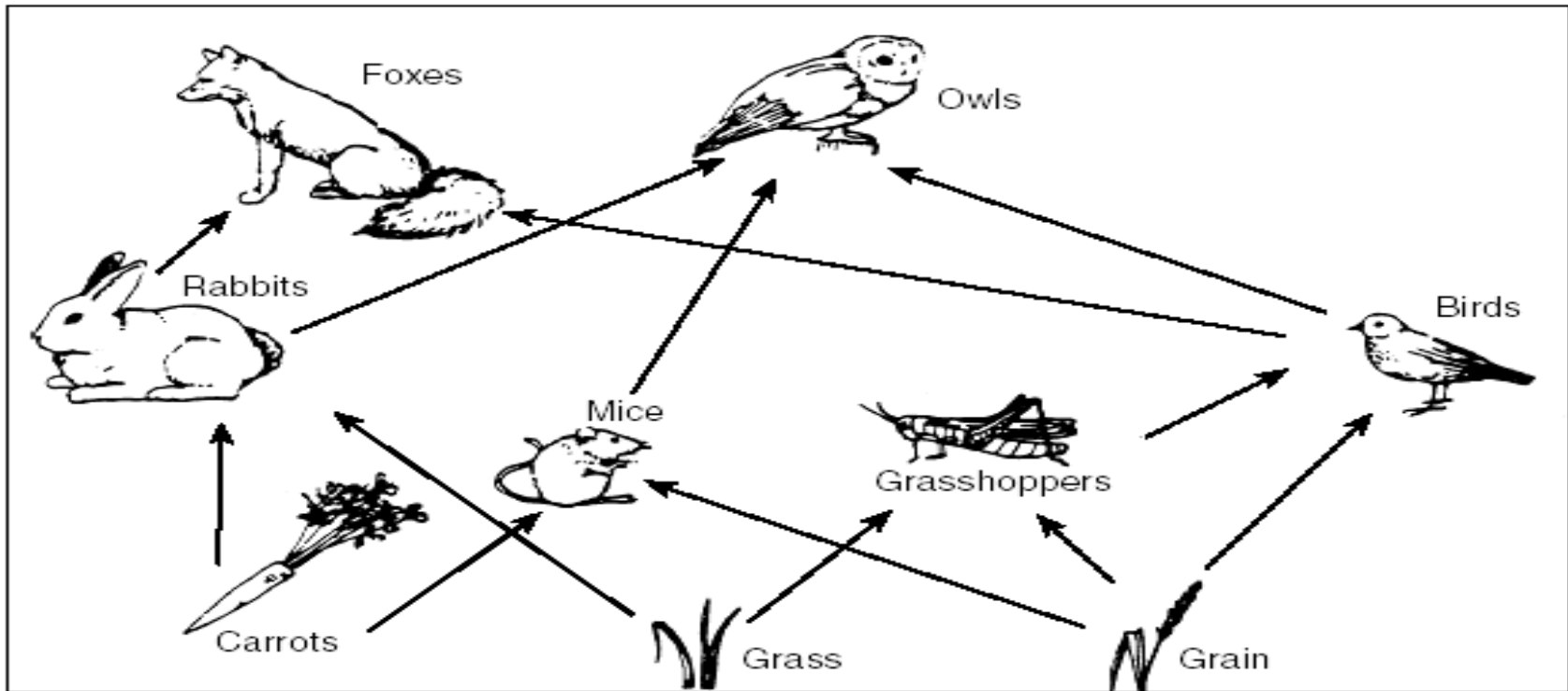
(1) plants

(3) pond water

(2) Sun

(4) animals

Base your answers to questions 47 through 49 on the food web below and your knowledge of science.



(not drawn to scale)

47. What is the role of the foxes in this food web?

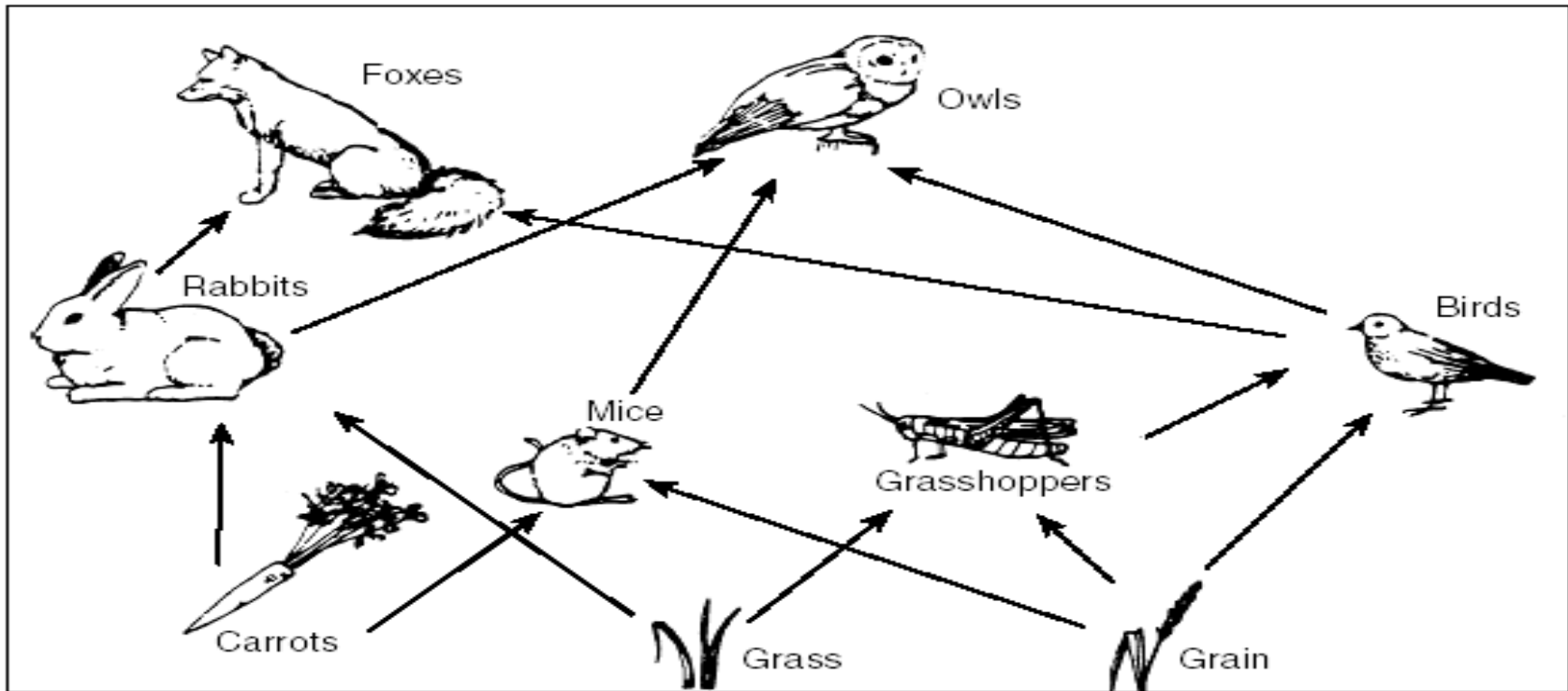
(1) carnivore

(3) herbivore

(2) decomposer

(4) producer

Base your answers to questions 47 through 49 on the food web below and your knowledge of science.

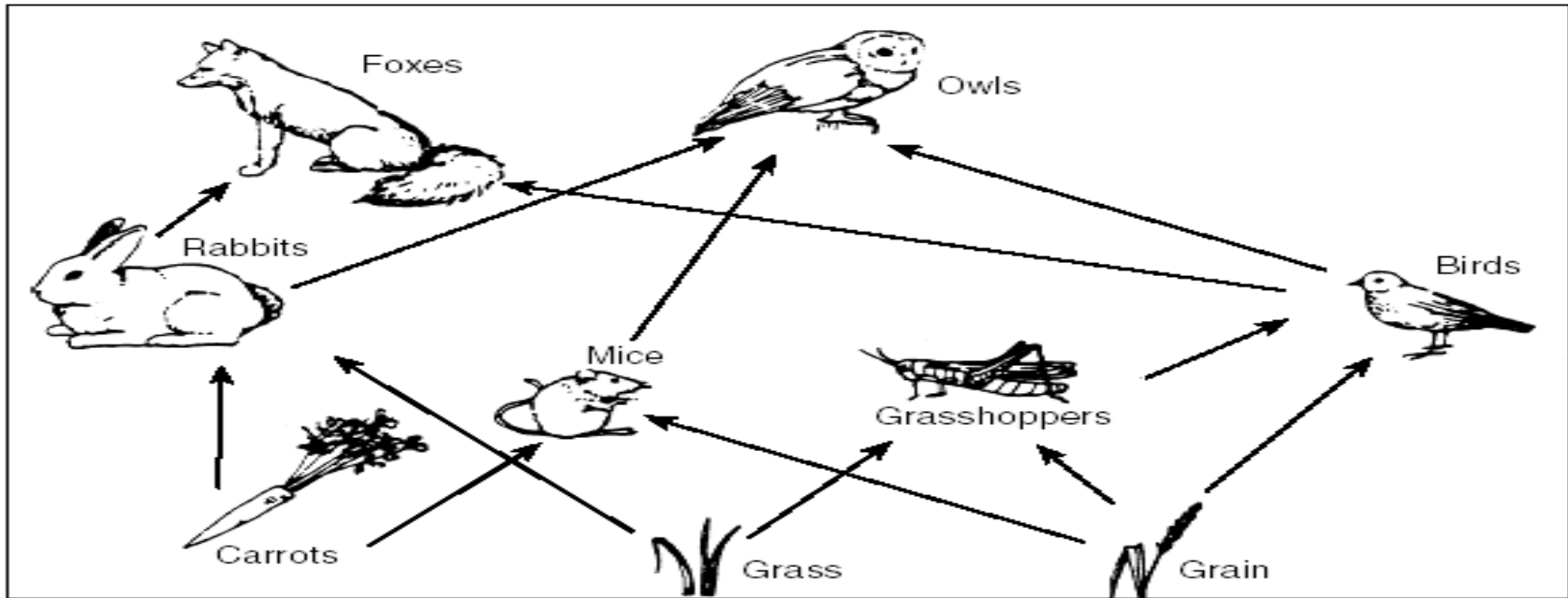


(not drawn to scale)

48. Which organisms in this food web are omnivores?

- | | |
|-------------|------------------|
| (☺) birds | (3) grasshoppers |
| (2) carrots | (4) rabbits |

Base your answers to questions 47 through 49 on the food web below and your knowledge of science.




(not drawn to scale)

49. Which statement would be true if the owl population disappeared?

- ☺) The mouse population would increase.
- (2) The carrot population would increase.
- (3) The fox population would decrease.
- (4) The rabbit population would decrease.

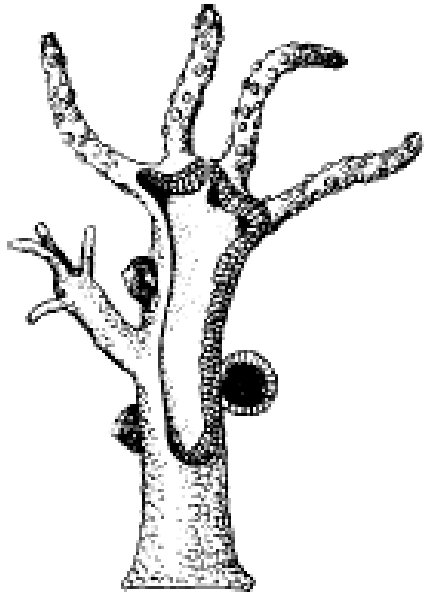
50. A new yeast cell is sometimes produced from a single parent by a process called budding. The process of budding is best described as

- (1) sexual reproduction, with genetically identical offspring
- (2) sexual reproduction, with genetically different offspring
-  (3) asexual reproduction, with genetically identical offspring
- (4) asexual reproduction, with genetically different offspring

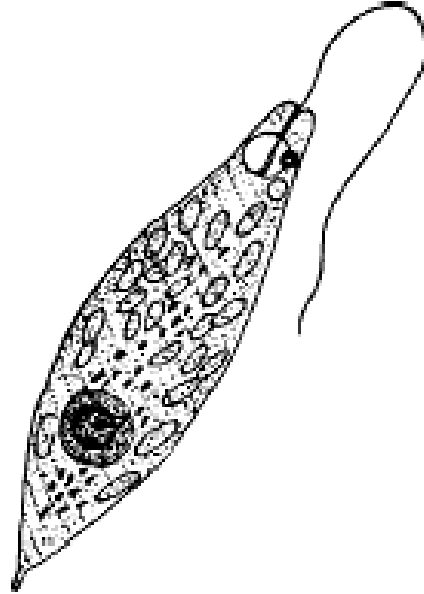
51. When do organs begin to develop in humans?

- (1) in the sperm cell before fertilization
- (2) before fertilization and after birth
- (3) in the egg cell after fertilization
- (😊) after fertilization and before birth

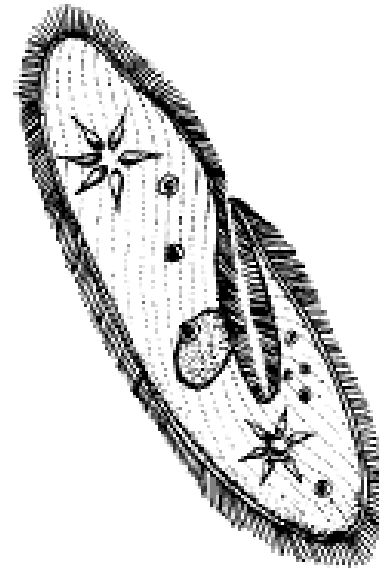
52. Which illustration is an example of a multicellular organism?



Hydra



Euglena



Paramecium



Ameba

(😊) Hydra

(2) euglena

(3) paramecium

(4) ameba

53. The vast variety of different traits found in humans results from

- (1) intensive training and education
- (2) sexual reproduction and mutations
- (3) exercise and conditioning
- (4) birth defects and recessive genes

54. Which body system is responsible for the elimination of liquid and gaseous wastes?

- (1) nervous
- (2) skeletal
- (3) excretory
- (4) digestive

55. Which factor has the *least* effect on a person's metabolism?

(1) exercise

(2) hormones

 intelligence

(4) diet

56. Which of the four terms below includes the other three terms?

(1) community

 ecosystem

(3) population

(4) individual

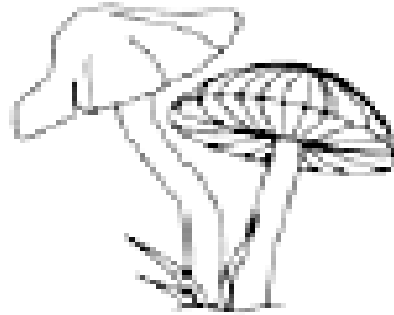
57. Which of the organisms shown below consists of only one cell?



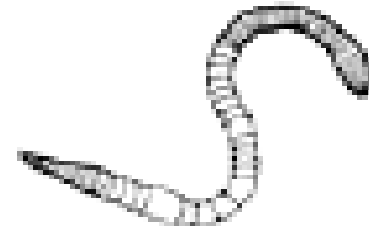
Pine tree



Ameba



Mushroom



Earthworm

(Not drawn to scale)


(1) pine tree

(3) mushroom


(2) ameba

(4) earthworm

58. What is the main function of the circulatory system?

- (1) secrete enzymes
- (2) digest proteins
- (3) produce hormones
- () transport materials

59. Infectious diseases are caused by

- (1) allergies
- (2) vitamin deficiencies
- (3) chemical spills
- () microorganisms

60. If a species is no longer able to reproduce, it will

(1) adapt to its environment

(2) become immune to disease

 become extinct

(4) increase its population

61. Which disease is a result of abnormal cell division?

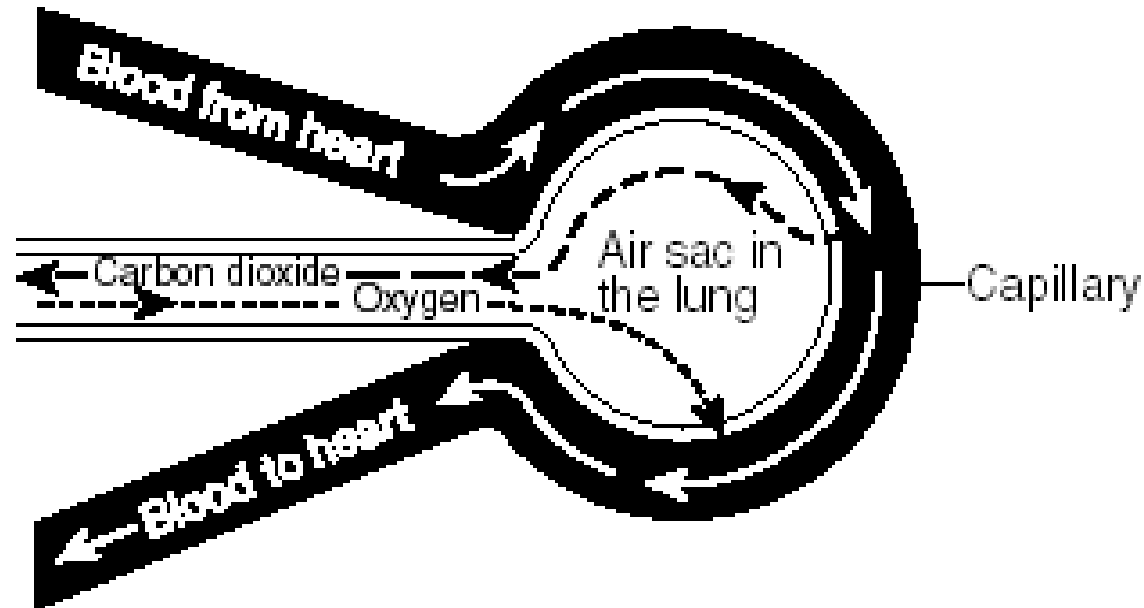
(1) AIDS

(3) chicken pox

 cancer

(4) common cold

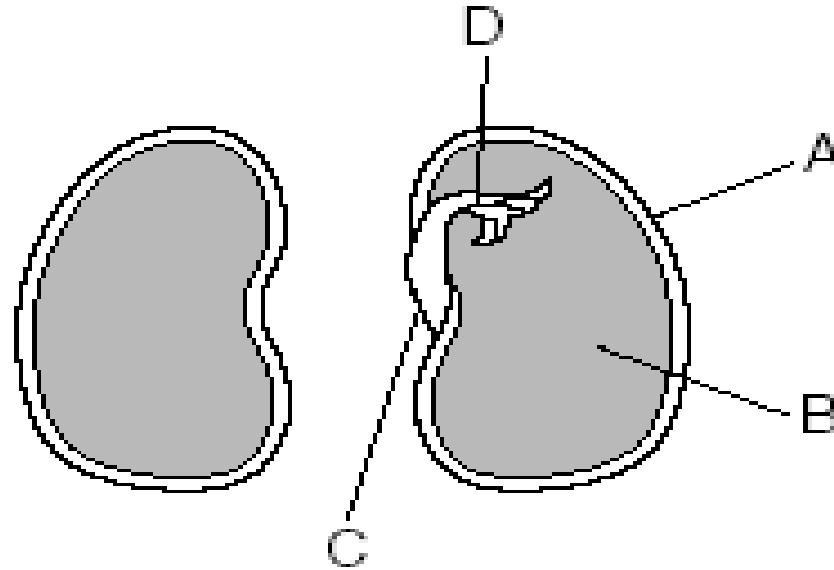
62. The diagram below represents a magnified view of an air sac in the human lung. The white arrows indicate blood flow.



Which two systems are interacting in this diagram?

- (1) skeletal and muscular
- (2) nervous and endocrine
- (3) reproductive and digestive
- 😊 respiratory and circulatory

63. The diagram below represents a bean seed that has been cut in half to show its various structures.



Which letter represents the stored food that the new plant will use for early development?

(1) *A*

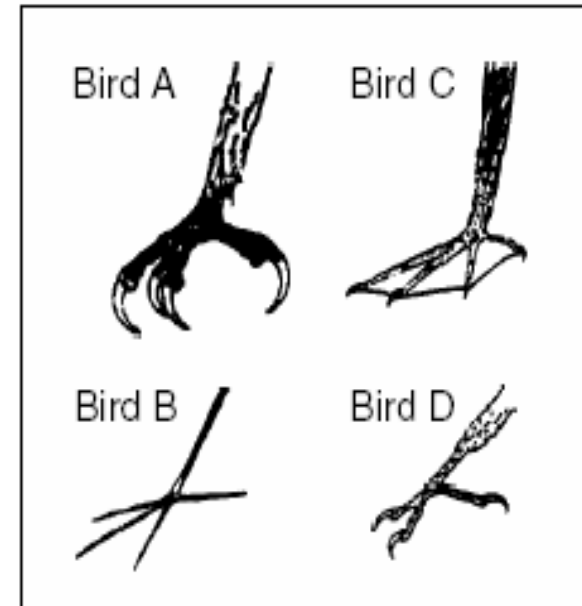
(2)  *B*

(3) *C*

(4) *D*

Base your answers to questions 64 and 65 on the drawings of bird feet and the dichotomous key below.

A Key to Identifying Birds		
Couplet	Description	
1a	Toes webbed	go to 2
1b	Toes not webbed	go to 3
2a	Four toes webbed together	cormorant
2b	Three toes webbed together	duck
3a	Claws curved	go to 4
3b	Claws not curved	jacana
4a	Claws large	eagle
4b	Claws small	kingfisher



64. Bird *B* is correctly identified as

(1) a cormorant

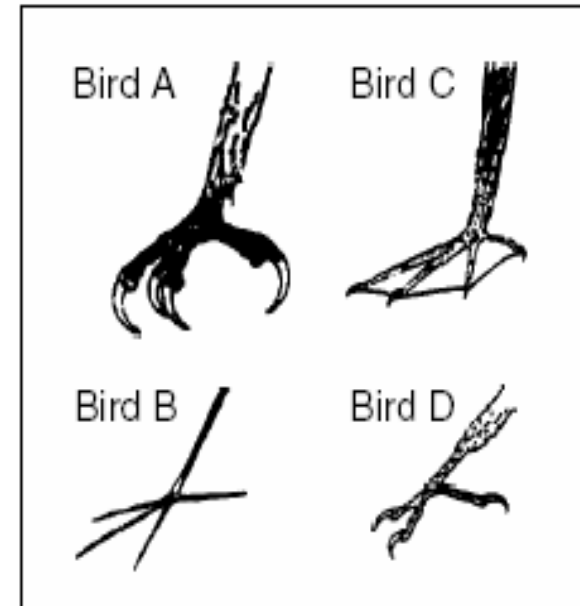
(2) a duck

(3) an eagle

(☺) a jacana

Base your answers to questions 64 and 65 on the drawings of bird feet and the dichotomous key below.

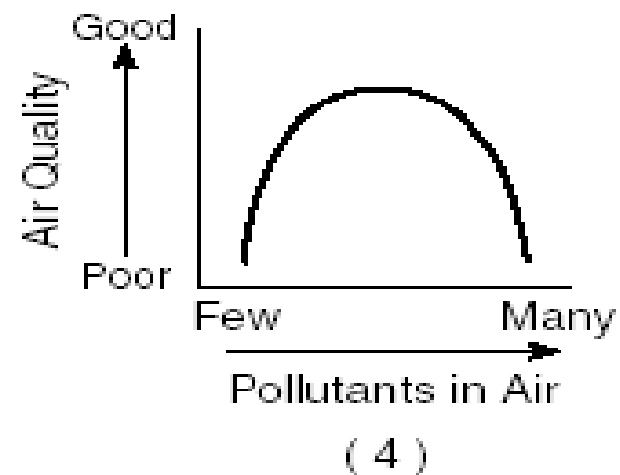
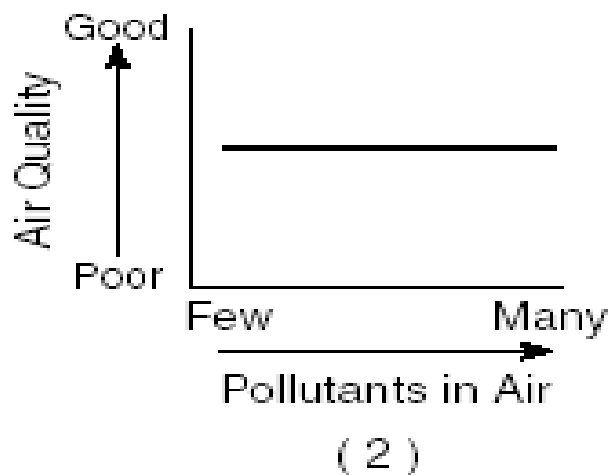
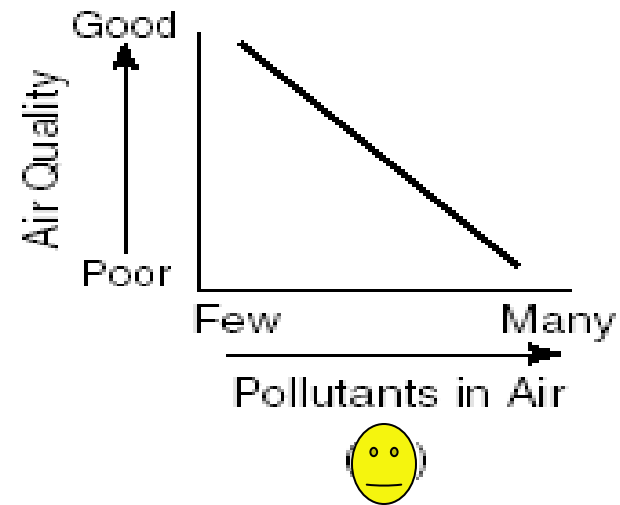
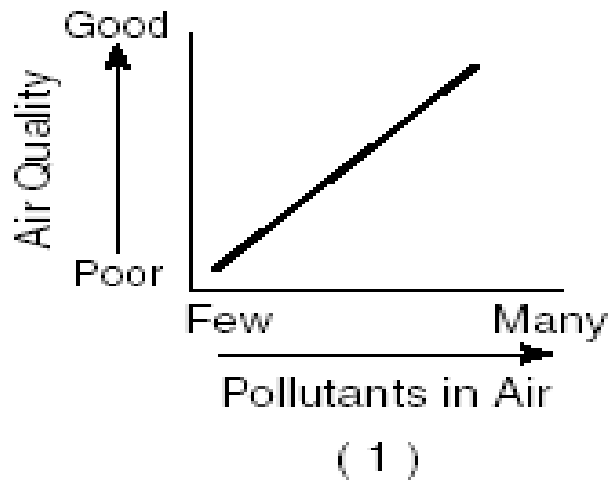
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3b	Claws not curved	jacana
4a	Claws large	eagle
4b	Claws small	kingfisher



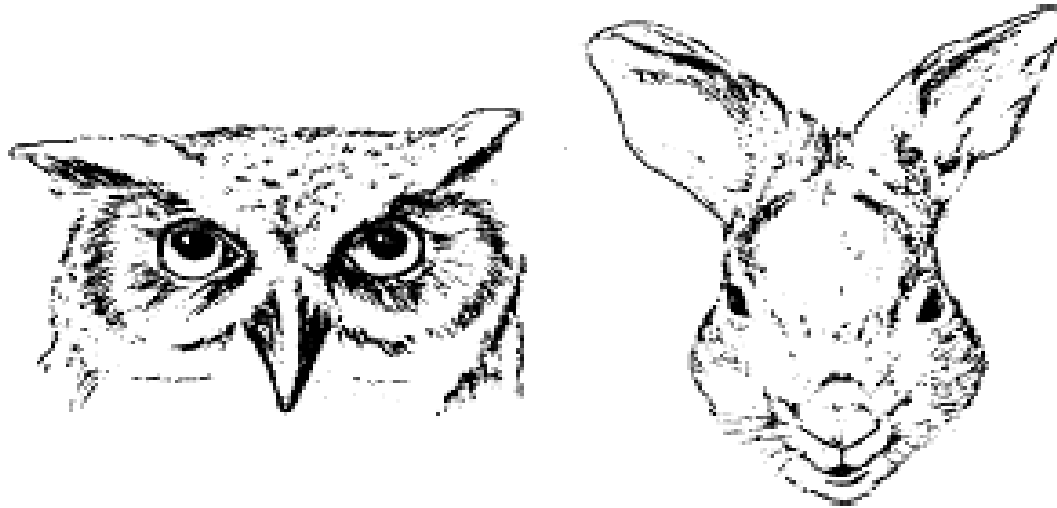
65. What is a common feature of both the eagle and the kingfisher?

- (1) claws large (3) three toes webbed together
 😊 (2) claws curved (4) four toes webbed together

66. Which graph best represents the relationship between the amount of pollutants in the air and the quality of the air?




67. The eyes of the owl and the rabbit shown in the diagram below give each animal a different advantage. The front-facing owl eyes allow the bird to accurately judge distance when swooping in on prey. The side-facing rabbit eyes allow the animal to detect the motion of possible predators.




The specialized eye types of these animals are examples of

- (1) disruptions of the natural balance
- (2) the interdependence of living things
- (3) adaptations for survival under certain conditions
- (4) involuntary responses to stimuli

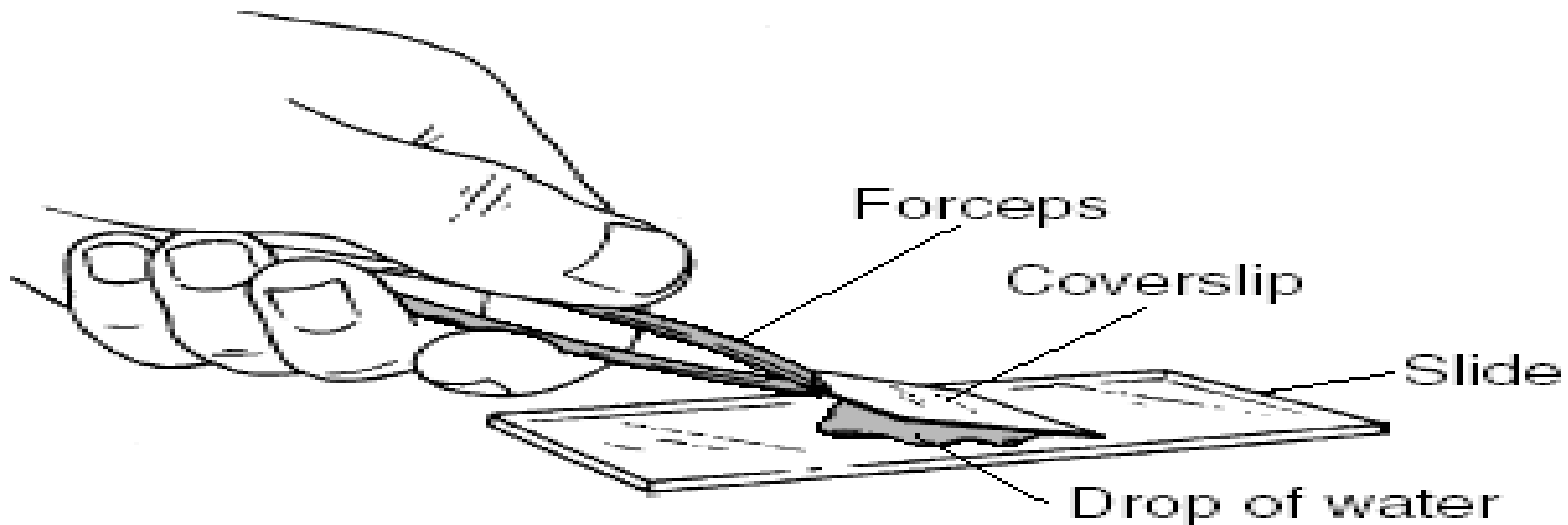
68. The energy obtained from food is measured in units called

- (1) watts
- (2)  Calories
- (3) degrees
- (4) pounds

69. As the population of small fish in a lake decreases, the population of large fish that depend on the small fish for food will

- (1) reproduce faster
- (2) begin to produce their own food
- (3)  decrease in number
- (4) increase in number

70. The diagram below shows a student making a wet-mount slide.



Why should the student make sure the edge of the coverslip touches the drop of water before setting the coverslip onto the slide?


(1) to increase evaporation

(2) to reduce air bubbles

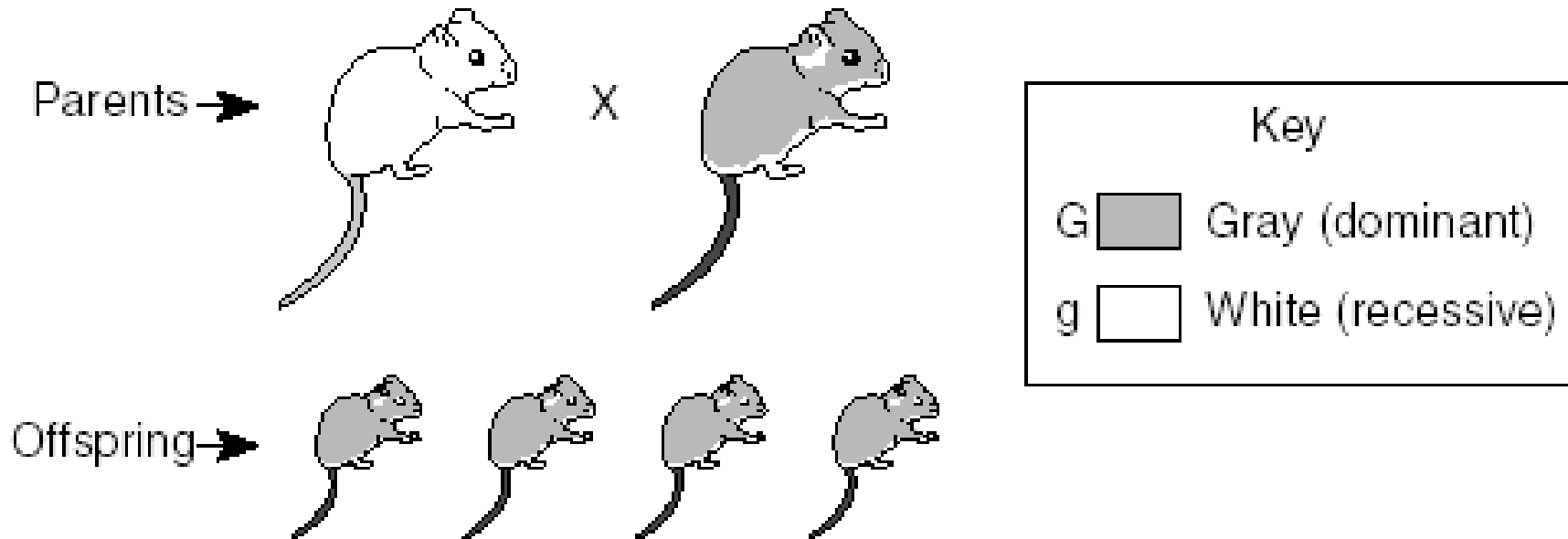
(3) to clean the slide

(4) to prevent the coverslip from breaking

71. Beaver dams can cause floods. This statement shows how

- (1) animal growth is affected by environmental conditions
-  (2) animal behavior may affect the environment
- (3) an animal's health depends on its environment
- (4) an animal's development depends on its environment

Base your answers to questions 72 and 73 on the diagram below. The diagram shows the offspring of a white mouse and a gray mouse. All of the offspring are gray.



72. Which is a correct gene combination for the parents shown in the diagram?

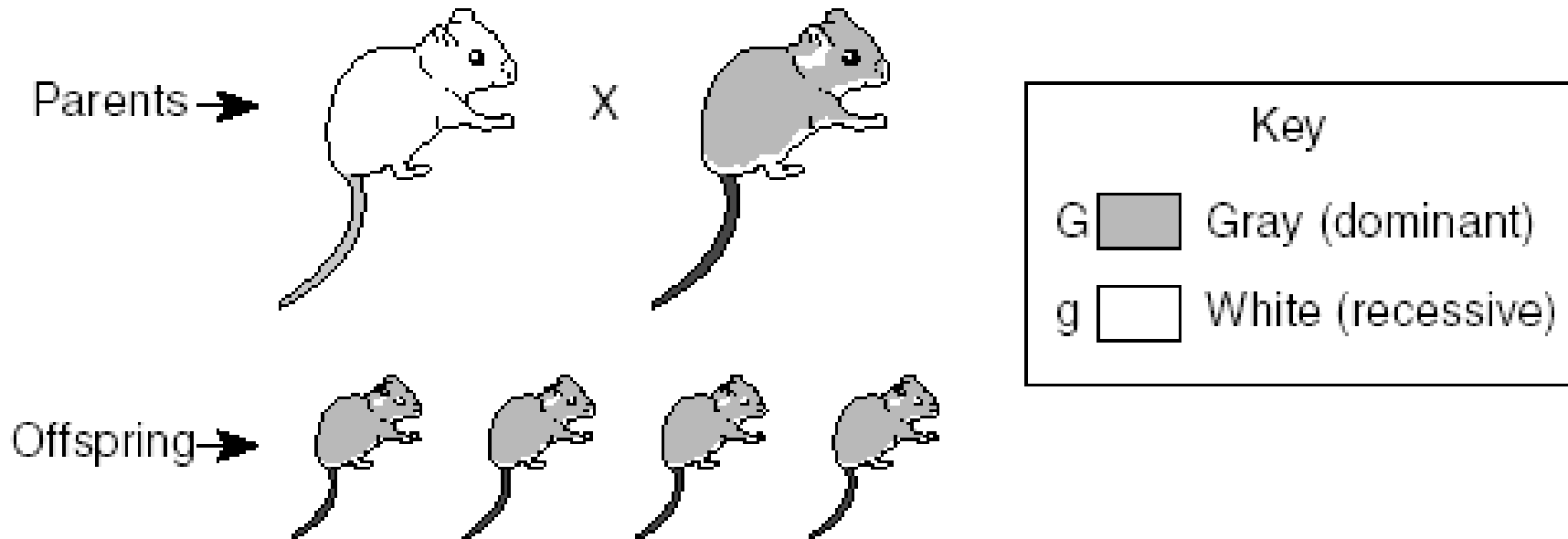
(1) $GG \times GG$

(2) $gg \times gg$


 (3) $gg \times GG$

(4) $Gg \times Gg$

Base your answers to questions 72 and 73 on the diagram below. The diagram shows the offspring of a white mouse and a gray mouse. All of the offspring are gray.



73. If two gray (Gg) mice mated, what percent of their offspring would have pure white fur?

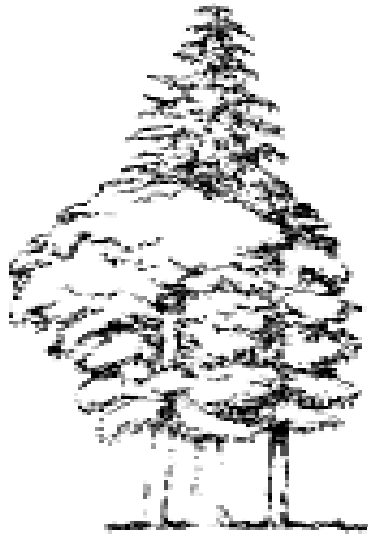
 25%

(2) 50%

(3) 75%

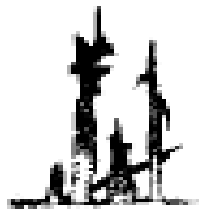
(4) 100%

74. The diagrams below show the plant communities present in the same area at different times over a 200-year period following a forest fire.



Mature forest

(A)



Charred stumps

(B)



Young evergreens,
shrubs, and saplings

(C)




Grasses
and shrubs

(D)

What is the correct sequence of these plant communities following the forest fire?

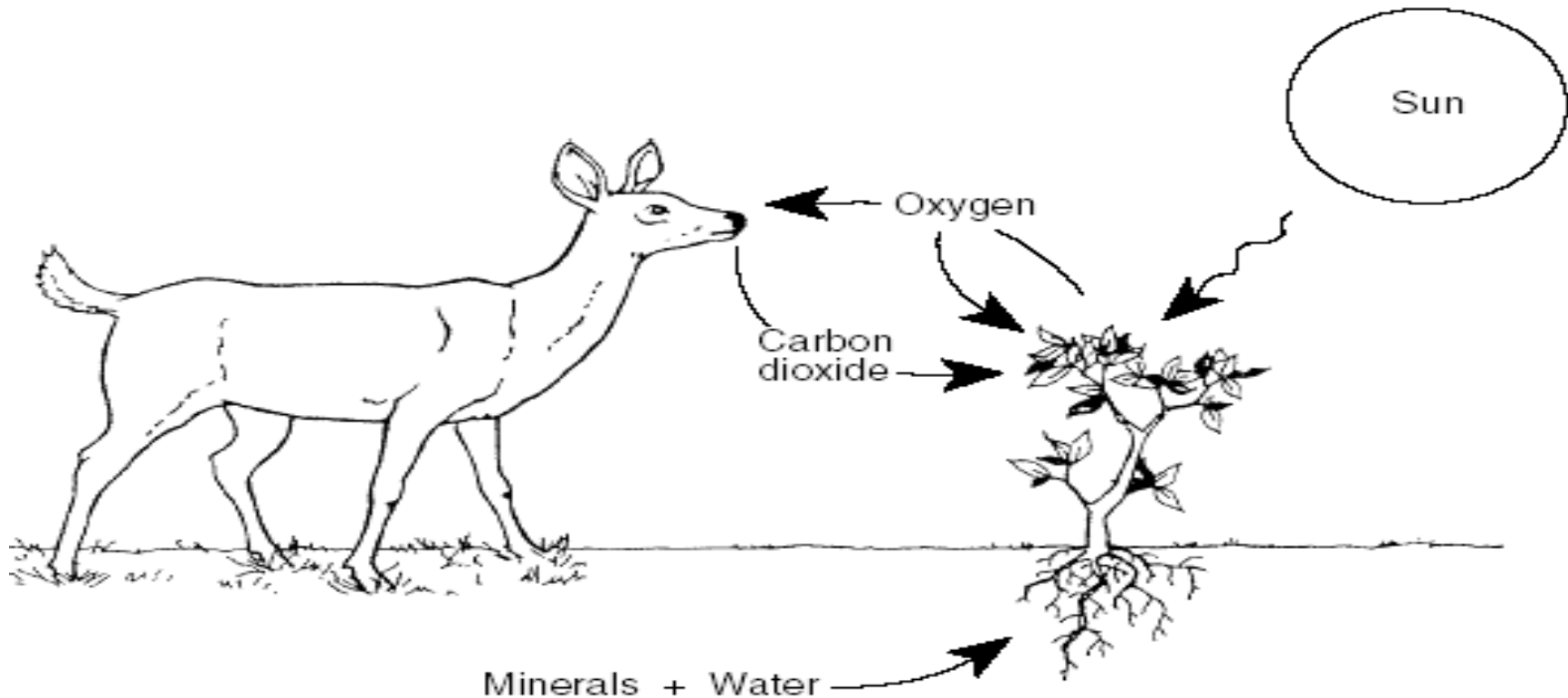
(1) $B \rightarrow A \rightarrow D \rightarrow C$

(2) $B \rightarrow C \rightarrow D \rightarrow A$

 (3) $B \rightarrow D \rightarrow C \rightarrow A$

(4) $B \rightarrow A \rightarrow C \rightarrow D$

Base your answers to question 75 the diagram below and on your knowledge of science. The diagram below shows some relationships within a natural community.



75. Which process produces oxygen that is released into the atmosphere?

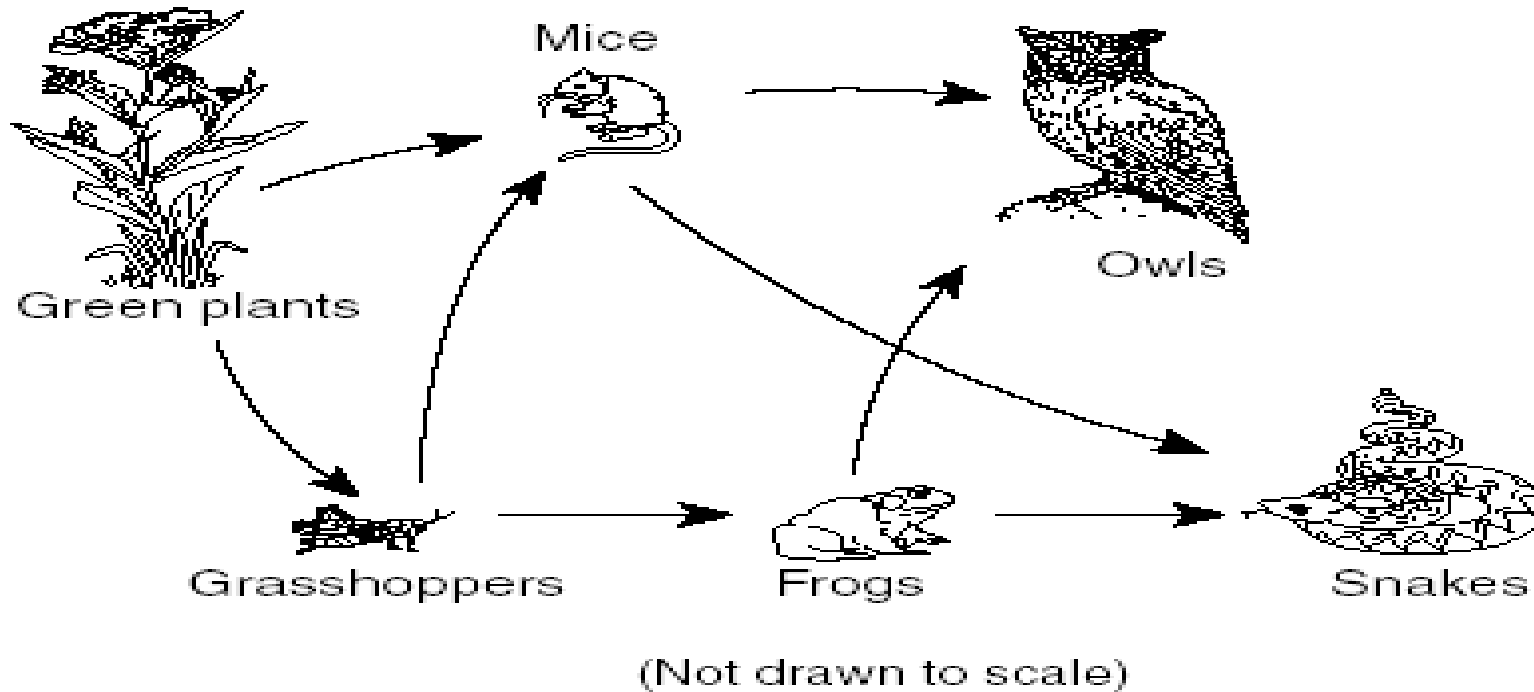
(1) respiration

(2) locomotion

(3) excretion

☺ photosynthesis

Base your answers to questions 76 through 78 on the partial food web below and on your knowledge of science.



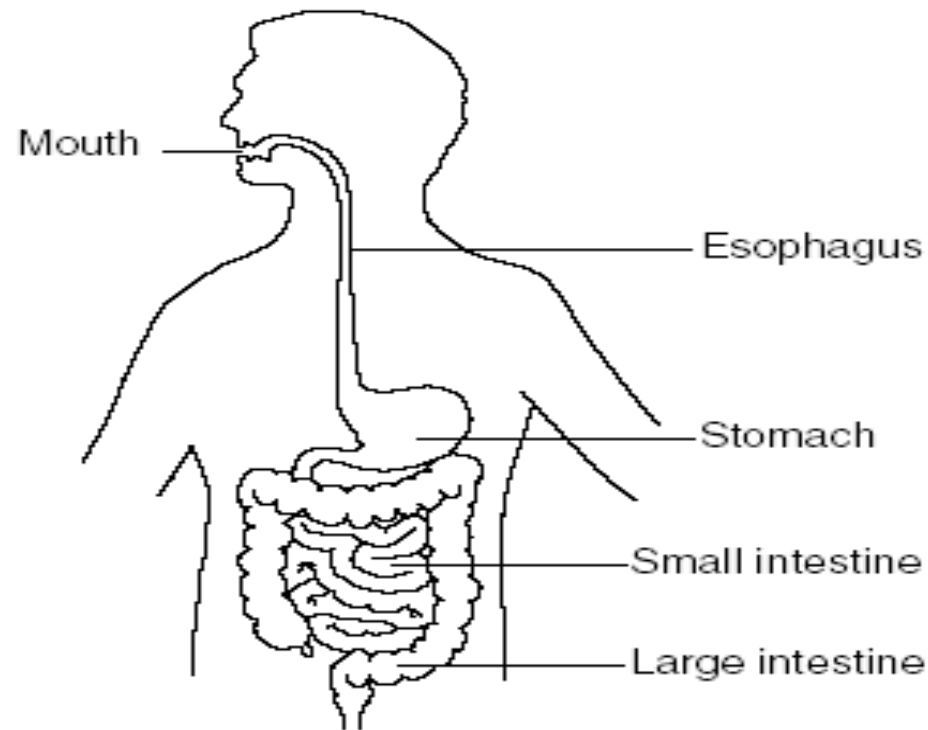
Give an example of a carnivore, a producer, and an herbivore shown in this food web.

76. Carnivore: **Mice**

77. Producer: **Grass**

80. Herbivore: **Grasshopper**

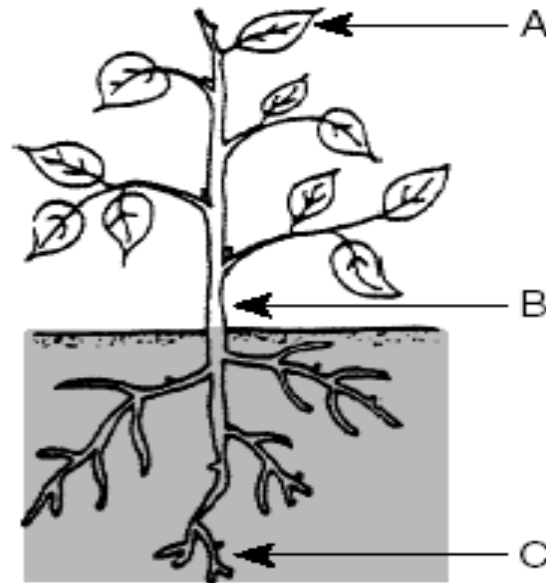
81. The diagram below shows several organs in the human digestive system.



Explain *two* ways that food is changed as it passes through the digestive system.

- 1. Food is broken down.**
- 2. Food decomposes in the stomach.**
- 3. Food is mechanically digested in the mouth**
- 4. Food is chemically digested in the stomach**

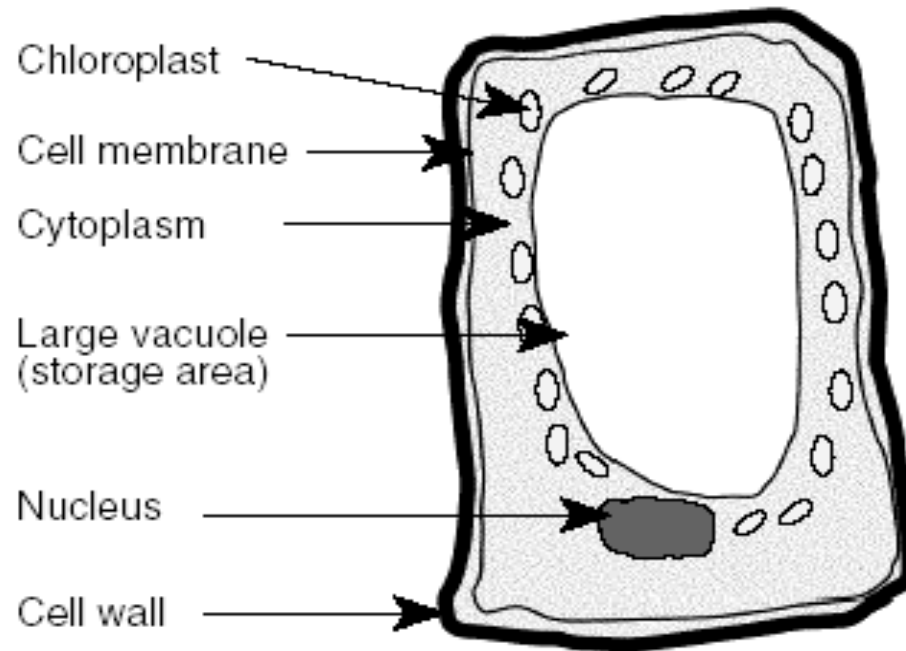
82. The diagram below shows a bean plant.



Complete the chart below by identifying the *three* structures labeled *A*, *B*, and *C*. Identify one function of each structure.

Letter	Plant Structure	Function of Structure
A	Leaf	Photosynthesis
B	Stem	Support
C	Roots	Absorption of water

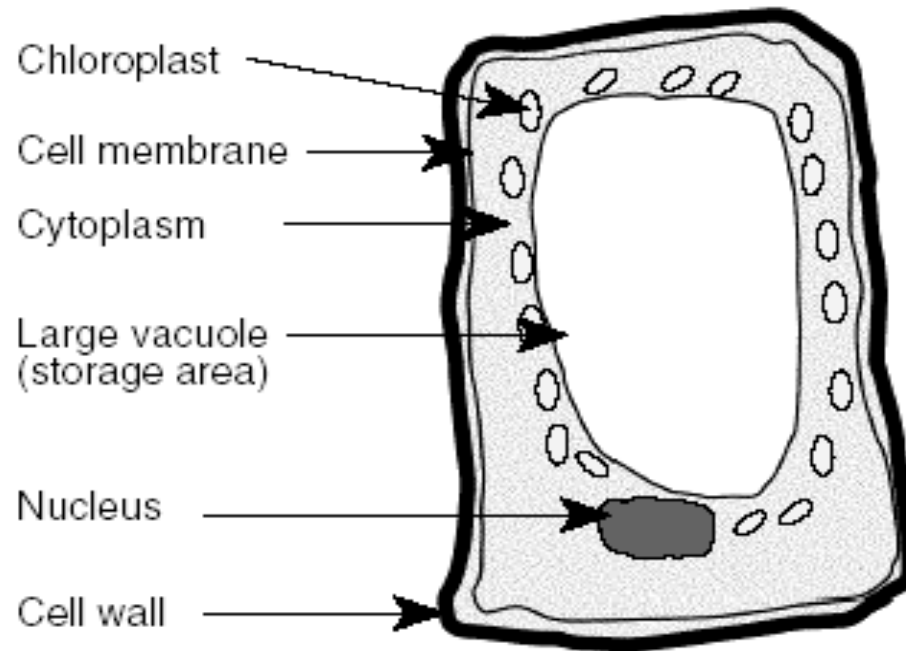
Base your answers to questions 83 and 84 on the diagram below and on your knowledge of science. The diagram shows a cell with some basic cell structures labeled.



83. Identify *two* structures labeled in the diagram, other than the large vacuole, that indicate this cell is a plant cell.

- 1. Cell Wall**
- 2. Chloroplast**

Base your answers to questions 83 and 84 on the diagram below and on your knowledge of science. The diagram shows a cell with some basic cell structures labeled.



84. Which hereditary material in the nucleus of the cell is responsible for passing traits on to the next generation?

Chromosomes or DNA or Genes

85. The Punnet square below represents the result of the cross between two tall pea plants. All of the resulting offspring were tall.

	T	t
T	TT	Tt
T	TT	Tt

Key: T = tall height (dominant)
t = short height (recessive)

Identify *two* offspring from the Punnet square that could produce short pea plants if they were crossed.

Explain your answer.

Offspring: **Tt** x **Tt**

Explain: **Each offspring has a recessive gene (t)**

86. The table below provides some information about common plant cell structures and their functions. In the table, there are three blank spaces. Fill in the three blank spaces by writing the name of the plant cell structure that performs the function described.

Plant Cell Structures and Their Functions

Plant Cell Structure	Function
Cell membrane	Allows substances to enter and leave the cell
Nucleus	Directs the cell's activities including reproduction
Chloroplast	Captures energy from sunlight to make food
Cell Wall	Protects and supports the cells
Cytoplasm	Allows the movement of materials around the cell and supports other cell structures
Vacuole	Stores food, water, and waste

Base your answers to questions 87 on the information below and on your knowledge of science. A company built a paper plant on 90 acres of land in a local community. The company employs 800 people and uses local timber to make the paper.

87 (a) Describe a situation that might harm the environment as the company operates its paper plant.

1. air pollution

2. cutting too many trees

3. Changing the environment

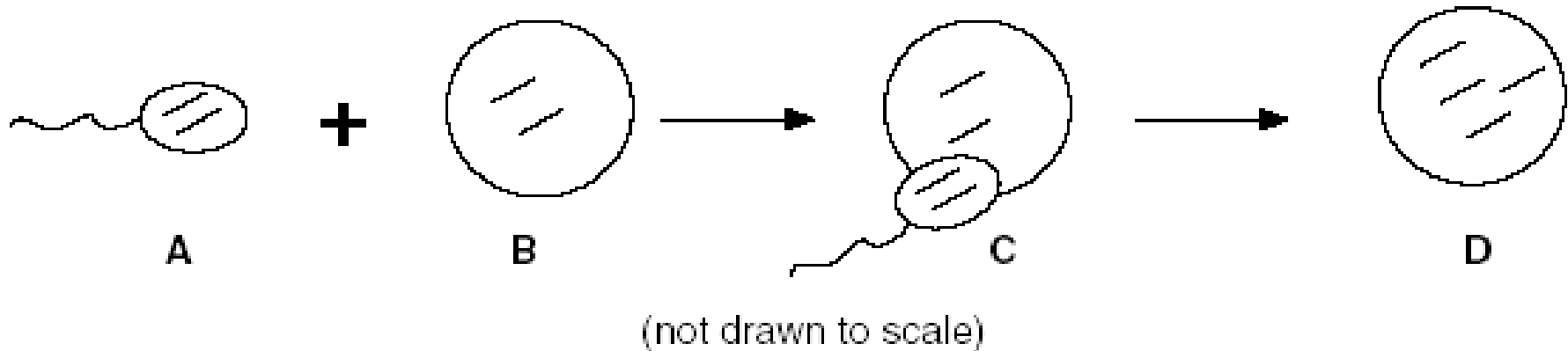
(b) Describe a way that the company might prevent this damage to the environment in the future.

1. replant trees

2. filter the air

3. use recycled paper

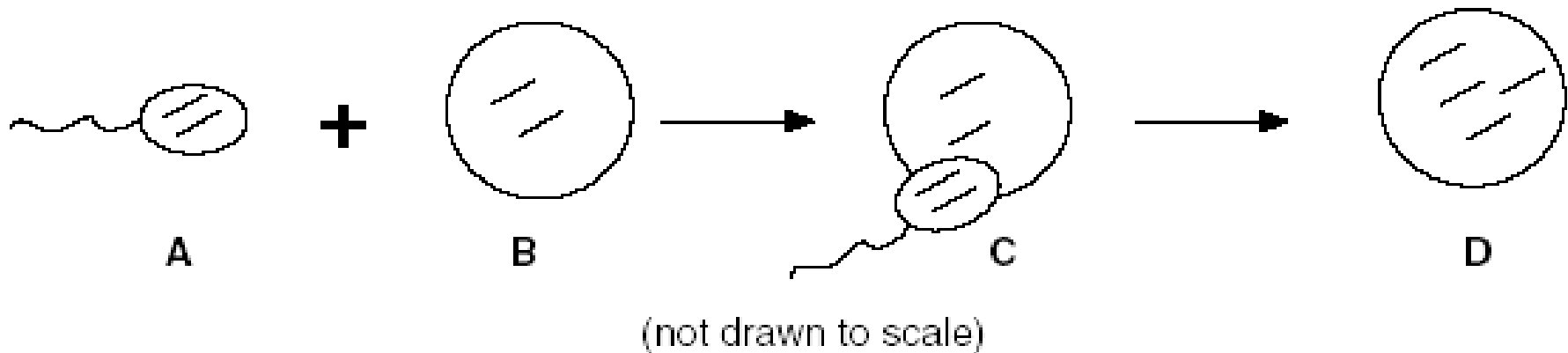
Base your answers to questions 88 through 90 on the diagram below and on your knowledge of science. The diagram shows a model of sexual reproduction. The lines in each cell represent genetic material (chromosomes).



88. Which letter in the diagram represents a female sex cell?

B

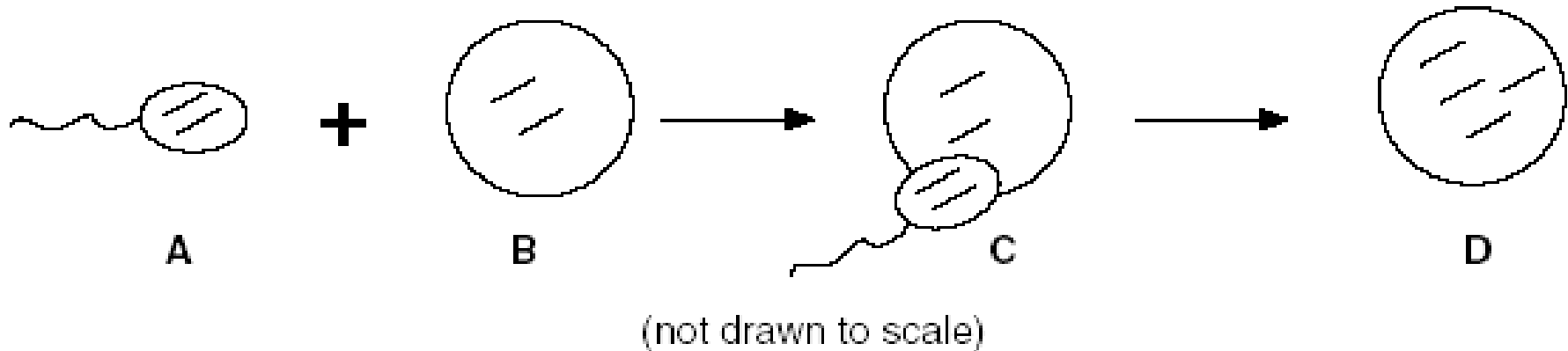
Base your answers to questions 88 through 90 on the diagram below and on your knowledge of science. The diagram shows a model of sexual reproduction. The lines in each cell represent genetic material (chromosomes).



89. Which process is occurring at C?

Fertilization or conception

Base your answers to questions 88 through 90 on the diagram below and on your knowledge of science. The diagram shows a model of sexual reproduction. The lines in each cell represent genetic material (chromosomes).



90. What evidence in the diagram shows that sexual reproduction occurred?

The fertilized egg has chromosomes from both the sperm and egg.

Base your answers to questions 91 and 92 on the chart below and on your knowledge of science. Each food in the chart is a particularly good source of the nutrient listed.

Nutrient	Food Source
protein	fish
carbohydrate	orange juice
fat	olive oil

91. Which nutrient listed in the chart is primarily responsible for growth and repair in the human body?

Protein

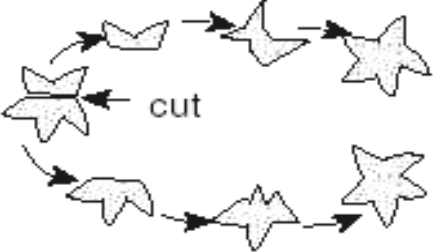
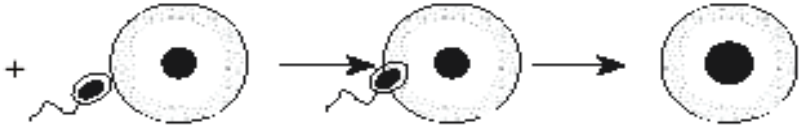
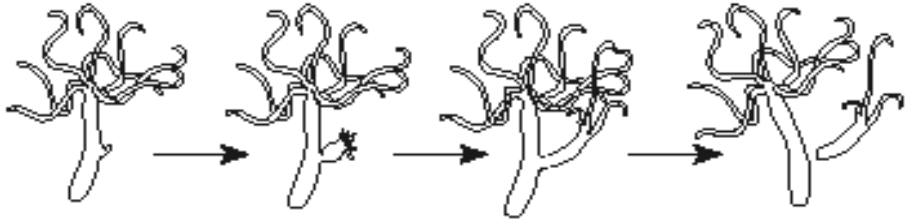
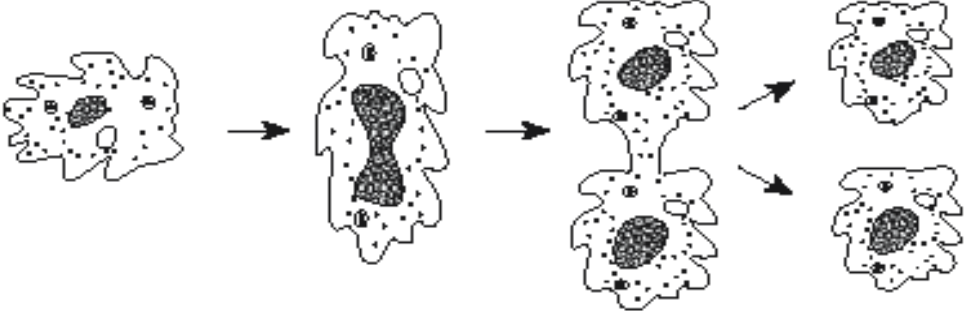
Base your answers to questions 91 and 92 on the chart below and on your knowledge of science. Each food in the chart is a particularly good source of the nutrient listed.

Nutrient	Food Source
protein	fish
carbohydrate	orange juice
fat	olive oil

92. Which food source listed in the chart would provide a quick source of energy for the cells of the body?

Orange Juice

93. The diagrams in the first column of the chart below show various forms of reproduction. In the second column, circle the form of reproduction (asexual or sexual) shown by each of the diagrams. [2]

	<p>Asexual</p> <p>Sexual</p>
	<p>Asexual</p> <p>Sexual</p>
	<p>Asexual</p> <p>Sexual</p>
	<p>Asexual</p> <p>Sexual</p>

Base your answers to questions 94 through 96 on the Punnett square below, which shows a cross between two tall pea plants ($Tt \times TT$).

		Tall Male Plant		
		T	t	
Tall Female Plant	T	TT	Tt	<i>Key</i> T = tall gene (dominant) t = short gene (recessive)
	T	TT	Tt	

94. What percentage of the offspring will grow tall? **4/4 or 100 %**

95. According to the Punnett square, what is the probability of an offspring inheriting two tall genes?

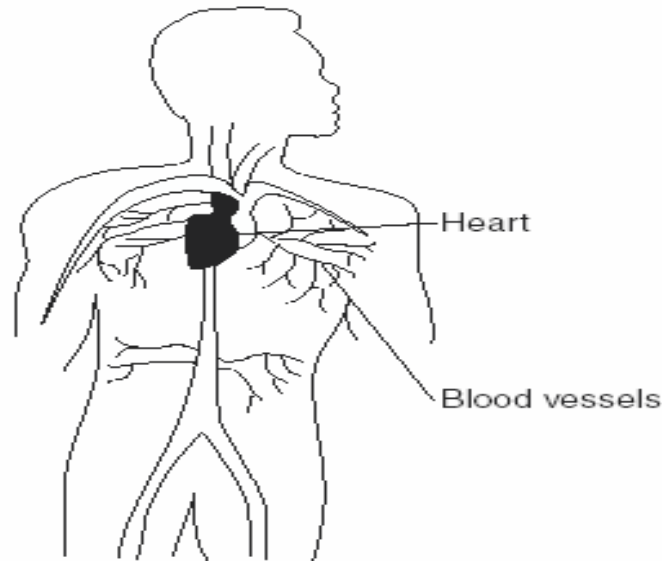
(Express your answer as a fraction or percentage.)

1/2 or 2/4 or 50 %

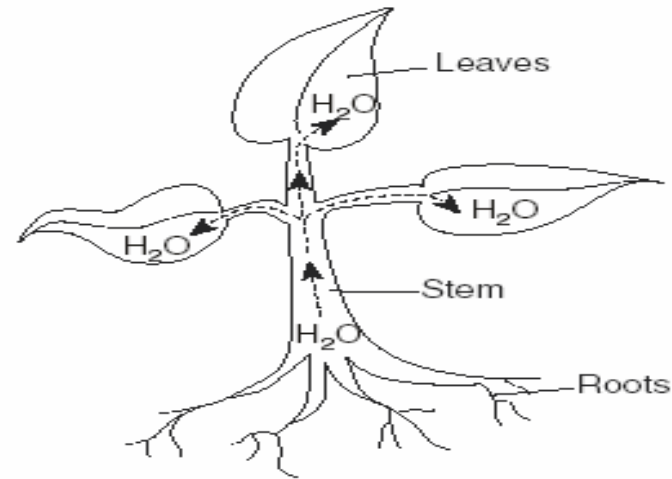
96 Explain why both parent plants are tall, even though their genes for height are not exactly the same.

Both parents have at least one dominant (T) trait.

Base your answers to questions 97 and 98 on the diagrams below, which show a system in a human and a system in a plant.



Human



Plant

(not drawn to scale)

97 Select *one* structure labeled in the human system above and explain how it contributes to the way the human system functions.

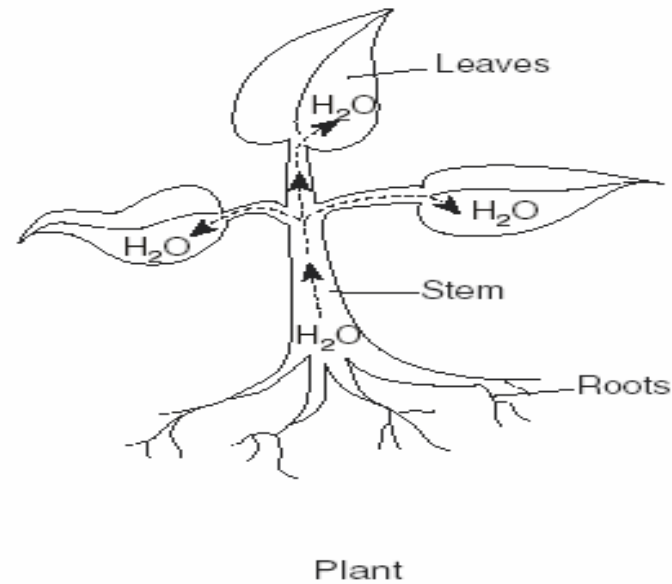
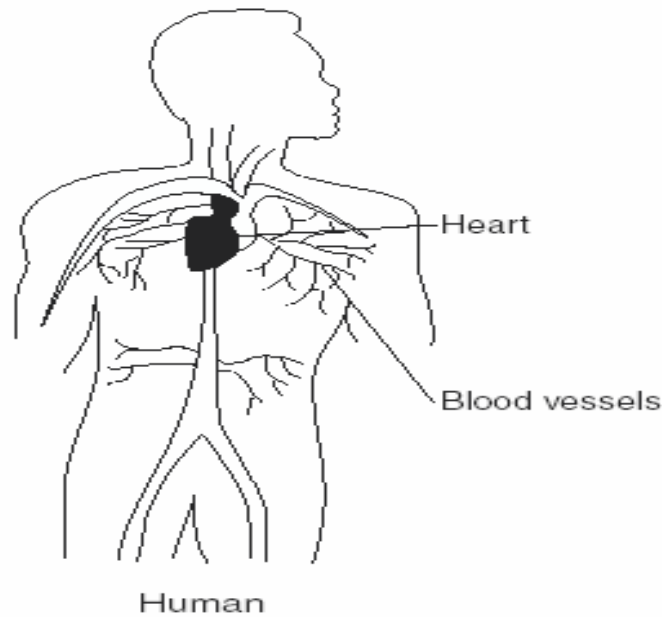
Human Structure and Explanation (Function)

1) Heart: Pumps blood or circulates material or regulates blood flow

or

2) Blood Vessels: Transport blood or CO₂ or Oxygen or Nutrients

Base your answers to questions 97 and 98 on the diagrams below, which show a system in a human and a system in a plant.



(not drawn to scale)

98 Select *one* structure labeled in the plant system above and explain how it contributes to the way the organism functions.

Plant Structure and Function

1) Stem: Support or Transport

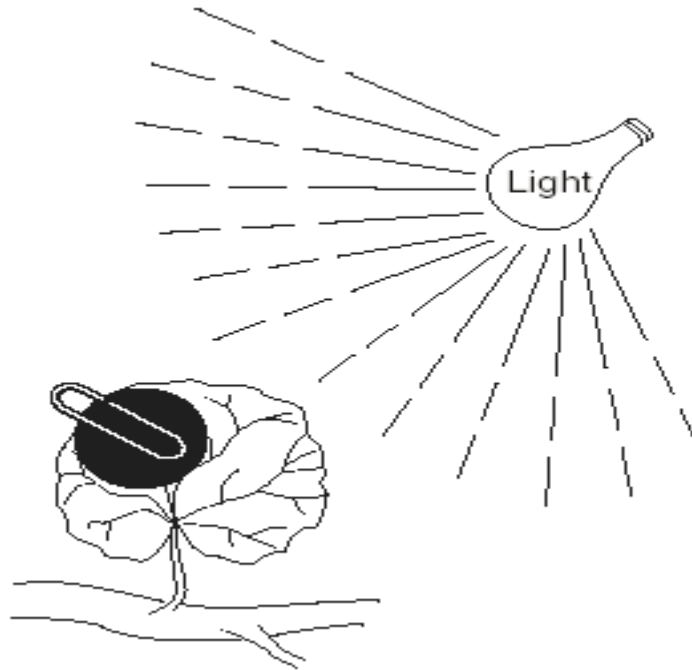
or

2) Leaves: Site of photosynthesis or gas exchange

or

3) Roots: Absorb water or Support or Storage

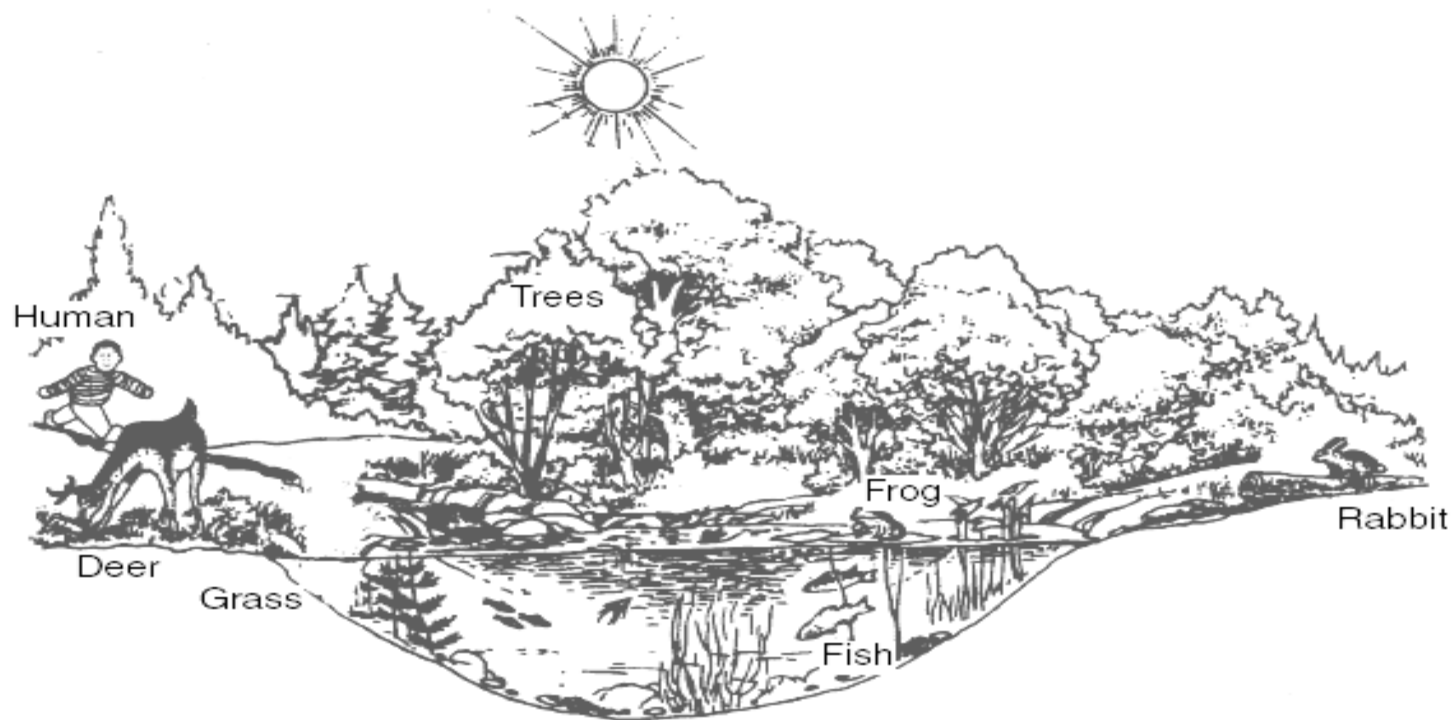
99. The diagram below illustrates a geranium leaf that has been partially covered with black paper for three days.



When the black paper is removed, the area that was covered by the paper has turned white. The white section of the leaf tests negative for the presence of sugar and the green section tests positive for the presence of sugar. Explain why the white and green sections of the leaf have different sugar test results.

Photosynthesis is not taking place because the black paper is blocking the sunlight. Sunlight is required for photosynthesis to take place.

Directions (100-102): Record your answers in the spaces provided in this test booklet.



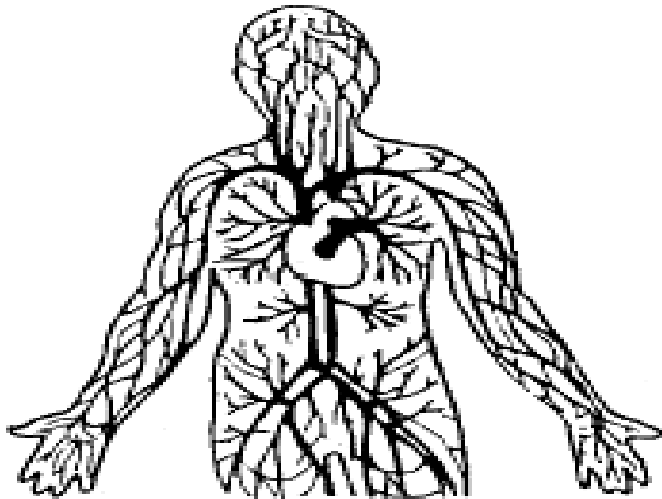
100. What is the main source of energy for these ecosystems?
The Sun

101. Identify a consumer in these ecosystems.
Deer, Human, Trees, Frog, Fish, & Rabbit

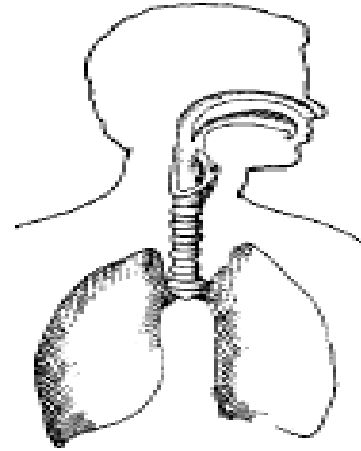
102. Identify **one** organism in these ecosystems that produces chlorophyll.
Grass or Trees

103. The two human body systems shown below interact to perform several functions for the whole organism. Describe how gas exchange occurs when the circulatory and respiratory systems work together.

Human Circulatory System



Human Respiratory System



The respiratory system brings oxygen into the body and the circulatory system carries oxygen to the cells.

or

The circulatory system carries carbon dioxide away from the cells and the respiratory system moves carbon dioxide out of the body.

The Punnett square below shows an RR pea plant crossed with an Rr pea plant.

	R	r
R	RR	Rr
R	RR	Rr

Key

R = full, round pod shape (dominant)

r = wrinkled pod shape (recessive)

104. What percentage of the offspring will have a full, round pod shape?

100 %

105. Complete the Punnett square provided below to show the crossing of two *Rr* parents.

	<u> </u> R	<u> </u> r
<u> </u> R	RR	Rr
<u> </u> r	Rr	rr

106. If 100 offspring were produced from the crossing shown in the Punnett square below, approximately how many would have a wrinkled pod shape?

	<i>R</i>	<i>r</i>
<i>r</i>	<i>Rr</i>	<i>rr</i>
<i>r</i>	<i>Rr</i>	<i>rr</i>

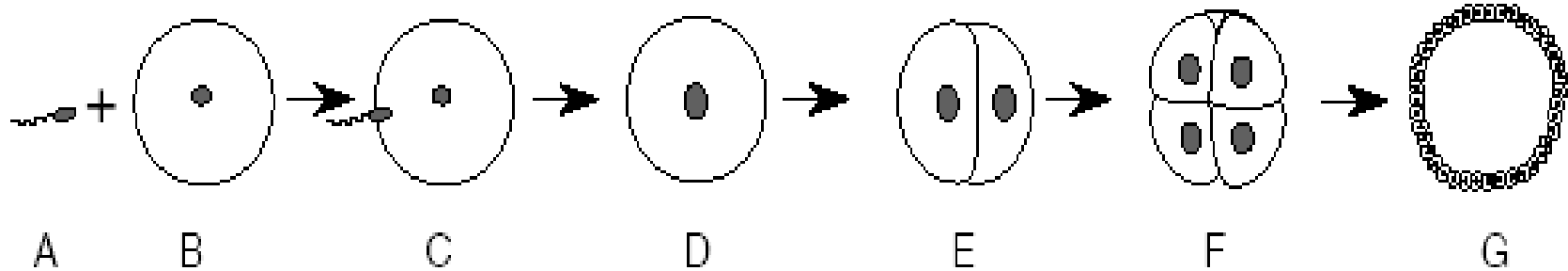
Key

R = full, round pod shape (dominant)

r = wrinkled pod shape (recessive)

50 % or 50/100 or 1/2

Base your answers to questions 107 through 110 on the diagram below which shows the process of sexual reproduction.



107. Identify the sex cell shown at *A*.

Sperm

108. Identify the sex cell shown at *B*.

Egg

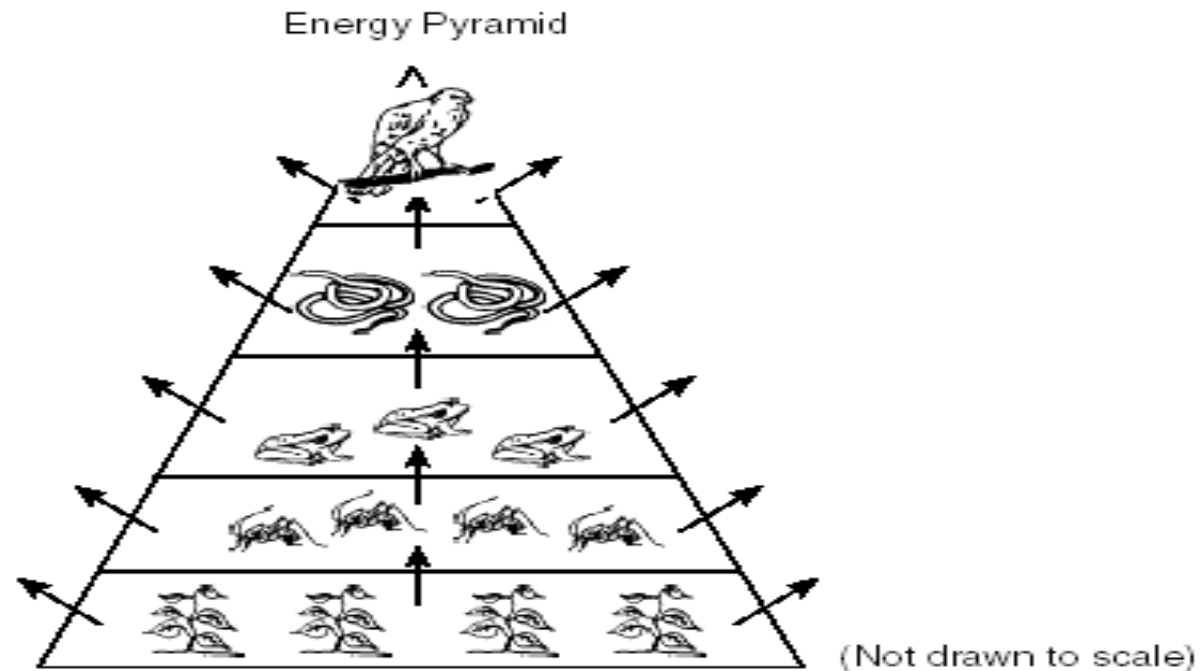
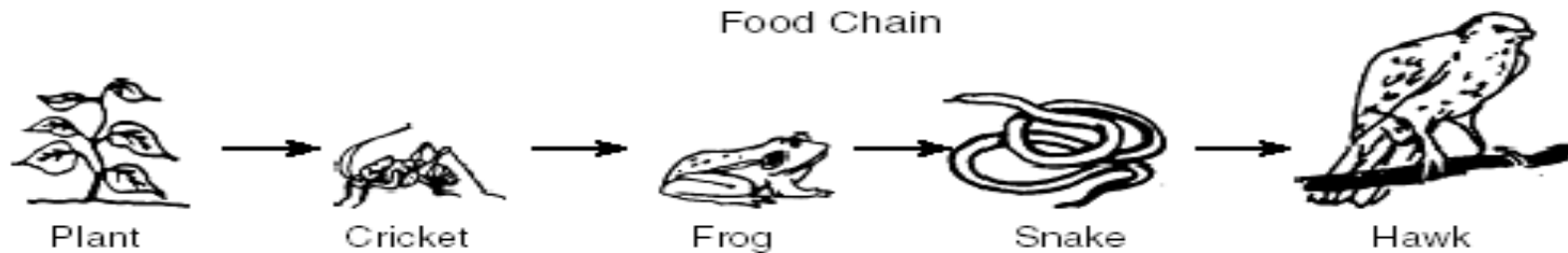
109. Identify the reproductive process that is occurring at *C*.

Fertilization

110. Identify the process that is occurring between *E* and *F*.

Cell division or Mitosis or binary fission

Base your answers to questions 111 through 115 on the diagrams of a food chain and energy pyramid below and on your knowledge of science. Food chains and energy pyramids are used to help us understand the flow of energy in an ecosystem.



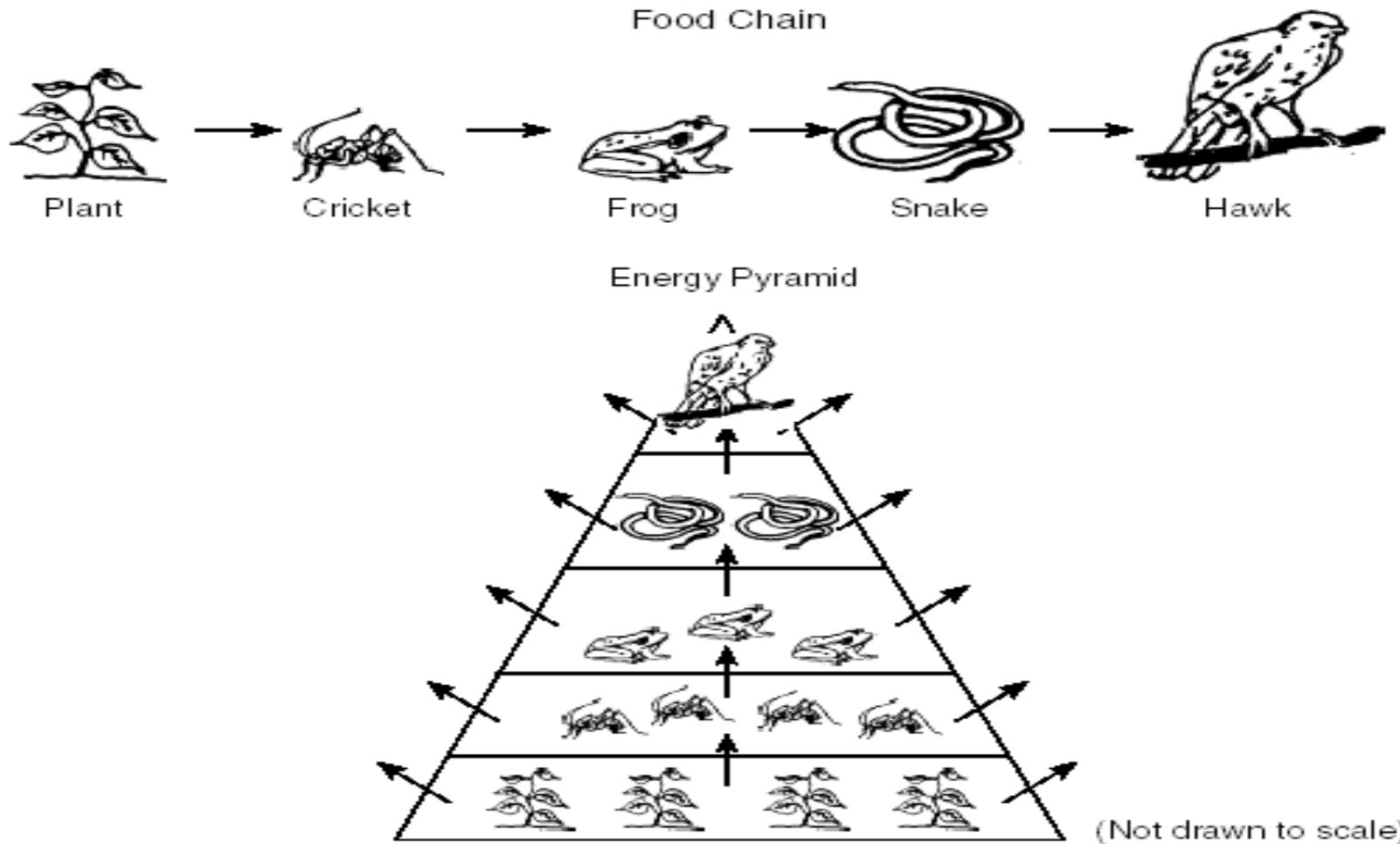
111. If the plants die during a summer drought, the cricket population would most likely

Decrease

increase

remain the same

Base your answers to questions 111 through 115 on the diagrams of a food chain and energy pyramid below and on your knowledge of science. Food chains and energy pyramids are used to help us understand the flow of energy in an ecosystem.



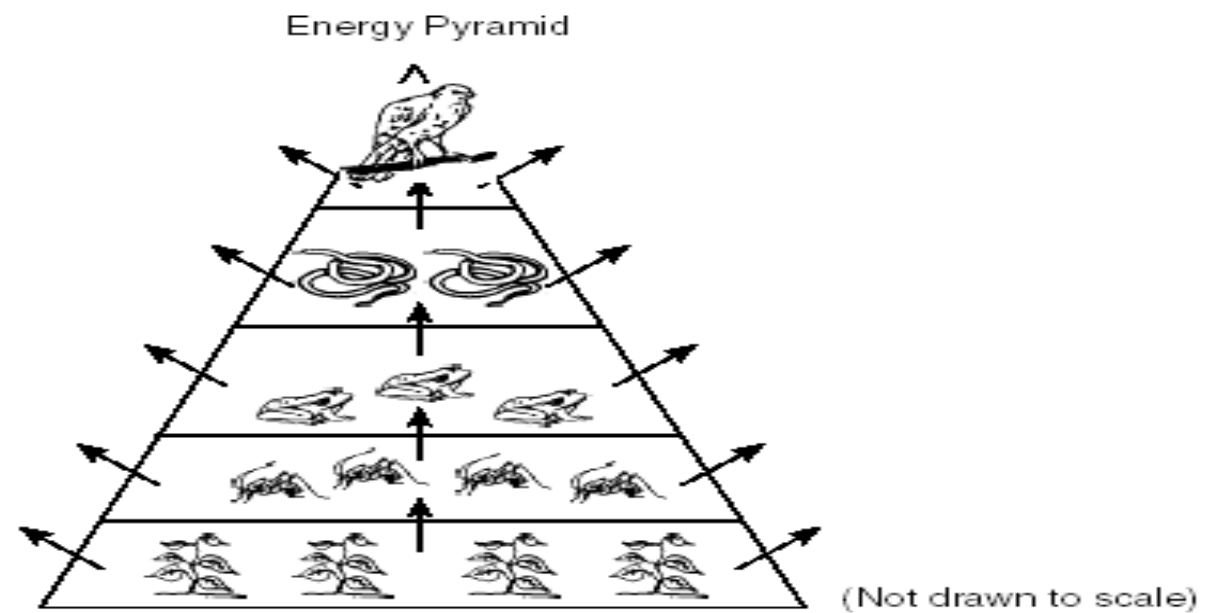
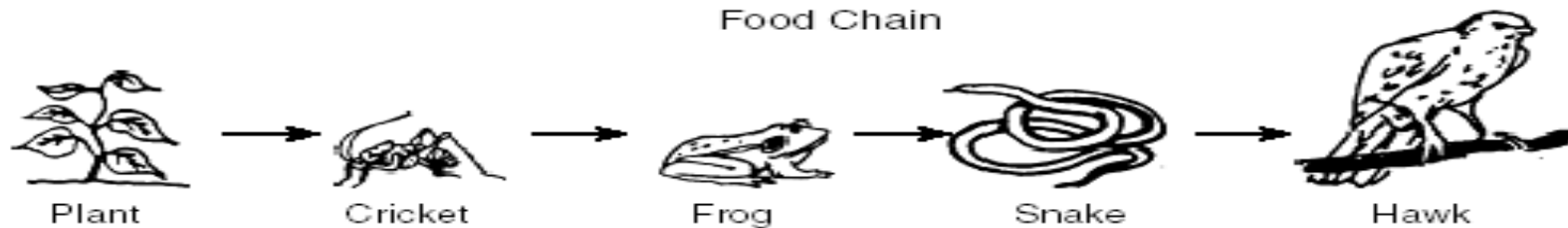
112. If the number of frogs increases, the snake population would most likely

decrease

increase

remain the same

Base your answers to questions 111 through 115 on the diagrams of a food chain and energy pyramid below and on your knowledge of science. Food chains and energy pyramids are used to help us understand the flow of energy in an ecosystem.



113. If another predator that preyed on snakes was introduced into the ecosystem, the hawk population would most likely

decrease

increase

remain the same

114. State **one *similarity*** between what food chains and energy pyramids represent regarding energy flow.

- 1. begins with producers/plants**
- 2. energy flows in one direction**
- 3. transfer of matter from one organism to another**
- 4. Sun is the energy source**

115. State **one *difference*** between what food chains and energy pyramids represent regarding energy flow.

- 1. The energy pyramid shows that the amount of energy changes between levels.**
- 2. The energy pyramid shows that energy is lost between stages.**
- 3. The energy pyramid shows relative population sizes.**

Your done

Great Job!